

WOMEN AND MEN IN AGRICULTURAL DEVELOPMENT: THE CASE OF THE WOMEN IN IRRIGATED AGRICULTURE PROJECT IN THE SOUTHERN HIGHLANDS OF TANZANIA

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ABSTRACT

The Women in Irrigated Agriculture (WIA) project was set up to address gender issues in the Usangu Village Irrigation Project in the Southern Highlands of Tanzania. This paper describes the objectives of the WIA project, and discusses the findings of surveys that investigated differences in the responsibilities, rights, decision-making and benefits obtained by men and women in the irrigation project, and the nutritional status of their children. The activities undertaken by WIA project staff to address the issues that emerged from these surveys are reported, and the plans to integrate these activities into other irrigation programmes when the WIA project is phased out are described.

INTRODUCTION

Tanzania is making great efforts to improve food security, both at the national and household level. In many areas of the country, this effort is being thwarted by recurrent droughts. The National Agricultural Policy therefore gives a high priority to the introduction and development of irrigation, with an emphasis on small scale village irrigation schemes.

The introduction or modernization of irrigation at the village level demands changes in the existing farming systems. Formerly, irrigation project planners usually assumed that these changes could be brought about by adding new technologies and inputs to the labour supplied by farmers, for example by ensuring adequate water supplies for irrigation, better levelling and water management in the fields, the use of improved agricultural practices and new varieties of seeds and the supply of fertilizer and pesticides.

However, three important issues have usually been ignored by the planners. First, that there are differences in responsibilities, rights and decision-making between men and women farmers. Second, that these differences are compounded by inequalities concerning such issues as benefits, rights and division of labour. Third, that domestic/household and agricultural production are closely integrated, so that there are often conflicting demands for labour and other resources within a household. These conflicts are usually exacerbated by the adoption of new irrigation production technologies, which invariably involve greater workloads for both men and women and a shift in agricultural labour peaks. Women generally have less flexibility to adapt to these changes since they suffer greater conflicts between their productive and domestic roles than men, and already work longer hours.

Studies show that in Tanzania there is division of agricultural labour between men and women. It is common for women to be the major producers of food crops which are consumed for family subsistence, whereas men's labour is primarily used for cash crop production, with the output being at their own disposal.

Women, in addition to producing the food crops, traditionally have other tasks which are not equally shared by men, for example food processing and preparation, household management and water and firewood collection. Child rearing and caring for the sick in the household are also tasks fully borne by women.

Under these circumstances, new irrigation technologies to improve and increase crop production can place an impossible burden on women, or place in men's hands the control of resources which are vital for women's activities. Changes in farming systems to increase production cannot be separated from changes inside the household with respect to the balance of the responsibilities, rights, benefits and decision-making between men and women.

It was to address such issues that the Women in Irrigated Agriculture (WIA) project was set up in 1988. The project is located on the Usangu Plains in the Utengule and Ruiwa Wards of Mbeya Region. Its activities centre on the implementation of the Usangu Village Irrigation Project (UVIP) which is financed by United Nations Development Programme (UNDP) and managed by the Food and Agriculture Organization of the United Nations (FAO). This project began in 1984 with the aim of upgrading six traditional irrigation schemes, those at Majengo, Meta-Lunwa, Mswiswi, Ipatagwa and Motombaya. These schemes cover 3,300 ha of irrigable land, which are used by farmers in 23 villages with approximately 19,000 households. The upgrading of the first scheme, at Majengo, was completed in 1988 when 530 ha of irrigable land were reallocated to 452 farmers in six villages (3,000 households) adjoining the scheme.

The Usangu Plains are considered a prime food production area for supplying the growing urban population of Mbeya. They are also a major rice production area, contributing to the national market. The many rivers running through the plains make it possible to develop and expand irrigated agriculture. Approximately two-thirds of the area has soils suitable for irrigated agriculture.

A review of the design of Phase I of the UVIP, at an early stage in the project's implementation, revealed that it was not flexible enough to include activities which would take into consideration the differences and possible inequalities in the division of labour, rights and decision-making between men and women farmers. There was no scope within the design of the project to study the impact of irrigation development on household food production and nutrition.

The Women in Irrigated Agriculture Project was therefore established to make good these deficiencies in order to achieve the intended increases in agriculture production.

