

# **Women in Irrigation**

**(TDR Project R6062)**

**Cecilia Bagenholm  
Felicity Chancellor**

**Report OD/TN 80  
May 1996**



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# ***Summary***

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This publication consists of a collection of abstracts from material used in a literature review of Women In Irrigation. It is intended only as a working document and gives a brief overview of the material reviewed in the Introduction. It is expected that this Technical Note will assist researchers and students to locate material related to the study of Women In Irrigation.



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## **1. INTRODUCTION**

In the last decade development literature has seen increased interest in gender issues throughout rural development projects. Agricultural development workers in the smallholder sector are aware of the disproportionate effort women give to production in relation to the benefits accruing to them. This is particularly true in smallholder irrigated agriculture where women do 60% to 90% of the field work, thus providing the intensive labour input required.

Irrigation in developing countries in the last half century has often unwittingly assumed the gender bias of donors and government without question. It is now appreciated by local communities and by developers that projects have not only failed to benefit women but have, in some cases, eroded their rights, encouraged exploitation of their labour and increased poverty for both women and children. This has in part arisen from the mistaken assumption that households are homogeneous and consist of a husband, wife and children who benefit equally from irrigation development.

This review concentrates primarily on writings relating directly to gender issues in irrigated agriculture but includes general rural and agricultural development material where that is seen to have relevant content.

A selection is presented from the total volume of material originally reviewed. Among those dealing specifically with issues such as irrigation, irrigated crops, smallholder irrigation, gender issues, etc, material which is of special interest is abstracted.

The items reviewed are indexed by author and by title. References are also grouped according to country, organisation and key words. It is hoped that this will enable users to locate information easily. There are a total of 164 references.

## **2. GENERAL COMMENTS**

Literature relating to women in irrigation is often highly site specific. Researchers are drawn to cases where conflicts are dramatic and interesting thus emphasising the issues typical of the country or region. Care, therefore, must be taken in proceeding from the specific to the general. However, there are persistent themes which emerge from the collection of works reviewed which are briefly outlined below.

Qualitative studies aimed at understanding the processes at work have been preferred by authors. For many writers the focus of their enquiry has been the distribution of benefits on an equitable basis or on a basis that fairly rewards effort made. Sustainability is also a main theme throughout the works. Articles refer to advantages of increased women's participation for sustainable irrigation development but indicators for participation and for sustainability are seldom clearly defined. Most of the literature gives a general picture of how the vast majority of women involved in irrigation are neglected and undervalued.

Writers dwell on women's projects, women's groups and women's work-load yet, relatively few look into constraints to efficient use of female labour or women's efficient use of resources. There is a general need to identify the women's groups and projects that have had the effect of marginalising women and hindering their inclusion in mainstream development.

Presented below are some of the main findings. No references are included here, but each reference is listed by key words in the subject index at the end of the booklet.

## **3. WOMENS WORKLOADS**

Rural women work both for their families and their farms. Their workload is particularly heavy where agricultural production is labour intensive. If, at the same time, children must be fed and cared for, water

has to be carried and fuel gathered. Women face long working hours. Distance from the home to the irrigated plot is another major contributor to working hours for women. A female adult works an average of 15 hours per day while a male adult works only 7-8 hours a day. When it comes to children, the difference persists. A female child works for an average 12 hours and a male child 6-7 hours. In some social systems women's hours have been increased when men participate in development projects because of their marriage obligations. All too often women lack access to the benefits of their labour. Lack of benefits is a disincentive to women farmers and is likely to result in a labour constraint in irrigated production.

#### **4. EDUCATION AND LITERACY**

Women in rural areas are far behind men in education. Literacy rates as low as 20% to 30% are common among women on irrigation schemes. Many girls drop out of education due to early pregnancy or marriage. Parents often prefer to educate sons as the investment stays in the family whereas girls will join another family after marriage and so investment in educating them represents a loss to the family. This has implications for participation in projects and has led to marginalisation of women into low technology, low income generating activities, hindering access to information about cultivation, markets and credit.

#### **5. EXTENSION**

Women in Sub-Saharan Africa are responsible for up to 80% of agricultural labour, but as little as 7% of all extension workers in agricultural projects have so far contacted these rural women. It is easy to see why many irrigation projects have problems when extension messages reach so few practitioners. Extension tends to be delivered to men rather than women, possibly as a function of the superior education enjoyed by men which in turn tends to produce more male extension workers and makes it easier for them to extend their message to other men. Where female extension officers are employed, their impact is considered effective.

#### **6. CREDIT**

It is very difficult for women to obtain credit. Banks do not see them as credit worthy. To be credit worthy you have to own the land you are cultivating. However, land is almost always owned by men and passes to sons through patrilineage.

In the few cases where women are extended credit, repayment rates are high. One IFAD (International Fund for Agricultural Development) women's credit scheme boasts repayment rates of up to 94%. Credit disbursed through women's groups is another successful tactic and demonstrated women's ability to plan, invest and save. As more and more households are headed by women, the need to extend credit to women becomes crucial to reliable irrigated production.

#### **7. BENEFITS, RIGHTS AND OBLIGATIONS**

Rights to land usually rest with males and pass to males whereas obligations to feed children, fetch water, gather fuel and to work on husbands land normally rest with women. There are, in many social systems, land rights which allow women to fulfil these obligations, either on an individual or on a communal basis. Male obligations may include payment of bride-price, provision of minimum conditions for wives and education of, at least, sons. Traditional systems can be severely disrupted and distorted by introduction of irrigation. Formalising tenancy arrangements with women can enhance their status.

## 8. PARTICIPATION IN WATER RESOURCE DECISIONS AND POLICIES

Few women participate in community meetings and water user groups. Fewer women are to be found in Government policy-making processes. The majority of rural women are not involved in planning and are unable to express their interests. A Women only meetings can be a way of making women speak up and increase their self-confidence. It is often difficult for women to talk in the presence of men because of deep-rooted gender roles. Gender roles have been reinforced by neglecting women's access to education and in particular to technical training. In the poignant words quoted in one article: "the spanner was a shock... I never knew in my whole life that I would hold a spanner in my hand".

Lack of empirical data on women irrigators performance denies women the chance to present cogent arguments for increased inclusion of women in the decision-making processes. It is hoped that by gathering relevant literature, gaps in current knowledge can be identified and filled. Undoubtedly many worthy contributions have been missed in this short work and its publication may stimulate further debate.

It is also important to remember that neither men nor women are homogeneous groups. Men may belong to under-privileged and under-represented groups just as some women may have powerful and privileged positions in society. The aim of encouraging men and women to share decision-making and planning should be to improve future successful development and to reap full benefit from participation and sharing of responsibilities by all.

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| Title     | Women, water and sanitation   |                   |   |
| Series    | Sector papers women and development   |                   |   |
| Publisher | Directorate General for International Cooperation, Ministry of Foreign Affairs, the Netherlands |                   |   |
| Year      | march 1989  | Vol. No.          | 2 |
| Pages     | 16  | Issue             |   |
| Country   | Dev. countries  | ISBN              |   |
| Language  | English   | Other Information |   |

Abstract:

The paper's first part is about the Netherlands policy concerning women and development.

Chapter two presents various approaches in how best to encourage women to become more involved in 'water management'. Women and often their children along with them, collect all household water (average 40-60 litre per day). Research in East Africa shows that the energy required in collecting water can absorb a quarter or more of their daily food intake. This leaves little time and energy left for other activities such as child care, education, productive agriculture and community work, etc. As domestic managers, women also decide which water sources they will use for which purpose, how they will store and use it, in what season and what they will do with the wastewater. As educators they direct children water use and teach them about sanitation, waste disposal and hygiene.

Recent studies indicate that the woman's managing role extends, more than previously realized, beyond the home to neighbourhood and community level. Their activities have included maintenance and simple repair of traditional water sources, upkeep of public hygiene and includes persuading local authorities to carry out necessary repairs. Main chapters include:

Identifying women's management role and strategies. Emphasis is laid on women's key role and primary interest in the water area. Improvement projects cannot be effectively designed or carried out without their involvement.

Women's unique local experience makes them indispensable as informants on possible and suitable location, availability and reliability of water sources, social acceptability of water sources and sanitary arrangements.

Women's social knowledge is also of use in finding suitable training candidates for local maintenance and management.

Their participation is relevant for health education and project communication as a whole. Women have always largely taken care of the technical maintenance of traditional facilities. With new facilities requiring new techniques it seems cost-effective to continue this arrangement. Provided that training is given by a supportive organization and that there is a satisfactory balance between benefits and workload.

Women's traditional role in informal management should be extended to new, more formal situations. They have capacities in this area and they know the main group of actual users. Poor women are the category with highest motivation.

**Reference No. 2:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Wind, Marja   |                   |  |
| Title     | Comments and recommendations on gender issues and credit for the smallholder irrigation and drainage project. |                   |  |
| Series    | Small holder Irrigation   |                   |  |
| Publisher | Smallholder Irrigation and Drainage project, Ministry of Agriculture, Kenya                                   |                   |  |
| Year      | may 1992  | Vol. No.          |  |
| Pages     | ~120  | Issue             |  |
| Country   | Kenya   | ISBN              |  |
| Language  | English   | Other information |  |

Abstract:

The conclusions and recommendations of the report are as follows:

- Emphasis on assisting women in obtaining an equal share of the benefit of their labor input and credit for their work..
- Encouraging women to participate in all stages of the project cycle.
- Women who do not benefit from the irrigated crop production will find ways and means to avoid providing labor. Hence, a strategy is required for increasing access to and control over benefits from their labor.
- Increase awareness of men in the commitment of the woman's role which will benefit the whole family.
- Discussion groups involving women as well as mixed groups dealing with the productivity of the schemes.
- Credit to individual women through specially elected groups could increase the bargaining power of women within the household.
- Strategies to increase men's participation in the irrigated crop production and other 'women's activities', to reduce women's workload. ( One example is given when they introduced bicycles and/or wheel-barrows to collect firewood and water.)
- Women need credit at the right time to assist in hiring casual workers when further labor is required to fertilizer, provide chemicals and plough fields etc.

Women rarely have spare time for her own personal development such as attending adult education classes or public meetings.

**Reference No. 3:**

|           |   |                   |   |
|-----------|---|-------------------|---|
| Author    | Bloch, Marianne N.  |                   |   |
| Title     | The role of women in the Bakel small irrigated perimeters             |                   |   |
| Series    | Bakel Discussion paper  |                   |   |
| Publisher | United states Agency for International Development,<br>Dakar, Senegal |                   |   |
| Year      | July 1987   | Vol. No.          | 3   |
| Pages     | 14  | Issue             |   |
| Country   | Senegal   | ISBN              |   |
| Language  | English   | Other information | part of USAID's<br>project No. 685-<br>0280 |

**Abstract:**

This paper is a report about the past and present role of women in irrigation in the Toucouleur and Soninke villages, Senegal. The research showed that in both villages the women did not have any long-term security in irrigated land. Women generally have smaller parcels than the men and are rarely involved in decision-making processes. The executive officers in all the irrigation groups were all men. The men make decisions about: access to water, diesel fuel, fertilizer, parcel size and distribution, where the irrigated parameters should be located, crops choice etc.

Soninke women were more involved in irrigated scheme than the Toucouleur women, they had strong women who new how to grow rice, and had a long history of women's agricultural work and collective organizations.

**Reference No. 4:**

|           |   |                      |                   |
|-----------|---|----------------------|-------------------|
| Author    | Umbadda, Siddig, Abdul-Jalil, Musa Adam                                       |                      |                   |
| Title     | Women in Small-Scale Irrigated Agriculture, The case of<br>Wadi Kutum (Sudan) |                      |                   |
| Series    | Africa Spectrum, Deutsche Zeitschrift fur moderne<br>Afrikaforschung          |                      |                   |
| Publisher | Institut fur Afrika-Kunde, Hamburg  |                      |                   |
| Year      | 1985  | Vol. No.             | 3                 |
| Pages     | 339-351   | Issue                | band 25           |
| Country   | Sudan   | ISBN                 | 3-923519-61-3     |
| Language  | English,<br>German<br>and French  | Other<br>information | extract of a book |

Abstract:

The participation of women in agriculture in Wadi Kutum, Sudan, has been studied in this report. It was found out that of the total labor force, 80% are women. This high rate has its origins in the historic right of women to work in fields and has been enhanced by the male migration and the dire living conditions in the village due to environmental factors. A villager said; 'work in the garden (specially vegetable growing) is a woman's work' or that only 'poor people!' do it. i.e. it is embarrassing for 'men' to do. Another phrase heard was: 'it is hard work only women can do'.

78% of the women said that they visit the garden 5 to 7 times a week, walking between 1-5 km to get there. 19% bring their children with them and do most of their domestic work there. 78% of the women fetch water and firewood themselves. It is not uncommon to find women doing other income generating activities to support their families.

Three different conclusions were drawn:

- Women produce as much as men, their earning potential is about the same and they have similar marketing abilities.
- Woman's workload and responsibilities have increased as their husbands have migrated and they have a high participation rate in the farm and at home. It is difficult though to say whether this independence has increased women's social standing and participation in society decision-making.
- Women's participation in productive activity is largely a result of the demands of society. If society could accept their productivity participation, then only the 'social emancipation' will need to be achieved to improve the women's position.

**Reference No.5:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Zwarteveen, Margreet Z.  |                   |                     |
| Title     | Gender Issues, Water Issues. A Gender Perspective to Irrigation Management |                   |                     |
| Series    | International Irrigation Management Institute (IIMI)                       |                   |                     |
| Publisher | IIMI, Colombo, Sri Lanka   |                   |                     |
| Year      | 1994   | Vol. No.          | Working paper<br>32 |
| Pages     | 62   | Issue             |                     |
| Country   | Dev. countries   | ISBN              | 92-9090-312-0       |
| Language  | English  | Other information |                     |

Abstract:

This paper discusses how irrigation planners and management should increase attention to gender. It is often assumed that the family consists of a male farmer, who is the sole manager of the family, his wife, who is often seen as a unit of labor, together with the children. This view of the household is often wrong and leads to the interests of women being neglected. Women and men have different access to productive resources (including water) and will contribute differentially to irrigated agricultural production. They will also be differentially affected by increase in production. Men and women are not always equally motivated to invest time and resources in irrigation.

Women are highly involved in agriculture in almost every country of the world and yet so poorly represented in formal agricultural organizations. This reflects existing inefficiencies and will preserve gender inequities. Women and men have different interests and needs in irrigation matters but they also have different opinions about the cost and benefits related to participation in users' groups. Organizations that function for men do not necessarily function for women.

By focusing on gender issues in the planning of an irrigation scheme a more realistic assess to the physical, economical and social sustainablilty will occur, and attention will be drawn to changes induced by irrigation interventions in nutrition, health and environment which normally escape the notice of extension workers.

**Reference No. 6:**

|           |  |                   |   |
|-----------|--|-------------------|---|
| Author    | Hulsebesch, Joitske  |                   |   |
| Title     | Inyalo Hero: Priorities of women in smallholder irrigated rice schemes, Nyanza Province, Kenya |                   |   |
| Series    |  |                   |   |
| Publisher |  |                   |   |
| Year      | May 1992   | Vol. No.          |   |
| Pages     | 63   | Issue             |   |
| Country   | Kenya  | ISBN              |   |
| Language  | English  | Other information | Including a questions list for the womenfarmers |

**Abstract:**

This report is the result of a research done in Nyanza Province in Kenya about how women are involved in the irrigated rice scheme. How the benefits are divided within the household.

In the sample only 54% of the women had access to her husbands plot for cultivation though she was assured one through her marriage.

44% controlled the harvest and could decide how to use it. This was generally the women with access to her own plot. 22% of woman had low control because the man decided about expenditures. 34% had some influence. The level of control depended on the negotiation power of the woman. This, in it's turn, depends on the economic status of the woman.

The women prioritized credit for setting up a business and water well nearby home. Men prioritized oxen ploughing and credit for business.

Women were poorly represented in irrigation management and water control. Yet both women and men thought that women should be more represented in water users organizations because of their important role in the fields.

**Reference No.7:**

|           |  |                   |      |
|-----------|--|-------------------|------|
| Author    | Rodda, Annabel   |                   |      |
| Title     | Women in the humid tropics   |                   |      |
| Series    | IHP Humid Tropics programme Series(Water-Related Issues of the Humid Tropics and Other Warm Humid Regions) |                   |      |
| Publisher | UNESCO, Division of Water Sciences, International Hydrological Programme, Paris, France                    |                   |      |
| Year      |  | Vol. No.          | No.6 |
| Pages     | 48   | Issue             |      |
| Country   | Humid Tropics  | ISBN              |      |
| Language  | English  | Other information |      |

**Reference No. 8:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Hulsebosch, Joitske  |                   |  |
| Title     | Evaluation of the credit program for women in smallholder irrigated horticulture in Kibwezi division |                   |  |
| Series    | For the Smallholder Irrigation and Drainage Project (SIDP) and CARE international in Kenya           |                   |  |
| Publisher | Kenya  |                   |  |
| Year      | June 1993  | Vol. No.          |  |
| Pages     | 31   | Issue             |  |
| Country   | Kenya  | ISBN              |  |
| Language  | English  | Other information |  |

**Abstract:**

An evaluation of a credit program run by CARE International in Kenya and the Smallholder Irrigation and Drainage Project (SIDP) which consists of a loan fund scheme to provide cash for horticultural inputs. The aims are to increase the horticultural farming in the area and to benefit the women. Six horticultural schemes were introduced to the credit program. Two of the schemes were ready for credit disbursement in March 1993. The women in those two groups were often from polygamous household, single headed household and less often of migration households. In a quarter of the joint households the woman had here own horticultural plot. Decisions concerning credit use were generally made jointly by husband and wife. The credit was intended mainly for seeds and chemicals, to a smaller extend for fertilizers, labor and land preparation.

The women and men were very enthusiastic and positive about the program.

Some points to refine the credit program are indicated:

- Mixed horticultural groups with young men and women.
- One group member as a translator.

- Involvement of the husband in the credit groups.
- Individual determination of the amount of shares.
- Reduce the length of the initial credit training.
- Simplify the interest calculations and reduce the balance to stimulate early repayments.

**Reference No.9:**

|           |  |                   |               |
|-----------|--|-------------------|---------------|
| Author    | Val Curtis                                       |                   |               |
| Title     | Women and the transport of water                 |                   |               |
| Series    |  |                   |               |
| Publisher | Intermediate Technology publications, London, UK |                   |               |
| Year      | 1986   | Vol. No.          |               |
| Pages     | 48   | Issue             |               |
| Country   | Kenya  | ISBN              | 0 946688 42 7 |
| Language  | English  | Other information |               |

**Abstract:**

A study of women and how they transport water was made in Kenya and the general conclusions were as follow:

**1) General Conclusions**

- There is no infrastructure for water distribution and people have to depend on unprotected, unreliable sources often far away from their homes.
- The rate of improvement is low compared to the rate of population growth.
- The women and the children are the one's who have to collect the water. The work is arduous, time consuming, and can lead to injury, ill health and economic disadvantage.
- There are technologies available for making the transport of water easier. The problem is to introduce them.
- A common problem is that men tend to appropriate new technological aids.

**2) Conclusions for Kenya**

- Installations that have been built are full of problems.
- Many women spend a significant fraction of the day fetching water.
- The heavy workload involved in carrying water prevents women from participating in other more beneficial activities.
- Women's groups are a useful framework for introducing new labor saving technology.
- Yokes, improved wheelbarrows and donkeys are aids to carrying of water, but the women do not yet have access to them.
- Wheeled vehicles could be introduced. The manufacturing of them might start a small industry in the area and provide extra income.
- The introduction of donkeys, perhaps using Ethiopian water bags, would be best attempted as part of a development project involving income generation, i.e. the time saved from carrying water could be used to earn money, which the women regard as greatest need.

**Reference No.10:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Catherine W.Oluok   |                   |  |
| Title     | Women's participation in Horticultural production in Kwa Kyai irrigation scheme |                   |  |
| Series    |   |                   |  |
| Publisher | Netherlands technical aid program for Kenya government                          |                   |  |
| Year      |   | Vol. No.          |  |
| Pages     | ~100  | Issue             |  |
| Country   | Kenya   | ISBN              |  |
| Language  | English   | Other information |  |

**Abstract:**

This is a study about women's participation in smallholder's irrigation schemes and will be used by IDB and SISDO to develop and provide effective support to women in irrigation schemes specifically to Kwa Kyai Irrigation scheme. 55 farmers have been interviewed i.e. 32 women, 22 men and 1 male child.

Women involvement in irrigation scheme is through their husband as the land is registered in the husbands name. In the cases where a woman is the head of the household (widows or single mothers) the plots tend to be poorly managed or neglected due to lack of capital for labor, inputs etc. This is also the case for the families where the husband are employed elsewhere.

Women participation in the community organizations was low at 5%. Generally the women thought that the women's groups activities did not enhance or improve women status. Low level of education is a major constraining factor in women effective participation in all forms of development. Women indicated that their heavy work load on the irrigated land is also a major constraint to participation in non-farm activities.

The women act as family banks but they are not allowed to spend any money without consulting their husband.

Water is rationed and distributed late at night preventing many women from participating. This is due to reasons such as: lack of security, lack of rest they so badly need etc. It is thus very important to reorganize the current water distribution system and ensure women's concerns and needs are taken into account. This could best be done if women are included in the water distribution committees and given training. Good and regular markets outlets are an other important factor. It was found during the study that 90% of the produce found it's way to the market through middle men who tend to victimize the women. It is important to train the woman on packing and quality production. Female extension workers should work with the women farmers.

) There is a need to understand the customs, traditions and even taboos within the community that could be a constraint to women's participation in development.

**Reference No.11:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | SIDA (Appelton and Woroniuk (Eds.))  |                   |  |
| Title     | Workshop in gender and water resources management. Lessons learned and strategies for the future. (Vol. 1 and 2) |                   |  |
| Series    | Report from a seminar held in Stockholm 1-3 December 1993  |                   |  |
| Publisher | SIDA, Stockholm, Sweden  |                   |  |
| Year      | 1993   | Vol. No.          |  |
| Pages     |  | Issue             |  |
| Country   | Dev. countries   | ISBN              |  |
| Language  | English  | Other information |  |

**Reference No.12:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | van der Wel, Lisette  |                   |  |
| Title     | Gender and Irrigation. A manual for the planning and assessment of small scale irrigation projects. |                   |  |
| Series    |   |                   |  |
| Publisher | SAWA, Netherlands   |                   |  |
| Year      | Jan 1993  | Vol. No.          |  |
| Pages     | 34  | Issue             |  |
| Country   | Dev. countries  | ISBN              |  |
| Language  | English   | Other information |  |

**Abstract:**

Women are often seen entirely in terms of their capacity to increase agricultural productivity. This does not necessarily lead to improvement in their position and opportunities.

At least four different types of farming system are identified depending on the level at which women are involved in the agriculture: dual, female, modified female and male farming system.

According to Edquist and Edquist (1978) the following users characteristics should be considered when designing an irrigation project:

- To what extent are men and women interested in new technology?
- Access to land, inputs (financial and transport facilities) and technical support.
- Knowledge to work with technology.
- Financial means.
- Organization of activities.

The 'context' into which the design is introduced must be considered:

- How will the products of irrigated agriculture be used?
- What other uses will the water have?
- What are men and women's priorities?

Gender analysis must be integrated in all the different stages of an irrigation project. The stages are:

- identification
- design
- implementation
- consolidation

It is a basic right of women and men farmers to participate in all stages of a project. The report discusses the Objective Oriented Project Planning method (OOPP). Separate women's meeting should be considered if the women don't feel free to speak in a mixed meeting. For development of a sustainable, farmer-managed irrigation scheme it is important to repeat meeting/consultations through the whole project cycle.

The last chapter (page 27-30) is a useful checklist on gender aspects through the different stages of the project. This questionnaire covers many different aspects of the gender related problems in irrigation management.

**Reference No.13:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Schaap, Mirjam   |                   |  |
| Title     | Gender Issues in Irrigated Agriculture and Irrigation Extension                                |                   |  |
| Series    | Paper to be presented at the FAO Technical Consultation on Irrigation Extension in West Africa |                   |  |
| Publisher | FAO-regional office for Africa   |                   |  |
| Year      | 1994   | Vol. No.          |  |
| Pages     | 14   | Issue             |  |
| Country   | West Africa  | ISBN              |  |
| Language  | English  | Other information |  |

Abstract:

The majority of Africa's food producers are women. 15-30% of all farms are entirely operated by women. If the women who in fact take all the day to day decisions on farm management, because the husband is away most of the time, are added the percentage will rise to over 50%. This feminization of smallholder agriculture necessitates a reorientation of agricultural policy.

The economic viability of irrigation systems is frequently undermined due to insufficient consideration of gender relations in the planning phases of irrigation development. The top-down approach in the designing process is also a major factor for low economic returns. Men and women do not participate in the design process.

In irrigated agriculture women have seldom been recognized as direct stakeholder's. Men and women as water users have different interests and needs. Their decisions to participate in an irrigation system is based upon different criteria for investing time, labor and capital. Examples are given in the articles from Kenya and Gambia.

Women and men will have differential motives for investing time, labor and capital in irrigation-related activities reflecting gender differences in responsibilities, their access to and control over productive resources and the benefits from irrigated agriculture. Flexible design of irrigation schemes gives greater freedom of choice.

Women's low access to training and extension services depend on factors like: illiteracy, lack of mobility, poor training agencies and insufficient interaction between extension services and research institutions. Adopting a dialogue can improve the relevance and efficiency of extensions services. The use of female extension workers has been proven to be an effective tool in contacting women farmers. Irrigation extension services should be accompanied by other support services related to both irrigated agriculture; credit for example.

**Reference No. 14:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | FAO  |                   |  |
| Title     | Irrigation extension in West Africa, Conclusions and Recommendations |                   |  |
| Series    | FAO technical consultation   |                   |  |
| Publisher | Accra, Ghana, 5-9 December 1994                                      |                   |  |
| Year      | 1994   | Vol. No.          |  |
| Pages     | 8  | Issue             |  |
| Country   | West Africa  | ISBN              |  |
| Language  | English  | Other information |  |

**Abstract:**

This is a paper summarizing the conclusions and recommendations from the FAO Regional Conference for Africa held in 1992 on irrigation.

It was found that in West Africa there is a wide gap between the potential and actual performance of irrigated agriculture. The current trends in terms of the performance and sustainability are not in a positive direction. Technology, socio-economic conditions, institutions, policy and services to farmers are often gender biased. The following problems are recognized: women's farmers differential access to land due to discriminatory laws, conflicts in time needed for other responsibilities like food processing , fetching of firewood and water, child care etc. Governments must create institutional and legislative environments which attempt to redress existing gender differences. Extensions services lack communication skills appropriate for contacts with women farmers. The planning of services should be based upon a gender differentiated activity profile of future water users taking account access to productive resources.

National action programmes are to take under consideration women's productive role in agriculture.

Regional support programmes will contribute to developing more effective irrigation programmes by exchange of experiences in training on gender and irrigation.

**Reference No. 15:**

|           |   |                   |                      |
|-----------|---|-------------------|----------------------|
| Author    | Africa Water Network  |                   |                      |
| Title     | Droplets: Gender and Management Issues in the Water Sector. |                   |                      |
| Series    | Droplets, A newsletter from Africa Water Network            |                   |                      |
| Publisher | With the help of DANIDA, AWN, Nairobi, Kenya                |                   |                      |
| Year      | 1994  | Vol. No.          |                      |
| Pages     | 16  | Issue             | Issue 1              |
| Country   | Botswana,<br>Nigeria, Kenya                                 | ISBN              |                      |
| Language  | English   | Other information | 4 different articles |

Abstract:

Article 1: Gender and Management Issues in the Water Sector. The case of rural Botswana Mayling Simpson-Hebert

When the groom's relatives arrive to fetch the bride in rural Botswana they come to 'ask for water'. This is the symbolic expression of a cultural reality.

The government in Botswana, with assistance from the Swedish International Development Authority (SIDA), has provided safe reliable supplies of drinking water with reasonable access to 80% of rural villages.

But still there are problems. Now Botswana is embarking on a programme to rehabilitate and augment the older water supply systems and to redress the problems uncovered in the water supply systems. As a result questions of women's involvement and community participation are arising.

To enhance women's participation in the water sector the following have to be considered:

- Women have to be encouraged and recruited to join the technical field at the village level. Strong campaigns to inform the women on available technical jobs has to be launched. The achievement of a few women in the sector has to be highlighted.
- Women and men must have equal opportunities for women to advance through the system.
- A data base on women's employment and advancement should be kept by the government. Gender-sensitive planning workshops should be held for decisionmaker's's.
- Training courses should be held to improve technical skills and to overcome inhibitions.
- Women would need to be encouraged to develop an identity which is not submerged in their roles as girls, wives and mothers. There must be campaigns through all media so that women can see their potentials rather than accepting a stereotype notion that men must do all the planning.
- Methods to involve women in village decision making has to be given more attention.

Article 2: Women and water management in Nigeria.  
Luke Onyekakeyah

Article 3: Putting women on the Agenda. A case from rural Kenya.

Kenya Finland Water Supply Programme (KENFINCO) have supplied about one million people with safe water in rural western Kenya. The lesson they learned by working with the project for over ten years are to

be discussed in this article. In the final phase of the project it's focused on community participation. The community most take responsibility to improve their own water supply.

The transfer of material technology consists of three elements: material, institutional and intellectual.

A woman was appointed as the training and community development officer in this project. This highlighted that women can participate in the community. The project was also innovative in training women in non-traditional skills.

Article 4: Gender aspects of sanitation.

Christine van Wijk

Article 5: Technology choice, design and contribution

Facilities that are built with no users involvement are generally not accepted, used or maintained. As a result, investments are lost, credibility is lowered and potential benefits not realized. Consultation of men and woman have revealed the existence of cultural restrictions.

**Reference No.16:**

|           |   |                   |   |
|-----------|---|-------------------|---|
| Author    | Hulsebosch, Joitske; van Koppen, Barbara C.M  |                   |   |
| Title     | Increasing women's benefits for better scheme performance. Smallholder Irrigation Development in the Kano Plains, Kenya |                   |   |
| Series    |   |                   |   |
| Publisher | Wageningen Agricultural University, Netherlands   |                   |   |
| Year      | 1991/92   | Vol. No.          |   |
| Pages     | 14  | Issue             |   |
| Country   | Kenya   | ISBN              |   |
| Language  | English   | Other information | This is a follow-up study from a study made in 1989 |

**Abstract:**

In 1989 a study on woman's role in irrigated agriculture in the Kano Plants, Kenya, set up. Based on the research findings and recommendation, a credit program was started in 1992 to stimulate the rice farming at the household level. At the scheme level, women got more involved in decision making.

The research findings are briefly as follow:

Percentage of women owning plots in different types of household and average size.

| Household type      | Women with plots (%) | Average size of own plot (acres) |
|---------------------|----------------------|----------------------------------|
| Widow's household   | 100                  | 1.5                              |
| Migration household | 23                   | 0.4                              |
| Joint household     | 51                   | 0.8                              |

In the study they are talking about women with high, indirect and low control of the rice produce. Ownership of land is positively related to the control over the produce of that land.

**Reference No.17:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Tuijtelaars de Q, C; Pozo, M;.Antezanal, R; Crespo, R; Cardenas, M  |                   |  |
| Title     | Mujer y Riego en Puntata Aspectos de Genero. Situacion de uso, acceso y control sobre el agua para riego en Punata. |                   |  |
| Series    | Programa de ensenanza e investigacion en riego andino y los valles (PEIRAV)   |                   |  |
| Publisher | Convenio Bolivia- Holanda (Wageningen Agricultural University)  |                   |  |
| Year      | Okt. 1994   | Vol. No.          |  |
| Pages     | 108+Annex 28  | Issue             |  |
| Country   | Bolivia   | ISBN              |  |
| Language  | Spanish + (breif abstract in English)   | Other information |  |

**Abstract:**

This is a study about 'women and irrigation' carried out between April 1993 and April 1994 in Puntana, Bolivia. It was done by PEIRAV, men and women of the country and two assessors. The results of this study were discussed with other gender researchers in the rural area during a seminar-workshop.

Women are the principal irrigators but they are rarely considered as such by interventional organizations. The principal role in irrigation activities is usually attributed to men, at family level as well as at an irrigation system level. The role of the woman as irrigators has been intensified in many cases because men take temporary jobs away from home. The specific roles of men and women have not yet been totally recognized. Women's work is not seen as productive but as helpers to the men. Women don't value themselves as they consider their job as something natural and inherent of their condition of being women.

**Access to education:**

- Women do not have access to the courses because they do not know about their existence. Courses are mainly advertised to the governors of the community in which there are very few women. Curses are often directed to men.

Recommendations for further gender research are given. Included are items such as: interdisciplinary teams with men and women; use of professionals to manage the project and students to assist; investigation of how migration affects the family and irrigation; investigation of rituals and gender roles.

**Reference No.18:**

|           |  |                   |        |
|-----------|--|-------------------|--------|
| Author    | SISDO  |                   |        |
| Title     | 1) Irrigation infrastructure of gravity-fed schemes<br>2) Irrigation equipment for individual pump-fed systems<br>3) Loans for farm inputs<br>4) Gender Issues in high value crop production<br>5) Donor relations<br>6) Financial and administrative controls and procedures<br>7) Environmental issues in high value crop production<br>8) Level and modalities of loans |                   |        |
| Series    | SISDO fact sheets  |                   |        |
| Publisher | SISDO  |                   |        |
| Year      | Jan.1993   | Vol. No.          | No.1-8 |
| Pages     | 20   | Issue             |        |
| Country   | Kenya  | ISBN              |        |
| Language  | English  | Other information |        |

Abstract:

### 3) Loans for farm input

This credit programme was designed primarily to provide credit through women for farm inputs for irrigated crops. To qualify for a loan the women must:

- have access to irrigation plots either from the household or by renting
- form groups of 5 women who secure each others' loan and pledge assets as security
- the groups of 5 have to merge into a larger group of 30 members

Existing women's groups who reorganize themselves according to these principles have preference over the formation of new groups. Conditions for women=s groups are outlined.