The main objectives of Phase I of the WIA project were to gather and study information on the constraints, roles, rights and decision-making of women farmers compared with those of men, in both rainfed and irrigated farming systems in the UVIP area. The WIA project also examined what impact the UVIP irrigation intervention was having on nutrition and household food security. The overall aim of the WIA project was therefore to provide gender-specific data to develop activities complementary to the technical aspects of UVIP's design, in order that irrigation benefits would accrue more evenly within the household and contribute to an increase in the women's contribution to agricultural productivity.

The establishment of WIA project can therefore be seen as an acknowledgement by the planners of the significance of women's role in the success of irrigation development.

LINKS WITH OTHER ORGANIZATIONS AND PROGRAMMES

The WIA Project is being implemented by FAO and financed by the Netherlands Government. The Office of the Prime Minister in Tanzania is responsible for the project's overall direction. The project has its headquarters in the Regional Development Director's Office in Mbeya. Project staff collaborate with Government financed and donor-assisted programmes and projects in irrigation (Zonal Irrigation Unit, Mbeya), extension and nutrition (Regional Agriculture and Livestock Office), community participation and gender sensitization (Community Development Department) and agroforestry (Natural Resources Department).

The objectives of the WIA project are achieved by the provision of inputs to strengthen existing programmes and by the development of new activities to fill gaps in existing programmes to ensure that the role of women is taken into account and that any benefits, where possible, are more equitably distributed among household members.

IMPLEMENTATION OF PHASE I THE WIA PROJECT

Phase I of the WIA project was concerned mainly with data collection, both primary and secondary, and with pilot activities. Most of these activities were directed at guiding and co-ordinating the work of existing extension workers, to encourage them to target their advice on women. The women were organized by community development workers' under the direction of the WIA project, into groups (women's irrigation committees) for communal agriculture production. The pilot activities were initiated early in Phase I rather than at the end as originally envisaged, in response to pressure from the community, through village leaders, for activities with more tangible benefits than the gathering of information.

Despite these concerns about the relevance of data collection, the information was needed by the project since existing data analysed women as a separate category and in most instances did not distinguish the role of women from that of men. It was therefore difficult to assess whether or not the issues relevant to women were similar to those of men.

Information was required on a number of topics. First, information was needed on the effect of UVIP intervention on access to irrigated land by male and female farmers. Second, information was needed on the division of labour and access to benefits from the UVIP project. Third, information was needed on the level of awareness among UVIP project staff about the different responsibilities of men and women in agriculture and household production. Fourth, information was needed on household food security, the nutritional status of household members, and those members of the household most vulnerable to malnutrition. Fifth, information was needed on the level of awareness of female farmers concerning their role in decision-making and their access to, and control of, resources. Sixth, and finally, information was needed to define the specific actions required to strengthen women's participation in, and benefits from, agricultural production and, more specifically, irrigated agriculture.

Project staff were assisted in data collection and analysis by staff from the Uyole Agricultural Centre in Mbeya, the Tanzania Food and Nutrition Centre in Dar es Salaam, and the International Agricultural Centre (Food Nutrition) in Wageningen in the Netherlands.

SUMMARY OF PROJECT FINDINGS

Subsistence food production

Existing irrigation intervention and support in the project area were minimal or non-existent for subsistence food crop production. All support was targeted at the main cash crop, rice. While rice yields have improved, a major constraint in the Majengo irrigation rehabilitation scheme has been that low temperatures in the area limit production to one crop a year.

Maize, the main food crop, and other, supplementary food crops are grown under rainfed conditions, and the rainfall is unreliable. Access to irrigated water for these crops is limited by the absence of general irrigation facilities and support.

Food shortages and hunger occur during the period from December to March. The household supply of maize and rice becomes uncertain by December because of overselling of both crops, especially rice, and poor maize yields. Other food crops, such as pumpkin, sweet potato and cassava, are consumed during the period December to March but the production and supply of these crops is also uncertain. Most of the land made available to women farmers for food production is not irrigated. Only 33% of women have their own fields, and of these women only 15% reported that their fields are irrigated.

Women's workload

There is a high female to male ratio in the project area and in many villages a high proportion of dependants in each household since it is the women's role to provide food for the dependants, the women have to work harder than men in order to produce enough food.

Illness among family members was common, with 97% of the households surveyed reporting illness in the period January to March 1989. The majority of women (80%) reported that they alone care for sick members of the family although 18% said they were assisted by other household members.