### 4) Gender issues on high value crop production

SISDO encourages the involvement of women in the following ways:

- Women only meeting to discuss: division of labor in horticulture production and household activities, representation of women at group level, general woman's issues in relation to irrigated crop production, relation between labor input by women and decision making regarding spending of generated income.
- Women should constitute at least 50% of the officials at group level.
- In three SISDO group meetings 50% of the attendant must be women otherwise the meeting is cancelled.
- The loan agreements between the households and the group committee has to be signed by men and their wife(s).
- Single parent household, many of which are headed by women, should be able to participate in the scheme.

**Reference No.19:**

|           |   |                   |                         |
|-----------|---|-------------------|-------------------------|
| Author    | IRC   |                   |                         |
| Title     | Dutch policy on women, water and sanitationUN agencies and Women and Water No.3 |                   |                         |
| Series    | IRC Newsletter (International Water and Sanitation Centre)                      |                   |                         |
| Publisher | WHO, The Hague, The Netherlands   |                   |                         |
| Year      | 1990  | Vol. No.          | 194,195                 |
| Pages     | 194 p.2 and<br>195 p.3  | Issue             |                         |
| Country   | Dev. countries  | ISBN              |                         |
| Language  | English   | Other information | Also see Reference No.1 |

**Abstract:**

This article is a summary of a policy paper on woman, water and sanitation published by the Dutch Directorate-General for International Co-operation. This article briefly describes the traditional and new roles of women in the area of water and sanitation and what bearing these roles have on the wellbeing of households, communities and women themselves.

**Key statements:**

- The question 'how' maintenance is done in the area of WSS appears to yield more revealing answers than 'who' is officially in charge.
- Women tend to use all additional income, knowledge, or other advantages to meet basic family needs.
- New work to realize and sustain improvements should not be allowed to become women's sole burden and thereby increase their already heavy workburden.
- Improvement projects cannot be carried out without women's involvement. They have the key roles and primary interests in the area of WSS.
- Women's unique local expertise makes them indispensable as informants on location, availability and reliability of water sources, the preferred use of water and waste, and the social acceptability of water sources and sanitary arrangements.
- Women's social knowledge can be in use to find suitable training candidates.
- They have access to places which external projects can hardly reach for cultural or demographic reasons.

**Newsletter No. 195:****UN agencies and women and water: No 3:**

PROWESS stands for 'Promotion of the role of women in water and environmental sanitation services' and is based on the UN development program (UNDP).

INSTRAW work to carry out research, training and information activities world-wide to ensure the integration of women as key agents of development. The institute produce a multi media training package.

**Reference No.20:**

|           |  |                   |    |
|-----------|--|-------------------|----|
| Author    | Assad, Marie; el Katsha, Samitha; Watts, Susan   |                   |    |
| Title     | Involving women in water and sanitation. Initiatives: an action/research project in an Egyptian village. |                   |    |
| Series    | Water International  |                   |    |
| Publisher | IWRA/ USA (Social Research Centre, American University in Cairo)   |                   |    |
| Year      | 1994   | Vol. No.          | 19 |
| Pages     | 113-120  | Issue             |    |
| Country   | Egypt  | ISBN              |    |
| Language  | English  | Other information |    |

**Abstract:**

The article describes the experiences of an action/research team that sought to facilitate improvements in water, sanitation, and environmental health by working with village women in an Egyptian village. The women identified two problems that they then worked to correct. A malfunctioning standpipe and a highly polluted canal. The first was repaired but the latter was difficult to solve.

The model presented recognized the importance of the participation of community members, women and men. Many interventions need the approval and support, not only from community organizations but also from local and regional government authorities, if they are to be sustainable.

Community members know better than the outsiders what their problems are and through diagnosing their problems achieve increased awareness. Being responsive to local concepts rather than those identified by researchers in a structured questionnaire was seen as important. The first stage in the research was to learn from the village women about environmental problems and then to identify specific problems that could realistically be solved.

Researchers should not consider all women in a settlement as a part of a homogeneous 'community'. Women often have a 'hidden' network, which function through informal organizations and kinship. Involvement in community projects presupposes a public role for women that may not be supported by traditional values and the process of socialization of women.

**Reference No.21:**

|           |                                   |                   |   |
|-----------|-----------------------------------|-------------------|---|
| Author    | Aziz, Christine                   |                   |   |
| Title     | Watering the seeds of development |                   |   |
| Series    | Oasis                             |                   |   |
| Publisher |                                   |                   |   |
| Year      | Autumn 1992                       | Vol. No.          |   |
| Pages     | 2                                 | Issue             | DI 04371                                |
| Country   | India                             | ISBN              |   |
| Language  | English                           | Other information | Article about work founded by Water Aid |

**Abstract:**

In the village of Chithupatty, India, Water Aid have funded a projects where pump caretakers- mainly Harijans- have been trained in 21 villages. The caretaker is given a spanner and a tin of grease and is taught simple hand pump maintenance. Those who show a particular aptitude in maintenance are given further detailed training to carry out more difficult repairs. the pumps are normally greased every 15 days. One of the Harijans caretakers says that she now has more friends and has through her work visited places she never had gone to before. She went to a bank and to the 'Panchayat union office' to press for electricity to the village. She had never dreamt of being able to stand up to officers and speak.

The pump is maintained by the local women's society (sangam). The sangam has 20 members who all pay a small fee. They hope to save money to invest in small cottage industries like poultry raising and gem cutting. Ratnavalli, the supervisor of the caretakers said: ' My daughter is now at school. I would not have put her in school if I had not had these experiences.'

**Reference No.22:**

|           |                      |                   |    |
|-----------|----------------------|-------------------|----|
| Author    | Chancellor, Felicity |                   |    |
| Title     | Women in Irrigation  |                   |    |
| Series    | ODU Bulletin         |                   |    |
| Publisher |                      |                   |    |
| Year      | 1992                 | Vol. No.          |    |
| Pages     | 3                    | Issue             | 26 |
| Country   | Zimbabwe and Kenya   | ISBN              |    |
| Language  | English              | Other information |    |

**Reference No.23:**

|           |                              |                   |                  |
|-----------|------------------------------|-------------------|------------------|
| Author    | Chambers, Robert Lenton      |                   |                  |
| Title     | Note on Irrigation and Women |                   |                  |
| Series    |                              |                   |                  |
| Publisher |                              |                   |                  |
| Year      | 1982                         | Vol. No.          |                  |
| Pages     | 9                            | Issue             | RC/RL Feb. 20'81 |
| Country   | Dev. countries               | ISBN              |                  |
| Language  | English                      | Other information |                  |

## Abstract:

This is a note about the potential gains and losses by women on irrigation systems. It also discusses possible types of intervention and alternative approaches for research. The scope of irrigation is restricted to trade-offs in domestic and agricultural needs. Some examples of trade-offs are:

- leaving canals unlined to permit seepage for domestic wells
- restraining groundwater mining so that handpumps can still raise water
- continuous flow to provide water for household purposes against higher production and incomes from rotated flow
- the application of research resources to household issues at the cost of issues where the pay-off for women and other disadvantaged groups may be higher

**Reference No.24**

|           |                      |                   |  |
|-----------|----------------------|-------------------|--|
| Author    | IIMI                 |                   |  |
| Title     | Women and Irrigation |                   |  |
| Series    | Program and Budget   |                   |  |
| Publisher | IIMI                 |                   |  |
| Year      | 1991                 | Vol. No.          |  |
| Pages     | 34-37                | Issue             |  |
| Country   | Dev. countries       | ISBN              |  |
| Language  | English              | Other information |  |

## Abstract:

Many physical and social changes will follow from the introduction of irrigation. Those changes may have strong effects on the environment, relationships and workpatterns of rural people who are totally dependent on irrigation. Irrigation also causes immigration and settlement of new populations which in itself lead to cultural, social and political changes with considerable impacts on the rural men and women.

These changes can have both negative and positive effects. Some positive effects for the female laborers might be the gain from the increase in the number of days of employment, the levelling-off peaks in agricultural employment, the increases in wages and the growth in off-farm employment that results from irrigation-induced agricultural intensification. Women who live near the irrigation channels can also benefit from the water to other purposes. The negative impacts of a poorly planned or managed irrigation scheme can be considerable. Agricultural intensification can result in increased unpaid workloads for women. The irrigation-induced mechanization can also displace female agricultural workers. Families can be displaced from reservoir sites and waterborne diseases can increase.

IIMI concentrate on three key aspects on irrigation and development: productivity, equity, and sustainability. A fourth aspect might be introduced: quality of life. Three potential areas have been identified for researching: the effect in irrigated agriculture on the role of women; involving women in greater participation in water users' associations; and the role of women engineers in irrigation agencies.

**Reference No.25:**

|           |                                 |                   |                           |
|-----------|---------------------------------|-------------------|---------------------------|
| Author    | Anon                            |                   |                           |
| Title     | Women in small scale irrigation |                   |                           |
| Series    |                                 |                   |                           |
| Publisher |                                 |                   |                           |
| Year      | 1980                            | Vol. No.          |                           |
| Pages     | 2                               | Issue             |                           |
| Country   | Africa                          | ISBN              |                           |
| Language  | English                         | Other information | Expert UN handbook Z5, HR |

**Abstract:**

It has been estimated that African women spend twice as many hours on agricultural activities as do men. The division on rural labor by task and sex:

| Task                              | Proc. of total labor time women | Proc. of total labor time men |
|-----------------------------------|---------------------------------|-------------------------------|
| land clearing                     | 5                               | 95                            |
| land preparation                  | 30                              | 70                            |
| sowing and transportation         | 50                              | 50                            |
| weeding                           | 70                              | 30                            |
| harvesting                        | 60                              | 40                            |
| transporting                      | 80                              | 20                            |
| storing                           | 80                              | 20                            |
| processing                        | 90                              | 10                            |
| marketing                         | 60                              | 40                            |
| carrying water and fuel           | 90                              | 10                            |
| caring for domestic animals       | 50                              | 50                            |
| hunting                           | 10                              | 90                            |
| feeding and caring for the family | 95                              | 5                             |

Most development project concentrate attention on the men and assume that any benefits brought to men will automatically be shared within the family. In reality men and women have very different roles in the household.

The introduction of irrigation has in many cases increase women's labor burden which increase the burden of work, such as water, firewood collecting or livestock care. Domestic improvements must come with irrigation for a sustainable development. The intention to increase income and improve nutrition by the introduction of irrigation often fails by lack of attention to gender work loads.

**Reference No.26:**

|           |  |                   |    |
|-----------|--|-------------------|----|
| Author    | Abeyratne, Shyamala                                    |                   |    |
| Title     | Women and Irrigation                                   |                   |    |
| Series    |  |                   |    |
| Publisher | Irrigation management research information centre-ARTI |                   |    |
| Year      | 1986   | Vol. No.          |    |
| Pages     | 3  | Issue             |    |
| Country   | Sri Lanca,<br>Kenya                                    | ISBN              |    |
| Language  | English  | Other information | HR |

**Abstract:**

The introduction of modern irrigated farming in rural areas has produced a variety of changes for the socio-economic organization of production and consumption. The way in which irrigation facilities are accepted and utilized and also in which way the irrigation benefits are distributed, will be shaped by pre-existing social structures.

Women are the main collectors, bearers and users of water. In many countries 90% of the water collecting work is done by women and children. Despite this fact the women have often been excluded in the planning and implementation stages of water projects.

Women are almost totally excluded from formal water-user associations but nonetheless they seem to have informal role in water management decision -making. Women have also been found to play an important role in barging for water in irrigation-related conflicts. In the few cases when women actually have been participating in users-organizations they have been very successful.

**Reference No.27:**

|           |  |                   |   |
|-----------|--|-------------------|---|
| Author    | Dey, Jennie  |                   |   |
| Title     | 1)Gender issues in irrigation project design in Sub-Saharan Africa   |                   |   |
| Series    | Introductions and contributions to the international workshop Design for sustainable farmer managed irrigation schemes in sub-Sahara Africa. |                   |   |
| Publisher | The International Agricultural Centre, Wageningen, The Netherlands   |                   |   |
| Year      | Feb.1990   | Vol. No.          | I |
| Pages     | 1C   | Issue             |   |
| Country   | Sub-Saharan Africa   | ISBN              |   |
| Language  | English  | Other information |   |

Abstracts:

1) Gender issues in irrigation project design in Sub-Sahara Africa

If the irrigated crops brings higher returns to labor than rainfed crops, men will take control over the irrigated land, new production technologies and the harvest. This induced a transfer of female labor from production of personal crops to agricultural production controlled by men. Men were assisted in this process first of all because the development agency gave the irrigated land to the households heads (male) and secondly because these agencies didn't devise essential safeguards to protect women. How well a woman can resist this process depends on her bargain position.

**Reference No.28:**

|           |  |                   |               |
|-----------|--|-------------------|---------------|
| Author    | Allen, Patricia  |                   |               |
| Title     | Food for the Future  |                   |               |
| Series    |  |                   |               |
| Publisher | University of California, Santa Cruz, John Wiley and Sons,Inc, New York, USA |                   |               |
| Year      | 1993   | Vol. No.          |               |
| Pages     | 328  | Issue             |               |
| Country   | USA, Latin America   | ISBN              | 0-471-58082-1 |
| Language  | English  | Other information |               |

## Abstract

This collection of twelve papers deals with new conceptual approaches, practical difficulties and initiatives towards developing strategies for sustainability in agricultural development. Discussion covers developed and less developed agricultural systems but mainly addresses north American issues. A major criticism of past policies is failure to differentiate, however, texts notably fail to mention gender issues despite lengthy discussion of social and economic constraints.

### Reference No.29:

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Whitehead, Ann   |                   |  |
| Title     | Food crisis and gender conflict in the African countryside |                   |  |
| Series    | The food question by H.Bernstein +others (earthscan)       |                   |  |
| Publisher |  |                   |  |
| Year      | 1990   | Vol. No.          |  |
| Pages     | 54-68  | Issue             |  |
| Country   | Africa   | ISBN              |  |
| Language  | English  | Other information |  |

### Reference No.30:

|           |  |                   |      |
|-----------|--|-------------------|------|
| Author    | Leslie, Joanne   |                   |      |
| Title     | Women's nutrition: the key to improving family health in developing countries? |                   |      |
| Series    | Health policy and planning   |                   |      |
| Publisher | Oxford university press 1991   |                   |      |
| Year      | 1991   | Vol. No.          | 6(1) |
| Pages     | 1-19   | Issue             |      |
| Country   | Dev. countries   | ISBN              |      |
| Language  | English  | Other information |      |

**Reference No.31**

|           |   |                   |    |
|-----------|---|-------------------|----|
| Author    | Ministry of Agriculture, The Gambia           |                   |    |
| Title     | Mother's nutrition status and time allocation |                   |    |
| Series    |   |                   |    |
| Publisher |   |                   |    |
| Year      |   | Vol. No.          |    |
| Pages     | 93-107  | Issue             |    |
| Country   | Gambia  | ISBN              |    |
| Language  | English                                       | Other information | HR |

**Reference No.32:**

|           |   |                   |           |
|-----------|---|-------------------|-----------|
| Author    | Jones, Stephen  |                   |           |
| Title     | The impact of food aid on food markets in Sub-Sahara Africa |                   |           |
| Series    | WFP Occasional Paper 13                                     |                   |           |
| Publisher | Food studies groups, Oxford, UK                             |                   |           |
| Year      | Feb. 1989   | Vol. No.          |           |
| Pages     | 23  | Issue             | chapter 2 |
| Country   | Sub-Saharan Africa  | ISBN              |           |
| Language  | English   | Other information |           |

### Reference No.33

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Svedberg, Peter  |                   |  |
| Title     | Undernutrition in Sub-Saharan Africa: Is there a Gender bias?          |                   |  |
| Series    | The journal of development studies                                     |                   |  |
| Publisher | University of Stockholm, Institute for international economics studies |                   |  |
| Year      |  | Vol. No.          |  |
| Pages     | 469-486  | Issue             |  |
| Country   | Sub-Saharan Africa   | ISBN              |  |
| Language  | English  | Other information |  |

#### Abstract:

This article presents a study of the anthropometric status of boys and girls in Sub-Saharan Africa. It is showed that females status is par or even better than that of males. In South Asia, on the contrary, studies have showed inferior anthropometric status and higher mortality of girls than boys. The findings confirm Boserup's theory that a different agriculture organization generates different division of labor and a different evaluation of female and male children. Female labor participation in the agricultural sector is comparatively high in Sub-Saharan Africa and polygamy, bride-wealth and early marriage of females are predominant customs. Therefore is also the nutritional and health status of females is favorable compared to men's status.

The author explore two possible explanations for the poorer anthropometric performance and the higher mortality of boys: measurement biases and economically motivated preferences for girls. The female/male sex ratio in Sub-Saharan Africa is high despite the fact that the total fertility rate and the maternal mortality rates both are much higher in Sub-Saharan Africa than elsewhere.