Men, as the head of the household, have more control over the organization of labour. They can order their wife, daughter and sons to work whereas the women can make demands only on their children. The majority (80%) of the wives in the Majengo Scheme said they assist on their husbands' plots, especially in rice transplanting, puddling, weeding and harvesting. Of the men, 40% said that they assist their wives with their subsistence plots of rice, maize and beans and with land clearing, ploughing and harvesting.

The clearing and levelling of land for rice removes traditional wood resources, so that women have to go further to fetch firewood. Firewood is collected on average three times a week, and this work takes four to six hours at a time.

Transplanting of rice, weeding, and ploughing fields for maize and rice are major, time-consuming and difficult tasks. Rice transplanting and weeding, and manual ploughing for maize are primarily the women farmers' responsibility (Figures 1 and 2). Existing labour saving technology mainly involves devices for ploughing, mainly for rice production.

Early planting and transplanting are two practices being promoted by UVIP to increase rice production. Both increase the workload of women, in particular because early planted rice requires additional weeding. However, although early planting (October-January) is being promoted, only 8.3% of households headed by a single female were able to plant during that time compared with 64.5% of households headed by men. Planting occurred after January in 97.7% of households headed by single females but in only 39.4% of households headed by men.

Only 12% of the male-headed households in the project area own labour saving agricultural tools such as ox-carts, ploughs and sprayers. None of the female-headed households own such tools.

Nutritional status of children under five and under ten

A longitudinal study of the growth of children in the project area revealed that malnutrition is widespread (WIA, 1992). About 10% of children under five were severely malnourished and 53% were moderately malnourished. Least malnourished were children less than one year old, probably because they benefited from breast feeding. There was a marked variation in the occurrence of malnutrition amongst all groups over the year. During the rainy season, from January to April, malnutrition was at a peak, probably because the increased agricultural workload on mothers at that time of year leads to an increased incidence of disease and because food stocks are low.

Malnutrition of all types is prevalent in children in the 5-10 year age group, the rates varying from 10 to 25%. Malnutrition takes the form of stunted growth rather than wasting probably because of the high incidence of diseases. Beyond the age of 10, there is a sharp decline in the occurrence of all types of malnutrition, to below 5%. There is no information available to explain this sudden decline, although malnutrition is known to decrease with increasing age.

Women farmers' involvement in irrigation development

The irrigable lands of the upgraded Majengo irrigation scheme were distributed to farmers on the basis of land ownership prior to irrigation development. Of the farmers who owned land before development, only 10% were women. Of the 452 farmers who received irrigable lands, 100 were women (22%). Of these 100 women, 23 were single. The women who received irrigable land tended to be older than the men; 42% of women and 29% of men were in the age group 45-65, 25% of women and 6% of men were 65 years and over, and 31% of women and 63% of men were in the age group 15-44 years.

The standard of education of single females was much less than that of male heads of households, 91.7% of single females had no schooling compared with 26.5% of the male heads. Only 8.3% of single females had reached primary level compared with 73.5% of the male heads.