In most of Sub-Saharan Africa agricultural production is still non-mechanized and labor is the scarce factor of production. In South Asia, on the other hand, plough and irrigation cultivation dominate and land is the scarce factor of production. According to FOA, 1989, the estimated cereal yields in most Sub-Saharan African countries are between one-quarter and one-half of what they are in South Asia.

In Sub-Saharan Africa women account for more than 50% of the labor input. In most societies, the only task men perform is to clear the land; all other work is done by their wives. In South Asia it is not uncommon that the women only do domestic work and live in seclusion and appear outdoors only under the protection of a veil.

**Reference No.34**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Wind, Marjan  |                   |  |
| Title     | Brain-storm workshop on 'Credit for women in smallholder rice schemes in the Kano Plains' |                   |  |
| Series    | Report prepared by SIDP   |                   |  |
| Publisher | Republic of Kenya, Ministry of Agriculture, Irrigation and Drainage Branch                |                   |  |
| Year      | 27-28 Feb 1992  | Vol. No.          |  |
| Pages     | 51  | Issue             |  |
| Country   | Kenya   | ISBN              |  |
| Language  | English   | Other information | Workshop held in Tom Mboya Labor College, Kisumu |

**Reference No.35:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | AFDB   |                   |  |
| Title     | Guidelines for Integrating gender issues into bank group agricultural projects |                   |  |
| Series    |  |                   |  |
| Publisher |  |                   |  |
| Year      | Feb. 1992  | Vol. No.          |  |
| Pages     | 26   | Issue             |  |
| Country   | Africa   | ISBN              |  |
| Language  | English  | Other information |  |

**Reference No.36:**

|           |   |                   |         |
|-----------|---|-------------------|---------|
| Author    | Due, Jean M; Kurwijila, A. R; Aleke-Dondo, C. A; Kogo, K                                      |                   |         |
| Title     | Funding small-scale enterprises for African women: Case studies in Kenya, Malawi and Tanzania |                   |         |
| Series    | African Development Review  |                   |         |
| Publisher |   |                   |         |
| Year      |   | Vol. No.          |         |
| Pages     | 58-91   | Issue             |         |
| Country   | Kenya, Malawi and Tanzania  | ISBN              |         |
| Language  | English (French Resumé)   | Other information | 18 Refs |

## Abstract:

Donors and governments seek ways to find and manage funds to establish small scale enterprises to increase family incomes, improve nutrition and increase employment. Allocation of funds to women in differing social circumstances are discussed.

**Reference No.37:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | African development bank, African development fund  |                   |  |
| Title     | Policy paper on women in development  |                   |  |
| Series    |   |                   |  |
| Publisher | Approved at the 272 <sup>th</sup> and 200 <sup>th</sup> meeting of the boards of directors of the African Development bank and the African Development fund in joint session held in Abidjan 17-18 September 1990 |                   |  |
| Year      | 1990  | Vol. No.          |  |
| Pages     | 58  | Issue             |  |
| Country   | Africa  | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.38:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Eresu, Daisy                                |                   |  |
| Title     | Gender Awareness: Analysis of a Woman's Day |                   |  |
| Series    | MANANGA                                     |                   |  |
| Publisher |   |                   |  |
| Year      | 1990  | Vol. No.          |  |
| Pages     | 2,1   | Issue             |  |
| Country   | Uganda                                      | ISBN              |  |
| Language  | English                                     | Other information |  |

Abstract:

1) Gender awareness: Analysis of a woman's day.

The daily routine for a woman in Uganda is described

Analyses of the woman's day:

Women have three roles; the reproductive role, the productive role and the community manager role.

Rural women have NO time to attend other activities than their 'schedules ones' unless these activities prove worthwhile. Objectives must be clearly explained and rewards to the beneficiaries must be felt if a project is to be succeeded.

Planning recommendations:

- Increase women's productive role; allow them to access credit facilities, seed, fertilizers, machinery, transport facilities etc.
- Reduce burdensome tasks; fuel saving cookstoves, more boreholes or pipes water supplies etc.
- Improve on health, literacy, numeracy, leadership and other skills.

2) Group lending - A way to reach many small farmers at reduces cost

This is a short article about how group lending works. The objectives, identification of viable groups, size of group, group leadership, loan application, loan disbursements, loan supervision, loan recovery, special conditions, main role of executive committee and achievements. In the areas in Zambia where group lending has been used the repayment has been average 95%. The groups often include 100 farmers subdivided into 5 subgroups. The group leader is trained and visit the farmers regularly.

**Reference No.39:**

|           |  |                   |    |
|-----------|--|-------------------|----|
| Author    | Jazairy, Idriss; Morna, Collen Lowe                                |                   |    |
| Title     | Empowering women: Developments missing link Women must seek rights |                   |    |
| Series    | Development Forum  |                   |    |
| Publisher |  |                   |    |
| Year      | May June 1991  | Vol. No.          | 19 |
| Pages     | 3 and 20   | Issue             | 3  |
| Country   | Dev. countries, Namibia  | ISBN              |    |
| Language  | English  | Other information |    |

**Abstract:****1) Empowering women: Developments missing link.**

Idriss Jazairy is convinced that one of the foremost factors why development efforts in many countries have faltered over the past decade is because of the neglect of poor rural women. These women are a powerful but under utilized force for development. Without them progress will remain inadequate and slow. It is crucial that development community becomes bolder in empowering more women. The starting point in the design and finance of projects must be to alleviate poverty and reducing the harshness for the poorest rural women and to make them be more effectively involved in the development process.

Many women don't have any legal tenure of the land they farm. Credit and extension services often never reach them. Policy should aim to promote the economic empowerment of the women.

Projects intended to reach the poor women often fail to do so because the women-orientated components in the projects are often added almost as an afterthought.

IFAD (International Found for Agricultural Development) found that their credit schemes run by women boast repayment rates up to 94%. Studies in Ghana and Ethiopia have shown that a loan of \$50 has the potential to free a family from poverty.

Poor rural women must be encouraged to speak out about how they want projects to be carried out to help them in their work. We need more women collaborators at the national level to assist in the project design and implementation.

**2) Women must seek rights**

The article is about women's right in Namibia and centres on maternity leave. Other government initiatives to increase the productivity of small-scale farming produce free and compulsory education until the age of 16 and give special incentives to private employers employing women.

A low sense of self-esteem and routine practical problems afflict most women at a personal level. The concept of women's rights is a foreign one. Most women are not even aware that they have 'rights to have rights'.

**Reference No.40:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Versteylen-Leyzer, Dorothee   |                   |  |
| Title     | Integrating Women in Development. The experience of nine EDF rural development projects |                   |  |
| Series    | The courier   |                   |  |
| Publisher | The Hague   |                   |  |
| Year      | Jan/Feb 1991  | Vol. No.          |  |
| Pages     | 14-18   | Issue             |  |
| Country   | Sub Saharan Africa  | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.41:**

|           |   |                   |              |
|-----------|---|-------------------|--------------|
| Author    | Schultz, T.P                                      |                   |              |
| Title     | Women's Changing Participation in the Labor Force |                   |              |
| Series    | Economic Development and Cultural Change          |                   |              |
| Publisher | University of Chicago                             |                   |              |
| Year      | 1990  | Vol. No.          | 0013         |
| Pages     | 457-488   | Issue             | 0079/90/3803 |
| Country   | The World   | ISBN              |              |
| Language  | English   | Other information |              |

**Reference No.42:**

|           |  |                   |         |
|-----------|--|-------------------|---------|
| Author    | Sen, Amartya K                         |                   |         |
| Title     | Women, Technology and Sexual Divisions |                   |         |
| Series    | Trade and Development                  |                   |         |
| Publisher |  |                   |         |
| Year      | 1985                                   | Vol. No.          | 6       |
| Pages     | 195-223                                | Issue             |         |
| Country   | The World                              | ISBN              |         |
| Language  | English                                | Other information | journal |

**Reference No.43:**

|           |   |                   |   |
|-----------|---|-------------------|---|
| Author    | Kebathi, Joyce                                  |                   |   |
| Title     | Community Education Projects and Women's Groups |                   |   |
| Series    | AALAE journal                                   |                   |   |
| Publisher |   |                   |   |
| Year      | 1992  | Vol. No.          | 6 |
| Pages     | 20-30   | Issue             | 2 |
| Country   | Kenya,<br>SouthAfrica                           | ISBN              |   |
| Language  | English   | Other information |   |

**Reference No.44:**

|           |  |                   |               |
|-----------|--|-------------------|---------------|
| Author    | Overholt, C; Cloud, K; Anderson, M.B; Austin, J.E.     |                   |               |
| Title     | Women in Development: A framework for project analysis |                   |               |
| Series    | Gender roles in developing projects (A case book)      |                   |               |
| Publisher | Kumanai Press  |                   |               |
| Year      | 1985   | Vol. No.          |               |
| Pages     |  | Issue             |               |
| Country   | Dev.<br>countries                                      | ISBN              | 0-931816-15-7 |
| Language  | English  | Other information |               |

**Reference No.45:**

|           |  |                   |       |
|-----------|--|-------------------|-------|
| Author    | Barnes, Carolin  |                   |       |
| Title     | Differentiation by sex among small-scale farming households in Kenya |                   |       |
| Series    | Rural Africana New series  |                   |       |
| Publisher | AID, Regional Economic Development Services                          |                   |       |
| Year      | 1983   | Vol. No.          | 15/16 |
| Pages     | 41-63  | Issue             |       |
| Country   | Kenya  | ISBN              |       |
| Language  | English  | Other information |       |

**Reference No.46:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Savané, M.A.  |                   |  |
| Title     | Effects of Social and Economic Changes on Role and Status |                   |  |
| Series    | Effects of social and economic changes on women           |                   |  |
| Publisher |   |                   |  |
| Year      |   | Vol. No.          |  |
| Pages     | 124-132   | Issue             |  |
| Country   | Sub-Saharan Africa  | ISBN              |  |
| Language  | English<br>(translated from French)                       | Other information |  |

**Abstract:**

This article summarizes findings of a larger study on the effects of social and economic changes on the role and status of women in sub-Saharan Africa and is carried out under United Nations Research Institute for Social Development (UNRISD).

To understand the role and status of women in development, it is necessary to understand how social groups have been incorporated in the market economy and the social stratification that has resulted. Within this framework what specific responsibilities are assigned to men and women? A change in the gender division of labor constitutes an expression and manifestation of the position of women in both social production and human reproduction. Gender division also changes by social class.

Two hypotheses were formulated as a basis for research:

- The process in which many developing countries have been integrated into the world market have created profound changes in traditional social institutions which affect men and women differently.
- Development policies and programs have frequently worked to women's disadvantage.

**Reference No.47:**

|           |  |                   |   |
|-----------|--|-------------------|---|
| Author    | Chalker, Baroness Linda  |                   |   |
| Title     | Women status in developing countries: British aid and human rights policy. |                   |   |
| Series    |  |                   |   |
| Publisher | ODA  |                   |   |
| Year      | 2 Nov 1994   | Vol. No.          |   |
| Pages     |  | Issue             |   |
| Country   | Dev. countries   | ISBN              |   |
| Language  | English  | Other information | Speech given at Queen Elizabeth House, Oxford |

**Reference No.48:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Al-Khazraji, Ali                                     |                   |  |
| Title     | Aid projects bring hope for women in the third world |                   |  |
| Series    | OPEC Bulletin, Economic notebook                     |                   |  |
| Publisher |  |                   |  |
| Year      | March 1991   | Vol. No.          |  |
| Pages     | 26-36  | Issue             |  |
| Country   | Dev. countries                                       | ISBN              |  |
| Language  | English  | Other information |  |

**Abstract:**

About 30% of the rural households, in the least developed countries of the world, are headed by women. The president of the Rome-based International Fund for Agricultural Development (IFAD) said, at the 35th session of the UN Commission on the Status of Women, that a 'concerted effort to ensure that women are...an integral part of project design'.

Women often lack any legal right to the land they work, they are ignored by extension services, barred from receiving credit, and under-represented in rural associations and decision-making bodies. Between 1978 and 1984, only 27% of IFAD's project with credit components targeted poor rural women; since 1985 the percentage has increased to 86%.

A number of country specific projects are discussed.

In Kenya farmer's group and community support projects were implemented in Siaya District. The aim of the project was to increase agricultural output and improving health and sanitation. Existing farmers groups developed awareness among their members of their own potential and become more demanding

in their requests for services to relevant ministries. Income-generating activities were implemented by individual group members through demonstrations at group level.

**Reference No.49:**

|           |  |                   |        |
|-----------|--|-------------------|--------|
| Author    | Made, Patricia A; Whande Nyorovai                                    |                   |        |
| Title     | Women in southern Africa: A note on the Zimbabwean ' success story'. |                   |        |
| Series    | A journal of options   |                   |        |
| Publisher |  |                   |        |
| Year      | 1989   | Vol. No.          | 17     |
| Pages     | 26-28  | Issue             | Summer |
| Country   | Southern Africa  | ISBN              |        |
| Language  | English  | Other information |        |

**Abstract:**

Since the 1981 UN conference held in Nairobi: 'Decade for Women', laws have been created to eradicate sex discrimination, but the needs of women in Southern Africa are not yet fully addressed.

The world economic crisis in the 1970's and 1980's has slowed the pace of change, and further marginalized women in development. In the areas of education and employment women are still far behind the men. The paper outlines the case of women in Zimbabwe emphasizing the need for greater emphasis on rural poor women=s needs. The cultural attitudes which constrain women=s full integration into main stream economic development are recognized.

**Reference No.50:**

|           |  |                   |    |
|-----------|--|-------------------|----|
| Author    | Norris, Mary E.  |                   |    |
| Title     | The impact of development on women. A specific-factors analysis. |                   |    |
| Series    | Journal of Development Economics                                 |                   |    |
| Publisher |  |                   |    |
| Year      | 1992   | Vol. No.          | 38 |
| Pages     | 183-201  | Issue             |    |
| Country   | Dev. countries   | ISBN              |    |
| Language  | English  | Other information |    |

**Reference No.51:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Parker, A Rani  |                   |  |
| Title     | Training manual (A manual on gender analysis training for grassroots workers) |                   |  |
| Series    |   |                   |  |
| Publisher | UNIFEM, New York, USA   |                   |  |
| Year      | 1993  | Vol. No.          |  |
| Pages     | 106   | Issue             |  |
| Country   | Dev. countries  | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.52:**

|           |  |                   |   |
|-----------|--|-------------------|---|
| Author    | Ngo forum on women                     |                   |   |
| Title     | Look at the world through women's eyes |                   |   |
| Series    | Ngo forum on women '95 bulletin        |                   |   |
| Publisher |  |                   |   |
| Year      | Oct 1994                               | Vol. No.          |   |
| Pages     | 8                                      | Issue             | 5 |
| Country   | Dev. countries, China                  | ISBN              |   |
| Language  | English                                | Other information |   |

## Abstract:

NGO=s will have a forum in Beijing 1995. Special issues are to be discussed and different regions will focus on different ones. Africa will focus on environment, education, health, legal/law, economic, women and AIDS, agriculture/food production, population, social cultural issues, gender sensitization, empowerment, rural women. Information contact: Njoki Wainaina, African Women's Development and Communications network, FEMNET, P.O.Box 54562, Nairobi, Kenya. Tel: (254)274-1301. Fax: (254)274-2927.

**Reference No.53:**

|           |   |                   |   |
|-----------|---|-------------------|---|
| Author    | Leach, Melissa                                      |                   |   |
| Title     | Gender and the environment: traps and opportunities |                   |   |
| Series    | Development in practice                             |                   |   |
| Publisher |   |                   |   |
| Year      | Feb 1992  | Vol. No.          | 2 |
| Pages     | 12-22   | Issue             | 1 |
| Country   | Dev. countries                                      | ISBN              |   |
| Language  | English   | Other information |   |

**Reference No.54:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Poats, Susan V; Schmink, Marianne; Spring, Anita                 |                   |  |
| Title     | Gender issues in farming systems. Research and extension         |                   |  |
| Series    |  |                   |  |
| Publisher | Women in agricultural development program, University of Florida |                   |  |
| Year      | 1988   | Vol. No.          |  |
| Pages     | 1-59,237-344,407-426   | Issue             |  |
| Country   | Dev. countries   | ISBN              |  |
| Language  | English  | Other information |  |

**Reference No.55:**

|           |  |                   |        |
|-----------|--|-------------------|--------|
| Author    | Well, Peter                            |                   |        |
| Title     | Rice, women and adaption in the Gambia |                   |        |
| Series    | Rural Africana                         |                   |        |
| Publisher |  |                   |        |
| Year      | 1973                                   | Vol. No.          | 19     |
| Pages     | 20-29                                  | Issue             | winter |
| Country   | Gambia                                 | ISBN              |        |
| Language  | English                                | Other information |        |

## Abstract:

This article examines the political and economical changes that occurred when the cultivation of millet and sorghum by men was replaced by rice production by women, in Mandinka , the Gambia.

Tidal-swamp-rice production includes a large variety of complex skills and knowledge. In one village a female voluntary group will teach how to cultivate the rice. The group visits the members different fields, starting with the field of the oldest woman in the village, every other day. Members are recruited on the basis of criteria such as residence in the same community, family, friends etc. All the groups include at least one elderly woman who is well skilled in rice agriculture. One-third to half of the group are women between 25 and 35, i.e. women in their peak strength years. The structure of the group is therefore representative of many groups of women.

The women's rice group is a voluntary association which functions to distribute skills. 65% of the workgroup members live in different compounds (key political segment of the village) and the crossing ties play a role in the integration of the village as a political community.

**Reference No.56:**

|           |   |                   |       |
|-----------|---|-------------------|-------|
| Author    | von Braun, Joachim; Webb, Patrick J.R.  |                   |       |
| Title     | The Impact of New Crop Technology on the Agricultural Division of Labor in a West African Setting |                   |       |
| Series    | Economic Development and Cultural Change  |                   |       |
| Publisher | University of Chicago, USA  |                   |       |
| Year      | 1989  | Vol. No.          | 37    |
| Pages     | 513-34  | Issue             | April |
| Country   | West Africa   | ISBN              |       |
| Language  | English   | Other information |       |

**Reference No.57:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Rukini, Mandivamba                                |                   |  |
| Title     | Training staff for farming systems in Africa      |                   |  |
| Series    | Effects of social and economical changes on women |                   |  |
| Publisher |   |                   |  |
| Year      |   | Vol. No.          |  |
| Pages     | 182-187   | Issue             |  |
| Country   | Africa  | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.58:**

|           |   |                   |   |
|-----------|---|-------------------|---|
| Author    | Rwelamira, Juliana                                  |                   |   |
| Title     | Women Farmers                                       |                   |   |
| Series    | CDC Magazine (Commonwealth Development Corporation) |                   |   |
| Publisher | CDC, London   |                   |   |
| Year      | 1991  | Vol. No.          | 1 |
| Pages     | 4-7   | Issue             |   |
| Country   | Lesotho and Swaziland                               | ISBN              |   |
| Language  | English   | Other information |   |

**Reference No.59:**

|           |                                      |                   |               |
|-----------|--------------------------------------|-------------------|---------------|
| Author    | Pacey, Arnold                        |                   |               |
| Title     | Gardening for better nutrition       |                   |               |
| Series    | Intermediate Technology Publications |                   |               |
| Publisher | Oxfam Documents                      |                   |               |
| Year      | 1978                                 | Vol. No.          |               |
| Pages     | 64                                   | Issue             |               |
| Country   | Dev. countries                       | ISBN              | 0 903031 50 7 |
| Language  | English                              | Other information |               |

**Reference No.60:**

|           |  |                   |               |
|-----------|--|-------------------|---------------|
| Author    | FAO  |                   |               |
| Title     | Women, Agriculture and rural development                       |                   |               |
| Series    | Fact sheet   |                   |               |
| Publisher | Food and Agriculture Organization, United Nations, Rome, Italy |                   |               |
| Year      | 1994   | Vol. No.          |               |
| Pages     | 8 a ~5p.   | Issue             |               |
| Country   | Africa   | ISBN              |               |
| Language  | English  | Other information | 8 fact sheets |

Abstract:

Examples of statistics appear for a number of African countries. The section relating to Tanzania offers a typical profile.

In the mid 1980's approximately 54% of the those economically active in agriculture were women, now 98% of the rural women are involved in agriculture. Women spend more time in both productive and reproductive work than men. Almost all livestock activities are done by women. In crop production both men and women participate in site clearance, land preparation, sowing and planting. However, women do most of the weeding, harvesting, transportation, threshing, processing and storage activities.

At household level most farm related decisions are made by the men. In Zanzibar the women members of Cooperative Agricultural Organizations has increased from 30% in 1980 to 44% in 1993. Women are deeply under-represented in decision-making positions in Ministers and Government bodies. They are particularly under-represented in the Ministry of Agriculture and Livestock Development. Women's civil rights are limited by the existence of a dual legal system which includes both statutory, religious and customary laws.

Women's access to financing is limited by

- the small size of their agricultural enterprises
- high rate of illiteracy, predominance in the subsistence sector
- lack of land as collateral.

**Reference No.61:**

|           |  |                   |    |
|-----------|--|-------------------|----|
| Author    | Bergmann, Schul  |                   |    |
| Title     | The role of women in agricultural development projects |                   |    |
| Series    | Quarterly journal of international agriculture         |                   |    |
| Publisher | Zeitschrift fur auslandische landwirtschaft            |                   |    |
| Year      | 1980   | Vol. No.          | 19 |
| Pages     | 135-145  | Issue             | 2  |
| Country   | Dev. countries   | ISBN              |    |
| Language  | English  | Other information |    |

**Reference No.62:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Kumar, Subh K.   |                   |  |
| Title     | Women's role and agricultural technology   |                   |  |
| Series    | From a presentation called: 'Women and Agricultural Technology: The users perspective'                   |                   |  |
| Publisher | International service for national agricultural research and the Rockefeller Foundation, Bellagio, Italy |                   |  |
| Year      | march 1985   | Vol. No.          |  |
| Pages     | 135-147  | Issue             |  |
| Country   | Dev. countries   | ISBN              |  |
| Language  | English  | Other information |  |

Abstract:

The study indicates that introduction of a similar technology in different areas can have varying effects because of differences in the household organization of production. In the choice of technology it is important to consider woman's time constraints. There may be times during the day when it is impossible to take any time off. Women often work in the non-market sector and they generally have poor access to any extra income. This is a big problem for small holder agriculture in Africa and needs to be addressed in the choice of technology. The problem for women and technology is not it's availability but their access to it.

Institution and organizations must identify and disseminate suitable agricultural technologies and make them accessible to farmers, especially women.

**Reference No.63:**

|           |   |                   |            |
|-----------|---|-------------------|------------|
| Author    | Burfisher, M; Horenstein, N; Cloud, K; Overholt, C; Jones, C.   |                   |            |
| Title     | Incorporating women into agricultural development planning: A methodology; Women's productivity in agricultural systems: and overview; Women's labor allocation and irrigated rice production in north Cameroon |                   |            |
| Series    | Role of women in Agricultural Development   |                   |            |
| Publisher | Harward Buissness school, Boston, USA   |                   |            |
| Year      |   | Vol. No.          |            |
| Pages     | 161-180   | Issue             |            |
| Country   | Dev. countries  | ISBN              |            |
| Language  | English   | Other information | 4 articles |

**Reference No.64:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Swisher, Watson   |                   |  |
| Title     | Bibliography of women in Agricultural development with special references to the third world: Users guide |                   |  |
| Series    | Florida cooperative extension service/Institute of food and agricultural sciences                         |                   |  |
| Publisher | University of Florida   |                   |  |
| Year      | May 1991  | Vol. No.          |  |
| Pages     | 22+ 2 diskettes   | Issue             |  |
| Country   | Dev. countries  | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.65:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Agricultural sector projects                             |                   |  |
| Title     | Guidelines for integrating gender issues into bank group |                   |  |
| Series    |  |                   |  |
| Publisher | Development Bank of Southern Africa                      |                   |  |
| Year      | Feb. 1992  | Vol. No.          |  |
| Pages     | 43   | Issue             |  |
| Country   | Dev. countries   | ISBN              |  |
| Language  | English  | Other information |  |

**Reference No.66:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Ifeka, Caroline   |                   |  |
| Title     | Women in fisheries. Why women count: Prospects for self-reliant fisheries development in the south Pacific compared to the Indian Ocean |                   |  |
| Series    |   |                   |  |
| Publisher | Australian National University, Canberra  |                   |  |
| Year      | 1989  | Vol. No.          |  |
| Pages     | 89-114  | Issue             |  |
| Country   | South Pacific, Indian Ocean   | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.67:**

|           |  |                   |           |
|-----------|--|-------------------|-----------|
| Author    | Rinaldi, Amalia  |                   |           |
| Title     | Irrigation in southern Africa: An annotated bibliography                 |                   |           |
| Series    | MSU International development papers                                     |                   |           |
| Publisher | Dep. of Agricultural Economics, Michigan State University, Michigan, USA |                   |           |
| Year      | 1985   | Vol. No.          | 19        |
| Pages     | 49   | Issue             |           |
| Country   | Southern Africa  | ISBN              | 0731-3438 |
| Language  | English  | Other information |           |

**Reference No.68:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Hawksley, E.  |                   |  |
| Title     | Potential for small-scale irrigation in Kibung'a and Ruungu villages, Meru district, Kenya. Results of preliminary socio-economic survey. |                   |  |
| Series    |   |                   |  |
| Publisher | Land Resources Development Centre, London   |                   |  |
| Year      | 1985  | Vol. No.          |  |
| Pages     | 32  | Issue             |  |
| Country   | Kenya   | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.69:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Ministry of Agriculture, Kenya                                   |                   |  |
| Title     | Atlas of Irrigation and Drainage in Kenya                        |                   |  |
| Series    |  |                   |  |
| Publisher | Ministry of Agriculture, Irrigation and Drainage branch, Nairobi |                   |  |
| Year      | March 1990   | Vol. No.          |  |
| Pages     | 132  | Issue             |  |
| Country   | Kenya  | ISBN              |  |
| Language  | English  | Other information |  |

**Reference No.70:**

|           |   |                   |           |
|-----------|---|-------------------|-----------|
| Author    | Gillott, P. W. K.   |                   |           |
| Title     | Design of small irrigation schemes for small scale farmers<br>The Gem Rai case study, Kenya |                   |           |
| Series    | ODU report  |                   |           |
| Publisher | HR Wallingford  |                   |           |
| Year      | Sept. 1994  | Vol. No.          |           |
| Pages     | 33  | Issue             | OD-ITM 41 |
| Country   | Kenya   | ISBN              |           |
| Language  | English   | Other information |           |

**Reference No.71:**

|           |   |                   |           |
|-----------|---|-------------------|-----------|
| Author    | Meifers, Ombara, Van der Zaag   |                   |           |
| Title     | Design as an interactive process. Shaping irrigation systems with the users |                   |           |
| Series    |   |                   |           |
| Publisher | Human resource development (?)  |                   |           |
| Year      |   | Vol. No.          |           |
| Pages     | 71-92   | Issue             | Chapter 5 |
| Country   | Dev. countries  | ISBN              |           |
| Language  | English   | Other information |           |

**Reference No.72:**

|           |   |                   |                                    |
|-----------|---|-------------------|------------------------------------|
| Author    | Ministry of Agriculture, Kenya  |                   |                                    |
| Title     | Upgrading of existing groups using bucket-fed irrigation along lake Victoria to pump-fed schemes. |                   |                                    |
| Series    |   |                   |                                    |
| Publisher | Agricultural Engineering Division, Irrigation and Drainage Branch, Ministry of Agriculture, Kenya |                   |                                    |
| Year      | Jan 1990  | Vol. No.          |                                    |
| Pages     | 15 + appendix   | Issue             |                                    |
| Country   | Kenya   | ISBN              |                                    |
| Language  | English   | Other information | Provincial Irrigation Unit, Nyanza |

**Reference No. 73:**

|           |                                |                   |        |
|-----------|--------------------------------|-------------------|--------|
| Author    | Allam, Ellassiouti, Riley      |                   |        |
| Title     | Irrigation Water Cost in Egypt |                   |        |
| Series    | Water International            |                   |        |
| Publisher | IWRA/USA                       |                   |        |
| Year      | 1994                           | Vol. No.          | Vol.19 |
| Pages     | 151                            | Issue             | 3      |
| Country   | Egypt                          | ISBN              |        |
| Language  | English                        | Other information |        |

**Reference No.74:**

|           |  |                   |             |
|-----------|--|-------------------|-------------|
| Author    | Huibers, Frans                                 |                   |             |
| Title     | Irrigation                                     |                   |             |
| Series    | WARDA management project                       |                   |             |
| Publisher | Agricultural University of Wageningen, Holland |                   |             |
| Year      |  | Vol. No.          |             |
| Pages     | 16   | Issue             | Report No.1 |
| Country   | Senegal  | ISBN              |             |
| Language  | English  | Other information |             |

## Abstract:

The physical and social aspects of irrigation are often contradictory. The physical view looks at irrigation simply in terms of supplying water to the plant. The social view looks only at the social interactions of the people involved in irrigation and their culture. A new concept of irrigated agriculture must take into account the local social structure. and farming system.

**Reference No. 75:**

|           |   |                   |                    |
|-----------|---|-------------------|--------------------|
| Author    | United Nations                                    |                   |                    |
| Title     | The WORLD'S WOMEN trends and statistics 1970-1990 |                   |                    |
| Series    |   |                   |                    |
| Publisher | UN, New York, USA                                 |                   |                    |
| Year      | may 1991  | Vol. No.          |                    |
| Pages     | 120   | Issue             |                    |
| Country   | The World   | ISBN              | ISBN 92-1-161313-2 |
| Language  | English   | Other information |                    |

**Reference No.76:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | Mutiso, G-C.M.   |                   |  |
| Title     | Increasing Women Participation in Irrigation   |                   |  |
| Series    | Prepared for the Irrigation and Drainage branch and small scale irrigation development project, Ministry of agriculture, Kenya |                   |  |
| Publisher | Mutisco consultants ltd., Nairobi, Kenya   |                   |  |
| Year      | Dec 1991   | Vol.No.           |  |
| Pages     | 30   | Issue             |  |
| Country   | Kenya  | ISBN              |  |
| Language  | English  | Other information |  |

**Reference No.77:**

|           |  |                   |               |
|-----------|--|-------------------|---------------|
| Author    | Stamp, Patricia  |                   |               |
| Title     | Technology, Gender, and Power in Africa.                   |                   |               |
| Series    |  |                   |               |
| Publisher | International Development Research Centre , Ottawa, Canada |                   |               |
| Year      | 1993   | Vol.No.           |               |
| Pages     | 185  | Issue             |               |
| Country   | Africa   | ISBN              | 0-88936-538-5 |
| Language  | English Abstract in French and Spanish.                    | Other information |               |

## Abstract:

This book demonstrates that the study of gender relations and the power of women is central to an evaluation of development efforts in Africa. The interactive relationship between technology transfer and gender factors is explored using case studies and examples from the development literature on agriculture, health, and nutrition, as well as from feminist scholarship on Africa. Faulty approaches to the topic and biases at all levels of policy-making have led to ineffective or even harmful projects. Insights about the significance of gender factors do not easily cross the boundaries between different fields of inquiry. Part I presents the different conceptual frameworks within which the topic has been considered. The fields of African studies, women's studies, and development studies are critiqued, and useful approaches are identified. The invisibility of gender in development studies and aid practice is explored at length. Part II examines the research findings of African women to identify the factors that either render women powerless and disadvantaged or create the conditions for their authoritative participation in development. Part III identifies issues and interrelations that have not been addressed in previous research and suggests promising ways to frame future research on women and technology in Africa. The social, economic, and technical empowerment of women at the community level is seen as vital to effective development efforts.

**Reference No.78:**

|           |  |                   |               |
|-----------|--|-------------------|---------------|
| Author    | de Lange, Marna  |                   |               |
| Title     | Small scale irrigation in South Africa   |                   |               |
| Series    |  |                   |               |
| Publisher | Murray Biesen bach abd Badenhorst Inc., Brooklyn, South Africa Water Research Commission (WRC), Pretoria, South Africa |                   |               |
| Year      | Oct 1994   | Vol.No.           | 578/1/94      |
| Pages     | 29   | Issue             |               |
| Country   | South Africa   | ISBN              | 1 86845 125 9 |
| Language  | English  | Other information |               |

## Abstract:

This is an information document based on a research sponsored by the Water Research Commission called 'Evaluation of the irrigation techniques used by small farmers' .

Small irrigation farmers can be categorised as follows:

- Farmers on irrigation schemes (communal water supply infrastructure)
- Vegetable gardens (communal water supply infrastructure)
- Independent farmers (each with a 'private' water supply)

A further distinction should be made between full-time and part-time farmers. Irrigated agriculture is almost invariably aimed at generating a cash income.

A full range of different irrigation systems are used:  
viz, flood, sprinkler, centre pivot, micro and drip irrigation

The management systems of small scale irrigation schemes can be divided into two categories:

- Schemes which are centrally (or externally) managed, and
- schemes on which the farmers themselves are the decision-makers.

Growing dissatisfaction amongst participants on irrigation schemes, which are centrally managed, are noted.

Community gardens provide individuals with vegetables to eat and to market. Participants cooperate in an organisational structure around shared water supply, infrastructure and equipment. Community gardening is unique in the opportunity it can provide the poorest to improve their standard of living. The participants are mostly women, who still depend on the Department of Agriculture for maintenance of pumping equipment. This often leads to delays and frustration. The emphasis is on the farmers themselves being well enough organised to be able to manage their own affairs. Management and control by 'outsiders' should be avoided at all cost.