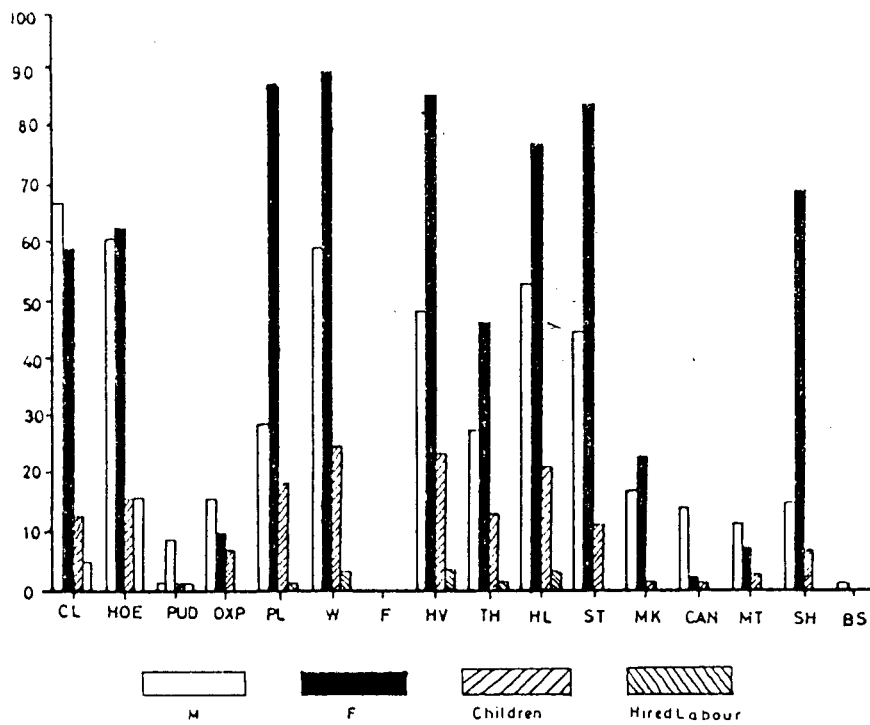


Figure 1. Labour profile for rice, showing the reported division of tasks between men, women, children and hired labour (CL, clearing; HOE, hoeing; PUD, puddling; HV, harvesting; TH, threshing; HL, hauling; ST, storing; MK, marketing; CAN, making canals; MT, maintaining canals; SH, shelling/milling; BS, bird scaring).

Source: WIA, 1989.

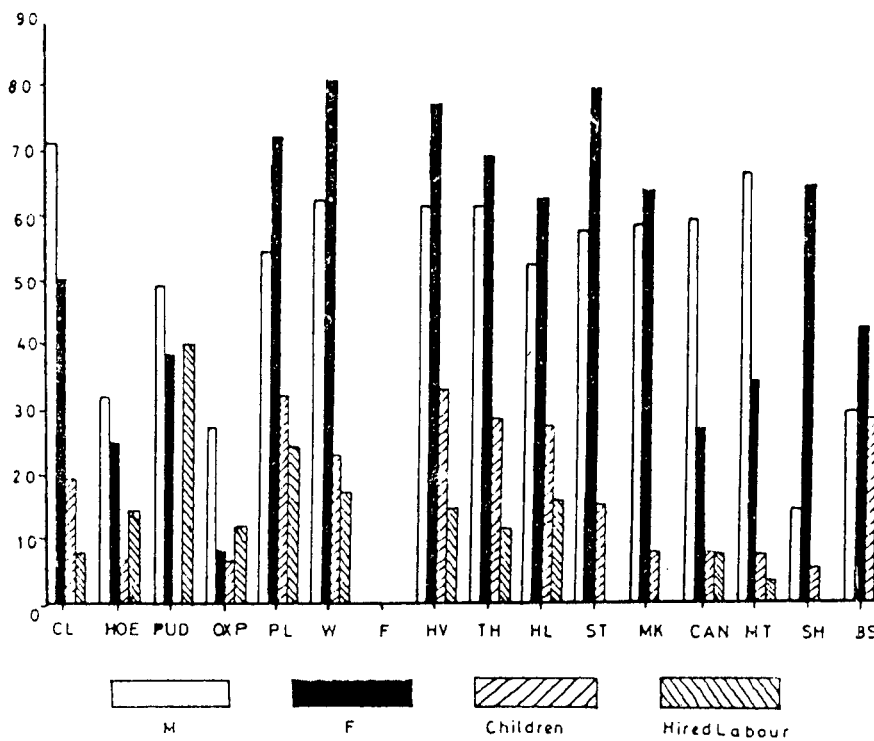


Figure 2. Labour profile for maize, showing the reported division of tasks between men, women, children and hired labour. (Legend as in Figure 1).

Source: WIA, 1989.

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Women were allocated a smaller area of irrigable land; 59% of women owned less than 0.5 ha compared with 41% of men. Plots of 1-2 ha were owned by 9% of the men whereas no women owned plots of that size.

Support for farmers in the UVIP has been organized on the basis of the family unit, with a husband as the head of a household. This has resulted in less attention being given to women farmers who are the wives of farmers allocated land under the scheme. For example, 83% of wives reported that they did not attend demonstration and training sessions, 21% gave no reason, 67% said they were not members or were not invited, and 20% said they were ill or too busy. On the other hand, 83% of the single female heads of household said they attended training and demonstration days.

The role of men and women in decision-making

An analysis of the role played by men and women in household decision making, according to male and female respondents, is shown in Table 1. Most decisions are reported as being taken jointly. However, wives reported fewer joint decisions taken than husbands, and also reported many more decision being taken alone by husbands. Only in the decision about what to eat did the majority of respondents report that the decision was taken by wives alone.