**Reference No.79:**

|           |  |                   |       |
|-----------|--|-------------------|-------|
| Author    | Martin, Susan Forbes; Mends-Cole, Joyce  |                   |       |
| Title     | Refugee women and economic self-reliance |                   |       |
| Series    | Small Enterprise Development             |                   |       |
| Publisher |  |                   |       |
| Year      | Sept 92                                  | Vol.No.           | Vol 3 |
| Pages     | 4-16                                     | Issue             | 3     |
| Country   | Dev. countries                           | ISBN              |       |
| Language  | English                                  | Other information |       |

**Reference No.80:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Ministry of Agriculture, Kenya  |                   |  |
| Title     | Guidelines on Smallholder Irrigation Projects. For implementing Agencies and Donors.  |                   |  |
| Series    |   |                   |  |
| Publisher | Ministry of Agriculture, Livestock development and marketing Agricultural engineering division Irrigation and drainage branch |                   |  |
| Year      | April 1993  | Vol.No.           |  |
| Pages     | 16  | Issue             |  |
| Country   | Kenya   | ISBN              |  |
| Language  | English   | Other information |  |

**Reference No.81:**

|           |  |                   |        |
|-----------|--|-------------------|--------|
| Author    | Jackson, Cecile  |                   |        |
| Title     | Women/Nature or Gender/History? A critique of Ecofeminist 'Development'. |                   |        |
| Series    | The journal of Peasant studies   |                   |        |
| Publisher | Frank Cass, London   |                   |        |
| Year      | April 1993   | Vol.No.           | Vol 20 |
| Pages     | 389-419  | Issue             | 3      |
| Country   | Dev. countries   | ISBN              |        |
| Language  | English  | Other information |        |

**Abstract:**

This article examines the women and environment linkage which characterises ecofeminism and more and more development in general, from ngo's to the World Bank.

The author summarize by saying that: 'The reactionary consequences of an uncritical acceptance of the women/nature link, and the assumption that women have unfailingly positive attitudes towards environmental conservation, include the widespread implicit view that women should be encouraged to remain in degraded rural environments, 'participating' in conservation projects for the benefit of the community, posterity and nature.'

**Reference No.82:**

|           |   |                   |     |
|-----------|---|-------------------|-----|
| Author    | Saito, Katrine A; Mekonnen, Hailu; Spurling, Daphne             |                   |     |
| Title     | Raising the Productivity of women farmers in Sub-Saharan Africa |                   |     |
| Series    | World bank discussion paper, Africa Technical Department Series |                   |     |
| Publisher | The world bank, Washington                                      |                   |     |
| Year      |   | Vol.No.           | 230 |
| Pages     | 14-29   | Issue             |     |
| Country   | Sub-Saharan Africa  | ISBN              |     |
| Language  | English   | Other information |     |

**Reference No.83:**

|           |   |                   |            |
|-----------|---|-------------------|------------|
| Author    | Chancellor, Felicity                      |                   |            |
| Title     | Women in irrigation                       |                   |            |
| Series    | Droplets                                  |                   |            |
| Publisher | Newsletter from the African Water Network |                   |            |
| Year      | April 1993                                | Vol.No.           | 2          |
| Pages     | 1,3-4                                     | Issue             | April      |
| Country   | Dev. countries                            | ISBN              |            |
| Language  | English                                   | Other information | See Ref 22 |

**Reference No.84:**

|           |  |                   |    |
|-----------|--|-------------------|----|
| Author    | Parpart, Jane L.   |                   |    |
| Title     | Who is the 'other'? A postmodern Feminist Critique of Women and Development Theory and Practice. |                   |    |
| Series    | Development and Change   |                   |    |
| Publisher |  |                   |    |
| Year      | 1993   | Vol.No.           | 24 |
| Pages     | 439-464  | Issue             |    |
| Country   | Dev. countries   | ISBN              |    |
| Language  | English  | Other information |    |

**Reference No.85:**

|           |                                       |                   |                           |
|-----------|---------------------------------------|-------------------|---------------------------|
| Author    | Adeleye-Fayemi, Bisi; Castly, Jerusha |                   |                           |
| Title     | Holding the World in their Hands      |                   |                           |
| Series    | African Woman                         |                   |                           |
| Publisher |                                       |                   |                           |
| Year      | 1992                                  | Vol.No.           |                           |
| Pages     | 19-20                                 | Issue             | October                   |
| Country   | Dev. countries                        | ISBN              |                           |
| Language  | English                               | Other information | Development summit report |

**Abstract:**

A survey of 114 developing nations found that 565 million rural women live in poverty, a majority of the 939 million rural poor all over the world. Sixteen million of these women, who care for 80 millions others, are landless and least able to rise out of poverty.

In February 25-26 1992 in Geneva a conference held on the economic advancement for rural women was attended by wives of Heads of State and rural women. The summary is as follows:

- The experience of investors has shown that poor rural women use credit soundly, transforming the smallest loans in to productive activities that significantly improve the nutrition and living standards of their families. Banks must consider poor rural women as creditworthy.
- Land tenure and inheritance laws discriminate against women.
- Women lack education opportunities.
- Efforts must be made to increase women's representation at the decision making level.
- Women need to have access to basic productive resources.
- It is essential to support the collection and analysis of local, national and regional data of the economical value of men and women's working contribution.

**Reference No.86:**

|           |                           |                   |   |
|-----------|---------------------------|-------------------|---|
| Author    | Meyer-Stamer, Jorg        |                   |   |
| Title     | Money Alone is not Enough |                   |   |
| Series    | Development and Change    |                   |   |
| Publisher |                           |                   |   |
| Year      | 1992                      | Vol.No.           |   |
| Pages     | 26-27                     | Issue             | 5 |
| Country   | Dev. countries            | ISBN              |   |
| Language  | English                   | Other information |   |

**Reference No.87:**

|           |                               |                   |          |
|-----------|-------------------------------|-------------------|----------|
| Author    | Das, Achyt; Das, Vidhya       |                   |          |
| Title     | Development and Tribal Women  |                   |          |
| Series    | Economic and Political Weekly |                   |          |
| Publisher |                               |                   |          |
| Year      | 1992                          | Vol.No.           | 4        |
| Pages     | 1372-1373                     | Issue             | July 4th |
| Country   | Dev. countries                | ISBN              |          |
| Language  | English                       | Other information |          |

**Abstract:**

Mega-development projects are strongly criticised for making steady inroads into the tribal way of living. Multi-purpose dams, mining and industrialisation have led to the eviction of thousands of tribal families.

It has become fashionable of late to talk about rural women having to walk long distances for firewood and drinking water and to berate the increased drudgery of women on account of so-called development. Tribal girls are being corrupted by the influence of outsiders and the macro-process that force an intrusion into the tribal world. Cases of severe exploitation are described and the author questions the historical experience that has made a community of people so passive.

The possibilities for improvement are enormous. It is critical that the tribal development concept, especially the concept of women's development, undergoes fundamental changes. The key issues are assurance on food, entitlements and self-expression.

**Reference No.88:**

|             |                               |                   |               |
|-------------|-------------------------------|-------------------|---------------|
| Author      | Chalker, Baroness of Wallasey |                   |               |
| Title       | Women and water               |                   |               |
| Serial name | Oasis                         |                   |               |
| Publication |                               |                   |               |
| Year        | 1995                          | Vol.No.           |               |
| Pages       | 4-5                           | Issue             | Spring/Summer |
| Country     | Dev. countries                | ISBN              |               |
| Language    | English                       | Other information |               |

**Abstract:**

Baroness Chalker of Wallasey, Minister of the Overseas Development, writes about how women in the developing countries could benefit from overseas aid.

It is quite common that women in developing countries have to walk as much as 10 miles to get water. Clean and accessible water would make life so much easier and better for those women.

In Tanzania, Water Aid refurbished deep boreholes in some villages, at a cost at some ,8 a villager. A small project at a small cost, but very helpful. Well designed projects can also help women feel more confident about them selves. Women have always been involved in water systems and it's in their greatest interest to keep the supply of water going. It's important in a project that the women get trained. In collaboration with HR Wallingford, ODA are looking at development methods for increasing the involvement of women in smallholder's irrigation schemes.

**Reference No.89:**

|           |  |                   |    |
|-----------|--|-------------------|----|
| Author    | Gittinger, J.Price; Chernick, S; Horenstein, N. R; Saito, K. |                   |    |
| Title     | Household Food Security and the Role of Women                |                   |    |
| Series    | World Bank Discussion Papers                                 |                   |    |
| Publisher | Washington, USA  |                   |    |
| Year      | 1990   | Vol.No.           | 96 |
| Pages     | 45   | Issue             |    |
| Country   | Africa   | ISBN              |    |
| Language  | English  | Other information |    |

**Reference No.90:**

|           |                                       |                   |                |
|-----------|---------------------------------------|-------------------|----------------|
| Author    | Ian MacDonald Associates              |                   |                |
| Title     | Training courses in rural development |                   |                |
| Series    |                                       |                   |                |
| Publisher | Ian MacDonald Associates              |                   |                |
| Year      | 1994                                  | Vol.No.           |                |
| Pages     | 15                                    | Issue             |                |
| Country   | Dev. countries                        | ISBN              |                |
| Language  | English                               | Other information | Annual courses |

**Reference No.91:**

|           |                                      |                   |               |
|-----------|--------------------------------------|-------------------|---------------|
| Author    | Mazingira Institute                  |                   |               |
| Title     | Woman and Development: A Kenya Guide |                   |               |
| Series    |                                      |                   |               |
| Publisher | Mazingira Institute, Nairobi, Kenya  |                   |               |
| Year      | 1992                                 | Vol.No.           |               |
| Pages     | 136                                  | Issue             |               |
| Country   | Kenya                                | ISBN              | 9966-9876-0-6 |
| Language  | English                              | Other information |               |

**Reference No.92:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Feldstein, Hilary Sims; Poats, Susan V.   |                   |  |
| Title     | Working Together. Gender Analysis in Agriculture<br>Volume 1: Case Studies Volume 2: Teaching Notes |                   |  |
| Series    |   |                   |  |
| Publisher | Connecticut, USA  |                   |  |
| Year      | 1990  | Vol.No.           | 1 + 2                                  |
| Pages     | (v 1) 271(v 2) 258  | Issue             |  |
| Country   | Colombia, Bukina Faso, Kenya, Zambia, Botswana, Philippines, Indonesia                              | ISBN              | 0-931816-58-0 (1)<br>0-931816-59-9 (2) |
| Language  | English   | Other information |  |

**Reference No.93:**

|             |   |                   |        |
|-------------|---|-------------------|--------|
| Author      | Chancellor, Felicity  |                   |        |
| Title       | The Exchange Case Study   |                   |        |
| Series      | Socio-economic parameters in designing small irrigation schemes for small scale farmers |                   |        |
| Publication | HR Wallingford, UK  |                   |        |
| Year        | Oct 1990  | Vol.No.           |        |
| Pages       | 54  | Issue             | OD 121 |
| Country     | Zimbabwe  | ISBN              |        |
| Language    | English   | Other information |        |

**Reference No.94:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | McIntoch, Alistair; Quinlan, Tim; Vaughan, Ann  |                   |  |
| Title     | Promoting small scale irrigation enterprises in the Transkei: Possibilities and constraints.  |                   |  |
| Series    |   |                   |  |
| Publisher | Transkei Agricultural development corporation (TRACOR) Institute for social and economic research (ISER) University of Durban-Westville |                   |  |
| Year      | June 1993   | Vol.No.           |  |
| Pages     | 43  | Issue             |  |
| Country   | South Africa  | ISBN              |  |
| Language  | English   | Other information |  |

**Abstract :**

Describes existing small scale irrigation enterprises in Transkei, identifies constraints and opportunities. Evaluation of the institutional environment assists in the discussion of possible policy options and strategies for service organisations to consider. A qualitative approach is used to assess two identified types of irrigation, individual enterprises and subsidized group ventures. The primary need identified for individuals is information. Also included are engineering technology experience and support, credit, cooperative buying and selling, formalisation of leasing agreements.

Commercial orientation may provide growth point for joint ventures, but there are reservations about existing groups= ability to become commercially viable. Food scarcity and supplemental income generation are identified as more sustainable group activities.

**Reference No. 95**

|           |  |                   |           |
|-----------|--|-------------------|-----------|
| Author    | Meinzen-Dick, R; Mendoza, M; Sadoulet, L; Abiad-Shields, G; Subramanian, A.  |                   |           |
| Title     | Sustainable water user associations: Lessons from a literature review.   |                   |           |
| Series    | Paper presented at World Bank Water Resources SeminarLandsdowne, Virginia, Dec 13-15 1994  |                   |           |
| Publisher | Agriculture and natural resources department, The world bank Environment and production technology division, International Food Policy Research Institute (IFPRI). |                   |           |
| Year      | 1994   | Vol.No.           |           |
| Pages     | 91   | Issue             | Dec 13-15 |
| Country   | The World  | ISBN              |           |
| Language  | English  | Other information |           |

Abstract:

Gender issues in WUA membership are dealt with in the section dealing with membership definition. Inclusion of women in predominantly male groups is not always welcomed and special measures to encourage participation may be requested. Further reference to gender aspects of WUA function are limited, notably gender issues are not dealt with in consideration of WUA training.

**Reference No.96:**

|           |  |                   |           |
|-----------|--|-------------------|-----------|
| Author    | Vaughan, Anne  |                   |           |
| Title     | Restructuring agricultural research in South Africa. Meeting the needs of rural women. |                   |           |
| Series    | Journal of Southern African studies, 20 <sup>th</sup> anniversary conference           |                   |           |
| Publisher | Institute for social and economic research, University of Durban-Westville             |                   |           |
| Year      | 1994   | Vol.No.           |           |
| Pages     | 29   | Issue             | September |
| Country   | South Africa   | ISBN              |           |
| Language  | English  | Other information |           |

Abstract:

Gender issues in smallholder African agriculture have been largely ignored before the present government took office. This paper offers reflections and considerations on the role of participatory agricultural research in ameliorating gender imbalance in rural areas. Opportunity costs of female involvement in agriculture are considered. Lack of access to resources and structural constraints of social norms and law contribute to restriction of women. A new research ethos is recommended.

**Reference No.97:**

|           |   |                   |       |
|-----------|---|-------------------|-------|
| Author    | McIntosh, Alistar; Vaughan, Anne  |                   |       |
| Title     | Community participation in irrigation: an analysis of costs and benefits.   |                   |       |
| Series    | Proceedings of the International workshop on smallholder irrigation: Community participation and sustainable development. Edited by J.A.Thomas and W.J.Stilwell |                   |       |
| Publisher | Water Research Commission, South African Sugar Association , Development Bank of Southern Africa  |                   |       |
| Year      | 1993  | Vol.No.           |       |
| Pages     |   | Issue             | April |
| Country   | South Africa  | ISBN              |       |
| Language  | English   | Other information |       |

Abstract :

This paper focuses on the costs and benefits of participation in smallholder irrigation schemes. It emphasises the need to set material losses against material gains and warns of the dangers of adopting participation as a panacea for development ills of the past. Strengths of different levels of participation are discussed. Project initiation from within the community is seen to be an important element of capacity building although change of existing gender roles may not feature initially.

**Reference No. 98:**

|           |  |                   |        |
|-----------|--|-------------------|--------|
| Author    | Meageher, Kate   |                   |        |
| Title     | Crisis, Informalization and the Urban Informal Sector in Sub-Saharan Africa. |                   |        |
| Series    | Development and Change   |                   |        |
| Publisher | Institute of social studies. Blackwell Publishers, Oxford                    |                   |        |
| Year      | 1995   | Vol.No.           | Vol.26 |
| Pages     | 256-284  | Issue             |        |
| Country   | Sub-Saharan Africa   | ISBN              |        |
| Language  | English  | Other information |        |

Abstract :

Neo-liberal theories of informality have emphasized the potential of the informal sector for independent employment creation and growth. An alternative perspective is provided by the structuralist >informalization= approach which regards the expansion of informal activity as part of the restructuring strategy of the formal sector in the face of economic recession. The informalization perspective challenges the traditional notions of the informal sector by focusing on such issues as differentiation, social networks, subcontracting and supply linkages with the formal sector, and the role of the state in informal sector expansion. Despite its First World and Latin American focus, the informalization approach offers important insights for the study of urban informal sectors in Africa.

**Reference No. 99:**

|           |   |                   |           |
|-----------|---|-------------------|-----------|
| Author    | Cornish, Gez  |                   |           |
| Title     | Social and environmental impact. Women in tertiary unit development |                   |           |
| Series    | GRID  |                   |           |
| Publisher | HR Wallingford  |                   |           |
| Year      | March 1994  | Vol.No.           |           |
| Pages     | 14  | Issue             | 4         |
| Country   | Indonesia   | ISBN              | 1021-268x |
| Language  | English   | Other information |           |

**Reference No. 100:**

|           |   |                   |               |
|-----------|---|-------------------|---------------|
| Author    | Reijntjes, Coen; Haverkort, Bertus; Waters-Bayer, Ann         |                   |               |
| Title     | Farming for the future  |                   |               |
| Series    |   |                   |               |
| Publisher | ILEA, P.O.B. 64, NL-3830 AB Leusden, Netherlands<br>Macmillan |                   |               |
| Year      | 1992  | Vol.No.           |               |
| Pages     |   | Issue             |               |
| Country   | Dev. countries  | ISBN              | 0-353-57011-1 |
| Language  | English   | Other information |               |

## Abstract:

Low external input agriculture is the theme of this publication. It acknowledges women's central role in agriculture in developing countries and their peripheral role in research in agricultural development. The central concern is developing strategies to aid smallholders to adapt to changing conditions. Gender and irrigation are addressed, gender bias and its amelioration is an underlying theme. The two issues are not specifically linked but a wealth of material is presented to illustrate key principles.

**Reference No.101:**

|           |   |                   |               |
|-----------|---|-------------------|---------------|
| Author    | Adepoju, Aderanti; Opong, Christine Opong         |                   |               |
| Title     | Gender, Work and Population in Sub-Saharan Africa |                   |               |
| Series    |   |                   |               |
| Publisher | ILO, Heinemann                                    |                   |               |
| Year      | 1994  | Vol.No.           |               |
| Pages     |   | Issue             | 0-435-08953-6 |
| Country   | Sub-Saharan Africa                                | ISBN              |               |
| Language  | English   | Other information |               |

## Abstract:

Thirteen contributions are grouped under the headings population parameters; gender biases; women's work; balancing productive and reproductive roles and family welfare and planning. Irrigation development is seen as having produced serious adverse effects on women quoting Dey on the Gambia and the disadvantaged position of women irrigators in Zimbabwe. Many of the gender issues addressed in discussion on rural and agricultural development also apply to the irrigation sector.

**Reference No. 102:**

|           |  |                   |  |
|-----------|--|-------------------|--|
| Author    | ODA  |                   |  |
| Title     | Making aid work for women  |                   |  |
| Series    |  |                   |  |
| Publisher | ODA Information Department, Room 556, 94 Victoria Street, London SW1E 5JL, 0171-917 0503 |                   |  |
| Year      | Aug 1995   | Vol.No.           |  |
| Pages     | 24   | Issue             |  |
| Country   | Dev. countries   | ISBN              |  |
| Language  | English  | Other information |  |

**Reference No. 103:**

|           |   |                   |           |
|-----------|---|-------------------|-----------|
| Author    | von Bulow, Dorth; Sorensen, Anne                            |                   |           |
| Title     | Gender and Contract Farming: Tea Outgrower Schemes in Kenya |                   |           |
| Series    | African Political Economy                                   |                   |           |
| Publisher | ROAPE Publications Ltd.                                     |                   |           |
| Year      | 1993  | Vol.No.           | No.56     |
| Pages     | 38-52   | Issue             |           |
| Country   | Kenya   | ISBN              | 0305-6244 |
| Language  | English   | Other information |           |

**Reference No. 104:**

|           |  |                   |         |
|-----------|--|-------------------|---------|
| Author    | Pankhurst, Donna   |                   |         |
| Title     | Constraints and Incentives in 'Successful' Zimbabwean Peasant Agriculture: the Interaction Between Gender and Class. |                   |         |
| Series    | Journal of Southern African Studies  |                   |         |
| Publisher |  |                   |         |
| Year      | Dec 1991   | Vol.No.           | Vol. 17 |
| Pages     | 612-632  | Issue             | 4       |
| Country   | Zimbabwe   | ISBN              |         |
| Language  | English  | Other information |         |

**Reference No. 105:**

|           |  |                   |           |
|-----------|--|-------------------|-----------|
| Author    | Adhikari, K B; Sherpa, L T; Joshi, Y.R.  |                   |           |
| Title     | Farmer categorization through female key informants: A report on the findings by gender. |                   |           |
| Series    | Working paper  |                   |           |
| Publisher | Pakhibas Agricultural Centre, Dhankuta, c/o BAPSO, P O Box 106, Katmandu, Nepal          |                   |           |
| Year      | Nov 1993   | Vol.No.           | No.79     |
| Pages     |  | Issue             |           |
| Country   | Nepal  | ISBN              | 1021-5034 |
| Language  | English  | Other information |           |

Abstract:

A Key Informant Survey using only women was carried out in the in PAC outreach site in Terhathum. The objectives of this survey were to determine whether it is possible to categorise farmers into socio-economic categories by using Female Key Informants (KIS) and to verify farmer categorization criteria given by male KIS. The methodology used is given in Joshi et al. (1993).

The result shows differences between male and female perceptions. Firstly, the number of categories itself is different. Secondly, the distribution of households across categories and the major basis of categorization show some differences. On both accounts however, the similarities are greater than the differences. The results of this exercise are not comprehensive enough to draw any conclusive remarks on gender. It was suspected that the study location had been influenced by a similar survey carried out with male key informants earlier therefore, the study cannot conclude that the gender perspective is irrelevant.

**Reference No. 106:**

|           |  |                   |   |
|-----------|--|-------------------|---|
| Author    | Hulsebosch, Joitske; Omabra, Doris   |                   |   |
| Title     | Towards gender balance in irrigation management. Experiences in Kenya South West Kano Project. |                   |   |
| Series    | Irrigation and Drainage Systems  |                   |   |
| Publisher | Kluwer Academic Publishers, The Netherlands  |                   |   |
| Year      | 1995   | Vol.No.           | 9 |
| Pages     | 1-14   | Issue             |   |
| Country   | Kenya  | ISBN              |   |
| Language  | English  | Other information |   |

Abstract:

Women form the majority of the water users in Kisumu District in Kenya, yet they were generally not participation in management on scheme level. The Provincial Irrigation Unit, Nyanza Province therefore experimented with gender-sensitive approach in the preparatory phase of their assistance to schemes. The experiments comprised of a special meeting for women, a requirement that a minimum of 50% of participants in preparatory meetings have to be women and a discussion with all water users on gender issues of scheme committee elections. The measures were successful in the sense that they improved the

percentages women presented in preparatory meetings and committees. Performance of the women leaders was similar to the performance of male colleagues. Furthermore the knowledge on project matters increased, as well as the relative participation of women in project activities.

**Reference No. 107:**

|           |  |                   |   |
|-----------|--|-------------------|---|
| Author    | Smit, Jac  |                   |   |
| Title     | Food for the Poor. Urban and Rural Vegetable Production. |                   |   |
| Series    | Development & Change                                     |                   |   |
| Publisher |  |                   |   |
| Year      | 1995   | Vol.No.           | 5 |
| Pages     | 22-24  | Issue             |   |
| Country   | Dev. countries   | ISBN              |   |
| Language  | English  | Other information |   |

**Reference No. 108:**

|           |  |                   |       |
|-----------|--|-------------------|-------|
| Author    | Boschmann, Nina (Ed.)  |                   |       |
| Title     | Consideration of Gender Issues in Irrigation   |                   |       |
| Series    | GTZ Publications   |                   |       |
| Publisher | Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Postfach 5180, D-65 726 Eschborn |                   |       |
| Year      | 1995   | Vol.No.           |       |
| Pages     | 40   | Issue             | April |
| Country   | Dev. countries   | ISBN              |       |
| Language  | English  | Other information |       |

**Reference No.109:**

|           |   |                   |  |
|-----------|---|-------------------|--|
| Author    | Feldstein, Hilary Sims; Jiggins, Janice   |                   |  |
| Title     | Tools for the field. Methodologies Handbook for Gender Analysis in Agriculture. |                   |  |
| Series    |   |                   |  |
| Publisher | IT Publications   |                   |  |
| Year      | 1994  | Vol.No.           |  |
| Pages     |   | Issue             |  |
| Country   | Dev. countries,<br>Thailand   | ISBN              |  |
| Language  | English   | Other information |  |

**Abstract:**

This collection of forty contributions is presented in four sections working from 'Learning about the System and Initial Diagnosis' through to 'Extension, Training and Institutions'.

A wealth of information is offered about techniques already in use in the field, giving details on implementation, constraints and features. Several authors offer original material for use or adaption for use by others. Throughout contributors give honest accounts of problems faces in field work relating to methods used and to selection of personnel for specific investigations. Contributors describe solutions found, strategies used to mitigate unforeseen problems and identify the impacts of these changes on the quality or bias of the data.

The claim made in the introduction ' Gender adds a little complexity for a lot of insight' is well supported by the contributions. Increased understanding of farm system dynamics gained from gender analysis has undoubtedly enhanced researchers ability to identify constraints accurately and to select interventions, technology and training which will be acceptable and sustainable within the society concerned. By describing and evaluating such a wide range of techniques this volume provides an excellent planning aid. Analysis and interpretation of the data generated is however only addressed in part although most papers refer the reader to their main conclusions.

**Reference No. 110:**

|           |  |                   |           |
|-----------|--|-------------------|-----------|
| Author    | Mosse, David   |                   |           |
| Title     | Authority, Gender and Knowledge: Theoretical reflections on the practice of participatory rural appraisal. |                   |           |
| Series    | Agricultural Administration Network  |                   |           |
| Publisher | ODA, 94 Victoria Street, London SW1E 5JL   |                   |           |
| Year      | Dec 1993   | Vol.No.           | 44        |
| Pages     | 29   | Issue             |           |
| Country   | Dev. countries   | ISBN              | 0952-2468 |
| Language  | English  | Other information |           |

## Abstract:

Participatory rural appraisal (PRA) methods in India are increasingly taken up by public sector organisations as well as by NGOs among whom they have been pioneered. While PRA methods are successfully employed in a variety of project planning contexts - and with increasing sophistication - in other situations, the practice of PRA faces constraints. This paper examines the constraints as experienced in the early stages of one project, and suggests some more general issues to which these point. The paper is not, however, to be read as a generalised critique of PRA. Social dominance and gender are not universally experienced as constraints in the practice of PRA. Finally, the paper suggests that as a method for articulating existing local knowledge, PRA needs to be complemented by other methods of 'participation' which generate the changed awareness and new ways of knowing which are necessary to locally-controlled innovation and change.

**Reference No. 111:**

|             |  |                   |                |
|-------------|--|-------------------|----------------|
| Author      | Hoof, I. Van   |                   |                |
| Title       | Irrigation planning for women: The planning process of Jahaly Pacharr in the Gambia.   |                   |                |
| Serial name | Design for sustainable farmer-managed irrigation schemes in Sub-Saharan Africa: Introduction and contributions to the international workshop, Wageningen, February 5-8 1990. |                   |                |
| Publication | Wageningen Agricultural University   |                   |                |
| Year        | 1990   | Vol.No.           | I              |
| Pages       | 16 (1F)  | Issue             |                |
| Country     | Gambia   | ISBN              |                |
| Language    | English  | Other information | See Ref. No.27 |

## Abstract:

In this project it was shown that there is an important relation between conscious and subconscious decisions taken in the planning process. When planners formulate certain objectives concerning the

position of women it is essential that these objectives are not only striven after at the village level but also within the village.

**Reference No. 112:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Povel, S. A. M. T.   |                   |                     |
| Title     | Participatory development of a women's irrigation scheme: The Nyandusi horticultural scheme, Nyanza Province, Kenya.   |                   |                     |
| Series    | Design for sustainable farmer-managed irrigation schemes in Sub-Saharan Africa: Introduction and contributions to the international workshop, Wageningen, February 5-8 1990. |                   |                     |
| Publisher | Wageningen Agricultural University   |                   |                     |
| Year      | 1990   | Vol.No.           | II                  |
| Pages     | 20 (4e)  | Issue             |                     |
| Country   | Kenya  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 113:**

|           |  |                   |                |
|-----------|--|-------------------|----------------|
| Author    | Rehbach, M.; Spaans, H.  |                   |                |
| Title     | An irrigation system for women at Yefera, Senegal.   |                   |                |
| Series    |  |                   |                |
| Publisher | Design for sustainable farmer-managed irrigation schemes in sub-saharan Africa: Introduction and contributions to the international workshop, Wageningen, February 5-8 1990. |                   |                |
| Year      | 1990   | Vol.No.           |                |
| Pages     | 21   | Issue             |                |
| Country   | Senegal  | ISBN              |                |
| Language  | English  | Other information | See Ref. No.27 |

**Abstract:**

In the design of an irrigation scheme in Yafera village the priority was to support women. The irrigation scheme aimed to improve women's position and in the long term to reach a balance between genders.

A woman in Yafera provides subsistence for her family. It is important to remember though that women are not a homogeneous group. The position in which a woman finds herself, is determined by the ethnic group she belongs to, and by the size of the 'ka' she is living in, her age, her marital status, if the husband is absent because of migration or death.

Women's scarcest resource is time. Other factors hampering her potential are her restricted access to land, lack of funds, the ideas about what a woman should do or not, the ideology of masculine and feminine behavior etc.

**Reference No. 114:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Abdullah, Tahrunnesa   |                   |                     |
| Title     | Women in rice farming systems in Bangladesh and how technology programs can reach them.                                    |                   |                     |
| Series    |  |                   |                     |
| Publisher | International Rice Research Institute, Women in rice farming. Proceedings of a conference on women in rice farming systems |                   |                     |
| Year      | 1985   | Vol.No.           |                     |
| Pages     | G1-12  | Issue             |                     |
| Country   | Bangladesh   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 115:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Dey, Jennie   |                   |                     |
| Title     | Gambian women: Unequal partners in rice development projects? |                   |                     |
| Series    | Journal of Development Studies                                |                   |                     |
| Publisher |   |                   |                     |
| Year      | 1981  | Vol.No.           | 17                  |
| Pages     | 109-122   | Issue             | 3                   |
| Country   |   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 116:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Begum, Saleha  |                   |                     |
| Title     | Women and technology: Rice processing in Bangladesh.   |                   |                     |
| Series    |  |                   |                     |
| Publisher | International Rice Research Institute, Women in rice farming: Proceedings of a conference on Women in Rice Farming Systems. (IIRI) |                   |                     |
| Year      | 1985   | Vol.No.           |                     |
| Pages     | 221-241  | Issue             |                     |
| Country   | Bangladesh   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 117:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Dunsmore, J. R.                         |                   |                     |
| Title     | Rural development in the hills of Nepal |                   |                     |
| Series    | LRDC Land Resource Study                |                   |                     |
| Publisher |   |                   |                     |
| Year      | 1987                                    | Vol.No.           | 36                  |
| Pages     | 152p                                    | Issue             |                     |
| Country   | Nepal                                   | ISBN              |                     |
| Language  | English                                 | Other information | Held at ODI, London |

**Reference No. 118:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Bloch, P. C.   |                   |                     |
| Title     | The dynamics of land tenure on the Bakel small irrigated perimeters. |                   |                     |
| Series    | Final report on the Land Tenure Center Research Program.             |                   |                     |
| Publisher |  |                   |                     |
| Year      | 1989   | Vol.No.           |                     |
| Pages     | 54p  | Issue             |                     |
| Country   | Kenya  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 119:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | FAO  |                   |                     |
| Title     | Women in irrigated agriculture   |                   |                     |
| Series    | Proceedings of the Consultation on Irrigation in Africa, Lom, Togo, 21-25 April 1986 |                   |                     |
| Publisher | FAO Irrigation & Drainage paper.   |                   |                     |
| Year      | 1987   | Vol.No.           | 42                  |
| Pages     |  | Issue             |                     |
| Country   | Africa   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 120:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Alexander, K.C                                |                   |                     |
| Title     | Notes on irrigation and women: Some comments. |                   |                     |
| Series    |   |                   |                     |
| Publisher | NIRD  |                   |                     |
| Year      | 1981  | Vol.No.           |                     |
| Pages     | 7   | Issue             |                     |
| Country   | India   | ISBN              |                     |
| Language  | English                                       | Other information | Held at ODI, London |

**Reference No. 121:**

|             |  |                   |                     |
|-------------|--|-------------------|---------------------|
| Author      | FAO  |                   |                     |
| Title       | Women in land and water development          |                   |                     |
| Series      | Land and Water Development Division, W/P7586 |                   |                     |
| Publication | FAO  |                   |                     |
| Year        | 1982   | Vol.No.           |                     |
| Pages       | 12   | Issue             | FAO W/P7586         |
| Country     | Dev. countries                               | ISBN              |                     |
| Language    | English                                      | Other information | Held at ODI, London |