Table 1. Analysis of decision-making in households in eight villages in the Majengo irrigation rehabilitation scheme by category of respondent (M = male head of household, F = spouse)

	Proportion (%) of decisions taken by:		
	Wife alone	Wife and husband	Husband alone
<i>Purchase of agricultural inputs</i>			
M	1	60	37
F	2	44	55
<i>Purchase of agricultural equipment</i>			
M	2	52	45
F	3	42	55
<i>Use of capital</i>			
M	7	64	30
F	6	51	43
<i>Sale of produce</i>			
M	5	74	21
F	5	58	38
<i>How/where to sell</i>			
M	0	76	24
F	3	51	46
<i>Hire of labour</i>			
M	2	63	34
F	2	46	52
<i>Hire/lease of land</i>			
M	0	67	33
F	2	32	66
<i>How much to spend</i>			
M	2	74	23
F	10	57	33
<i>What to eat</i>			
M	70	23	7
F	70	22	7
<i>Purchase of household equipment</i>			
M	14	56	30
F	15	46	39
<i>Education/school expenses</i>			
M	0	50	50
F	4	36	60
<i>Repairs to house</i>			
M	2	36	61
F	5	25	70

Source: WIA, 1989.

Community and institutional awareness of gender related issues

There was limited knowledge and awareness among some community leaders, agriculture researchers, administrators, planners, and managers of irrigation development projects about gender - related issues. Few of them were willing to discuss or acknowledge the unequal division of labour, resource allocation and decision making between men and women farmers and the implications for agricultural development.

IMPLEMENTATION OF PHASE II THE WIA PROJECT

Some of the issues that emerged from the data gathering exercise in Phase I of the WIA project were addressed in Phase II, while others were reported to the Regional Development Director with a recommendation that they should be addressed by other programmes.

Phase II of the WIA began in September 1991 and will end in 1995. The project has as its overall objective the improved household food security and nutrition of all household members by means of the more specific involvement of women in agricultural development. The objective in the medium term is to ensure a steady and sufficient supply of food year-round in Mbeya District, and increase the time available to women for food preparation, breast-feeding and child care. The immediate objectives are to improve the productivity of men's and women's agricultural labour on both rainfed and irrigated crops; to reduce the amount of time women devote to fuel collection and food processing; to study and document the interrelations between the demands on women's labour, household food security, and nutritional well-being of all family members; and to ensure the findings are taken into account in the operation of regional extension services.

To achieve these objective, Phase II of the project will concentrate on the following activities:

- Extension services and inputs to increase the production of food grown for household consumption.
- The monitoring of the nutritional status of household members.
- The introduction of labour-saving technologies to relieve women's domestic and agricultural chores.
- Support for institutional and community awareness of gender issues and the role of women in agriculture production.
- Support for women's leadership and decision-making.
- Support for income generation by communal agriculture production by women's group.
- The repair of canals and intakes of micro-irrigation schemes, which are used mainly by women farmers for food crop production.
- The establishing of tree nurseries with women's group to supply fuel, fodder and cash income.

Despite what appears to be a comprehensive set of activities, there are still areas to be addressed to ensure the total and equal integration of women farmers into agricultural development. The project staff have recommended the following activities to the Prime Minister's Office, through the Regional Development Director's Office, for review and implementation by the relevant sector programmes:

- The strengthening of community health services in the project area.

- The implementation of family life education.
- The establishment of feeding centres for children under five and the implementation of school feeding programmes.
- The establishment of day care centres for children under five.
- The establishment of credit schemes.
- A review of the allocation and usage of Government upgraded irrigated land in the Usangu Plains.

THE WIA PROJECT BEYOND 1995

The WIA project is an autonomous Women in Development (WID) component of a mainstream irrigation development project. It was developed in response to the fact that the existing irrigation project the UVIP, as well as other related programmes, were not taking into account gender issues.

It is envisaged that at the end of Phase II the WIA project will be phased out and all its activities fully incorporated into existing programmes. If this integration is successful, in future gender issues will be taken fully into account in the design of irrigated agricultural programmes and there should be no need for a WID component.

The location of the WIA project in the Regional Development Director's office is important to successful integration. That office, with its function to coordinate and monitor development projects, will monitor existing agricultural projects as well as new proposals to ensure that gender issues are incorporated.

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