**Reference No. 122:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Halim, Abdul; McCarthy, F. E.   |                   |                     |
| Title     | Women labourers in rice producing villages of Bangladesh.                           |                   |                     |
| Series    | Women in Rice Farming. Proceedings of a conference on Women in Rice Farming Systems |                   |                     |
| Publisher | International Rice Research Institute (IRRI)  |                   |                     |
| Year      | 1985  | Vol.No.           |                     |
| Pages     | 243-255   | Issue             |                     |
| Country   | Bangladesh  | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 123:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Illo, J. F. I.   |                   |                     |
| Title     | Wives at work: Patterns of labour force participation in two rice farming villages in the Philippines. |                   |                     |
| Series    | Women in Rice Farming: Proceedings of a conference on Women in Rice Farming Systems.                   |                   |                     |
| Publisher | International Rice Research Institute (IRRI)   |                   |                     |
| Year      | 1985   | Vol.No.           |                     |
| Pages     | 71-89  | Issue             |                     |
| Country   | Philippines  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 124:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Illo, J. F. I.   |                   |                     |
| Title     | Women's participation in two Philippine irrigation projects. |                   |                     |
| Series    | Philippine Sociological review                               |                   |                     |
| Publisher |  |                   |                     |
| Year      | 1985   | Vol.No.           | 33                  |
| Pages     | 19-45  | Issue             | 3,4                 |
| Country   | Philippines  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 125:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Kada, R.; Kada, Y.   |                   |                     |
| Title     | The changing role of women in Japanese agriculture: The impact of new rice technology on women's employment. |                   |                     |
| Series    | Women in Rice Farming: Proceedings of a conference on Women in Rice Farming Systems, Philippines.            |                   |                     |
| Publisher | International Rice Research Institute (IRRI)   |                   |                     |
| Year      | 1985   | Vol.No.           |                     |
| Pages     | 37-54  | Issue             |                     |
| Country   | Japan  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 126:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Martin, A.  |                   |                     |
| Title     | Farming systems in the Kabkabiya Area, north Darfur province, Sudan: the role and potential of small scale irrigated gardening. |                   |                     |
| Series    | Field Report  |                   |                     |
| Publisher | Oxfam   |                   |                     |
| Year      | 1985  | Vol.No.           |                     |
| Pages     | 88  | Issue             |                     |
| Country   | Sudan   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 127:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Moore, M. A.                           |                   |                     |
| Title     | Women's roles in irrigated agriculture |                   |                     |
| Series    | Water Management Review                |                   |                     |
| Publisher |  |                   |                     |
| Year      | 1985                                   | Vol.No.           | 1                   |
| Pages     | 15-16                                  | Issue             | 1                   |
| Country   | Dev. countries                         | ISBN              |                     |
| Language  | English                                | Other information | Held at ODI, London |

**Reference No. 128:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Ogbe, O. A.  |                   |                     |
| Title     | Women's involvement in drought and famine.   |                   |                     |
| Series    |  |                   |                     |
| Publisher | Paper presented at the Symposium on Drought and Famine, held at Olympia, London, U.k., 17-18 July, 1986, sponsored by IWSA |                   |                     |
| Year      | 1986   | Vol.No.           |                     |
| Pages     | 6  | Issue             |                     |
| Country   | Dev. countries   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 129:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Sadeque, S. Z.; Hakim, M. A  |                   |                     |
| Title     | Review of studies in shallow tubewell irrigation management in Bangladesh. |                   |                     |
| Series    |  |                   |                     |
| Publisher | (Bangladesh Agricultural Council)  |                   |                     |
| Year      | 1989   | Vol.No.           |                     |
| Pages     | 40   | Issue             |                     |
| Country   | Bangladesh   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 130:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Carney, Judith, A   |                   |                     |
| Title     | Struggles over crop rights and labour within contract farming households in Gambian irrigated rice project. |                   |                     |
| Series    | The Journal of Peasant Studies  |                   |                     |
| Publisher |   |                   |                     |
| Year      | 1988  | Vol.No.           | 15 3)               |
| Pages     | 334-349   | Issue             |                     |
| Country   | Gambia  | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 131:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | SADCC Seminar  |                   |                     |
| Title     | People's participation in soil and water conservation.           |                   |                     |
| Series    | SADCC soil and water conservation and land utilization programme |                   |                     |
| Publisher | SADCC  |                   |                     |
| Year      | 1987   | Vol.No.           | Report no 10        |
| Pages     | 43   | Issue             |                     |
| Country   | Lesotho  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 132:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Sajogyo, P.  |                   |                     |
| Title     | The impact of new farming technology on women's employment.                          |                   |                     |
| Series    | Women in rice farming : Proceedings of a conference on Women in Rice Farming Systems |                   |                     |
| Publisher | International Rice Research Institute  |                   |                     |
| Year      | 1985   | Vol.No.           |                     |
| Pages     | 149-169  | Issue             |                     |
| Country   | Philippines  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 133:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Franda, M.   |                   |                     |
| Title     | Water for the disadvantaged, and especially for women. |                   |                     |
| Series    | Irrigation : Making it useful for disadvantaged groups |                   |                     |
| Publisher | The Ford Foundation                                    |                   |                     |
| Year      | 1980   | Vol.No.           |                     |
| Pages     | 37   | Issue             |                     |
| Country   | Dev. countries   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 134:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | White, B.   |                   |                     |
| Title     | Women and the modernization of rice agriculture: Some general issues and a javanese case study. |                   |                     |
| Series    | Women in rice farming : Proceedings of a conference on Women in Rice Farming Systems            |                   |                     |
| Publisher | International Rice Research Institute   |                   |                     |
| Year      | 1985  | Vol.No.           |                     |
| Pages     | 119-148   | Issue             |                     |
| Country   | Java  | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 135:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Wijaya, H. R.   |                   |                     |
| Title     | Women's access to land resources: Some observations from East Javanese rural agriculture. |                   |                     |
| Series    | Women in Rice Farming : Proceedings of a conference on Women in Rice Farming Systems      |                   |                     |
| Publisher | International Rice Research Institute   |                   |                     |
| Year      | 1985  | Vol.No.           |                     |
| Pages     | 171-185   | Issue             |                     |
| Country   | Java  | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 136:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Abeyirigunawadena, W.; Kilkelly, M.K.   |                   |                     |
| Title     | Women's roles in irrigated agriculture. |                   |                     |
| Series    | Water Management Synthesis Project      |                   |                     |
| Publisher | USAID                                   |                   |                     |
| Year      | 1983                                    | Vol.No.           | Report No 20        |
| Pages     |   | Issue             |                     |
| Country   | Dev. countries                          | ISBN              |                     |
| Language  | English                                 | Other information | Held at ODI, London |

**Reference No. 137:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Backer, Susanne.  |                   |                     |
| Title     | Women in Development study for the Nepal Special Public Works Programme |                   |                     |
| Series    |   |                   |                     |
| Publisher | ILO   |                   |                     |
| Year      | 1992  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | Nepal   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 138:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Basnet, Kanchan  |                   |                     |
| Title     | Beyond the Cadar and the Chardiwari: Women in the irrigated areas of Punjab. |                   |                     |
| Series    |  |                   |                     |
| Publisher | (IIMI - unpublished report)  |                   |                     |
| Year      | 1992   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Pakistan   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 139:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Bernal, V.  |                   |                     |
| Title     | Losing ground - women and agriculture on Sudan's irrigated schemes: Lessons from a Blue Nile Village. |                   |                     |
| Series    | Agriculture, Women and Land : The African experience  |                   |                     |
| Publisher | Ed. Jean Davison  |                   |                     |
| Year      | 1988  | Vol.No.           |                     |
| Pages     | 131-156   | Issue             |                     |
| Country   | Sudan   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 140:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Blaauw, wieke  |                   |                     |
| Title     | The risk of irrigation: A study on the impact of irrigation technology on the position of women in an agricultural cooperative in Nicaragua. |                   |                     |
| Series    |  |                   |                     |
| Publisher | (Unpublished M.sc. Thesis, Wageningen Agricultural University)   |                   |                     |
| Year      | 1992   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Nicaragua  | ISBN              |                     |
| Language  | Dutch  | Other information | Held at ODI, London |

**Reference No. 141:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Blumberg, Rae Lesser   |                   |                     |
| Title     | Making the case for the gender variable: Women and the wealth and well-being of nations. |                   |                     |
| Series    |  |                   |                     |
| Publisher | USAID  |                   |                     |
| Year      | 1989   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Dev. countries   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 142:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Bruins, Bert; Annelies Heijmans   |                   |                     |
| Title     | Gender biases in irrigation projects: Gender considerations in the rehabilitation of Bauraha Irrigation System in the District of Dang, Nepal |                   |                     |
| Series    |   |                   |                     |
| Publisher | (Unpublished report)  |                   |                     |
| Year      | 1993  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | Nepal   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 143:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Chimedza, Ruvimbo  |                   |                     |
| Title     | The impact of irrigation development on women farmers in Zimbabwe. |                   |                     |
| Series    |  |                   |                     |
| Publisher | (FAO Publication)  |                   |                     |
| Year      | 1989   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Zimbabwe   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 144:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Dadi Barmou, Fatima.  |                   |                     |
| Title     | Integration of women in irrigation management: The case of Saga.    |                   |                     |
| Series    |   |                   |                     |
| Publisher | (Unpublished thesis). Université Abdoumouni Dioffo de Niamey, Niger |                   |                     |
| Year      | 1993  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | Niger   | ISBN              |                     |
| Language  | French  | Other information | Held at ODI, London |

**Reference No. 145:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Helsloot, Lucia   |                   |                     |
| Title     | Contributions to the concept of self management of women: The example of vegetable gardens of women groups in I'lle á Morphil, Senegal. |                   |                     |
| Series    | Design for Sustainable Farmer-Managed Irrigation Schemes in Sub-saharan Africa  |                   |                     |
| Publisher | Agricultural University of Wageningen   |                   |                     |
| Year      | 1990  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | Senegal   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 146:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Helsloot, Lucia.  |                   |                     |
| Title     | Traditional Irrigation Improvement Programme - training on gender issues. |                   |                     |
| Series    |   |                   |                     |
| Publisher |   |                   |                     |
| Year      | 1992  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | Dev. countries  | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 147:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Horst Lucas.                                      |                   |                     |
| Title     | Irrigation systems - alternative design concepts. |                   |                     |
| Series    | Irrigation Network                                |                   |                     |
| Publisher |   |                   |                     |
| Year      | 1983  | Vol.No.           | 7c                  |
| Pages     |   | Issue             |                     |
| Country   | Dev. countries                                    | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 148:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Illo, Jean Frances I.   |                   |                     |
| Title     | Irrigation in the Philippines: Impact on women and their households. The Aslong Project Case. |                   |                     |
| Series    |   |                   |                     |
| Publisher |   |                   |                     |
| Year      | 1988  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | Philippines   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 149:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Ministry of water resources, India   |                   |                     |
| Title     | Women and water management   |                   |                     |
| Series    | Research Report (Vol I. Main Report; Vol II. Annexures)                                      |                   |                     |
| Publisher | Ministry of Foreign Affairs, The Netherlands; Indo-dutch Training Production Management Unit |                   |                     |
| Year      | 1991   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | India  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 150:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Jackson, Cecile.                                  |                   |                     |
| Title     | The Kano River Irrigation Project                 |                   |                     |
| Series    | Women=s Roles & Gender Differences in Development |                   |                     |
| Publisher |   |                   |                     |
| Year      | 1985  | Vol.No.           | 4                   |
| Pages     |   | Issue             |                     |
| Country   | Kenya   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 151:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Jayaweera, Swarna  |                   |                     |
| Title     | Women and development: A re-appraisal of the Sri Lankan experience.    |                   |                     |
| Series    | The Hidden Face of Development : Women, Work and Equality in Sri Lanka |                   |                     |
| Publisher | Centre for Women's Research, Colombo, Sri Lanka, CENWOR                |                   |                     |
| Year      | 1989   | Vol.No.           |                     |
| Pages     | 1-17   | Issue             |                     |
| Country   | Sri Lanka  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 152:**

|           |   |                   |                        |
|-----------|---|-------------------|------------------------|
| Author    | Jankins, Mimi.  |                   |                        |
| Title     | Women and irrigation management in Bangladesh:<br>Some background material for a research project |                   |                        |
| Series    |   |                   |                        |
| Publisher | IIMI  |                   |                        |
| Year      | 1991  | Vol.No.           |                        |
| Pages     |   | Issue             |                        |
| Country   | Bangladesh  | ISBN              |                        |
| Language  | English   | Other information | Held at ODI,<br>London |

**Reference No. 153:**

|           |  |                   |                 |
|-----------|--|-------------------|-----------------|
| Author    | Koppen, van Barbara.   |                   |                 |
| Title     | Women and the design of farmer-managed irrigation schemes: Experiences provided by two projects in Burkina Faso. |                   |                 |
| Series    | Design for Sustainable Farmer-Managed Irrigation Schemes in Sub-Saharan Africa                                   |                   |                 |
| Publisher | Wageningen Agricultural Universiy  |                   |                 |
| Year      | 1990   | Vol.No.           |                 |
| Pages     |  | Issue             |                 |
| Country   | Kenya  | ISBN              |                 |
| Language  | English  | Other information | See Ref. No. 27 |

**Reference No. 154:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Kumar, Shanti P.  |                   |                     |
| Title     | The Mahaweli Scheme and rural women in Sri Lanka                  |                   |                     |
| Series    | Women Farmers and Rural Change in Asia.                           |                   |                     |
| Publisher | Asian & Pacific Development Center (APDC); Heyzer, Noeleen (Eds.) |                   |                     |
| Year      | 1987  | Vol.No.           |                     |
| Pages     | 220-253   | Issue             |                     |
| Country   | Sri Lanka   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 155:**

|           |                                       |                   |                     |
|-----------|---------------------------------------|-------------------|---------------------|
| Author    | Lynch Deutch, Barara.                 |                   |                     |
| Title     | Women and irrigation in highland Peru |                   |                     |
| Series    | Society and Natural Resources         |                   |                     |
| Publisher |                                       |                   |                     |
| Year      | 1991                                  | Vol.No.           | 4                   |
| Pages     | 37-52                                 | Issue             |                     |
| Country   | Peru                                  | ISBN              |                     |
| Language  | English                               | Other information | Held at ODI, London |

**Reference No. 156:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Lynch, Barbara.  |                   |                     |
| Title     | Gender, irrigation and IIMI : Issues, methods and elements of a program. |                   |                     |
| Series    |  |                   |                     |
| Publisher | IIMI   |                   |                     |
| Year      | 1991   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Sri Lanka  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 157:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Orstrom, Elinor.   |                   |                     |
| Title     | Crafting institutions for self-governing irrigation systems. |                   |                     |
| Series    |  |                   |                     |
| Publisher | Institute of Contemporary Studies, San Francisco, USA        |                   |                     |
| Year      | 1992   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Dev. countries   | ISBN              | 1-55185-179-6       |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 158:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Perera, Myrtle   |                   |                     |
| Title     | Women and Water: A missing dimension in modern water supply systems.   |                   |                     |
| Series    | The Hidden Face of Development: Women, Work and Equality in Sri Lanka. |                   |                     |
| Publisher | CENWOR, Colombo  |                   |                     |
| Year      | 1989   | Vol.No.           |                     |
| Pages     | 85-94  | Issue             |                     |
| Country   | Dev. countries   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 159:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Pradhan, Naresh C.  |                   |                     |
| Title     | Gender participation in irrigation system activities in the hills of Nepal.       |                   |                     |
| Series    | Proceedings of second Annual Workshop on Women in Farming Systems, September 1989 |                   |                     |
| Publisher | Institute of Agriculture & Animal Science, Rumpur & USAID                         |                   |                     |
| Year      | 1989  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | Nepal   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 160:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Rajapakse, Darshini Anna.  |                   |                     |
| Title     | Laws and Chaos: Impact of large scale irrigation systems on inter-and intra-household tenurial and labour relations. |                   |                     |
| Series    |  |                   |                     |
| Publisher | Symposium on Irrigation and Society -"The Mahaweli Project, Sri-Lanka,"  |                   |                     |
| Year      | 1992   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Sri Lanka  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 161:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Schenk-Sandbergen, Loes.  |                   |                     |
| Title     | Empowerment of women: What is its scope in a bilateral development project? The case of the small scale irrigation project in North Bengal. |                   |                     |
| Series    | 11th European Conference on Modern South Asian Studies, Amsterdam, Netherlands, 2-5 July 1990   |                   |                     |
| Publisher | Paper presented at the 11th European Conference on Modern South Asian Studies, Amsterdam, Netherlands, 2-5 July 1990                        |                   |                     |
| Year      | 1990  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | India   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

**Reference No. 162:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Schrijvers, Joke.  |                   |                     |
| Title     | Questions of gender in development planning: Women's experiences in a new settlement of the Mahaweli Project.                            |                   |                     |
| Series    | Paper presented at the Symposium on Irrigation and Society - At the Mahaweli Project, Sri Lanka, 23-27 August, Monte Verita, Switzerland |                   |                     |
| Publisher |  |                   |                     |
| Year      | 1992   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Sri Lanka  | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 163:**

|           |  |                   |                     |
|-----------|--|-------------------|---------------------|
| Author    | Shinawatra, Benchaphun.  |                   |                     |
| Title     | Female outmigration in Amphoe Dok Kham Tai, Phayao Province, Thailand and its impact on rice farming systems.              |                   |                     |
| Series    | Paper presented at the International Workshop on Gender Concerns in Rice Farming, 20-25 October 1992, Chiang Mai, Thailand |                   |                     |
| Publisher | IRRI   |                   |                     |
| Year      | 1992   | Vol.No.           |                     |
| Pages     |  | Issue             |                     |
| Country   | Thailand   | ISBN              |                     |
| Language  | English  | Other information | Held at ODI, London |

**Reference No. 164:**

|           |   |                   |                     |
|-----------|---|-------------------|---------------------|
| Author    | Stanbury, Pamela C.   |                   |                     |
| Title     | Irrigation's impact on the socioeconomic role of women in a Haryan village. |                   |                     |
| Series    |   |                   |                     |
| Publisher | University of Arizona, Department of Anthropology; USAID                    |                   |                     |
| Year      | 1981  | Vol.No.           |                     |
| Pages     |   | Issue             |                     |
| Country   | India   | ISBN              |                     |
| Language  | English   | Other information | Held at ODI, London |

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