

Agricultural Implements Used by Women Farmers in Africa



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Foreword

The present study was instigated by the Technical Advisory Division of the International Fund for Agricultural Development (IFAD). Members of that Division, particularly staff concerned with gender and household food security issues, were concerned that although some progress had been made in terms of providing post-harvest equipment – especially cereal mills – to women in Africa, little if anything had been done in respect of tools and implements for agricultural production up to and including harvesting. Attempts to introduce new tools for cultivating or other operations had been often rejected by rural people, but with more than 70% of all food production work now being carried out by women in Africa, and with household food security hanging in the balance in so many countries, increased productivity and reduced workloads for women could well be central to improving family welfare.

As a first step, a study was required to establish the social, cultural, economic and technical context of any attempt to improve the agricultural production tools and implements used on the land by African women. The Government of Japan agreed to finance the services of an international consultant to conduct such a study in Burkina Faso, Senegal, Uganda, Zambia and Zimbabwe over a period of three months.

The Agricultural Engineering Branch (AGSE) of the Food and Agriculture Organization of the United Nations (FAO) expressed interest in cooperating in the study, which coincided with that organization's increasing concern regarding the gender aspects of agricultural engineering and emphasis on all aspects of farm power – human, animal or motorized. To this end, AGSE agreed to: (i) finance the salaries, subsistence and travel of eight local researchers in the two West African countries covered by the study; (ii) arrange for the FAO/Swedish International Development Agency (SIDA)-supported Farm-Level Research Methods in Eastern and Southern Africa (FARMESA) Programme to assume similar costs in the three countries of eastern and southern Africa covered by the study; (iii) assign an Associate Professional Officer (APO) from the FAO Regional Office for Africa to assist in field work in the two West African countries; and (iv) assign an FAO Headquarters-based APO to do similar work in the three countries of eastern and southern Africa and to assist in processing the research results and writing the reports.

The team responsible for conducting the study and for preparing the present report comprised Messrs. Colin Fraser of Agrisystems (Overseas) Ltd. (team leader and communications/ participatory research specialist), Gert van der Meijden (agricultural engineer/APO stationed at the FAO Regional Office in Accra), and Josef Kienzle (agricultural engineer/APO at FAO Headquarters in Rome). For the countries of eastern and southern Africa, the team was joined on a voluntary basis by Ms. Sonia Restrepo Estrada, communications/participatory research specialist,

who assisted in the training sessions, field work and subsequent analyses. Eight field researchers worked in each country. The field work took place between August and November 1997, and the report was presented at a seminar organized at IFAD in April 1998.

A qualitative research approach was adopted for the study. Rather than gathering statistical or numerical information from groups of rural people – for example, the number of days women spend in the field on various operations – the aim was mainly to ascertain their perceptions of the work involved and thereby identify which operations should take priority for improvement.

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Thanks are also due to staff of FAO country offices, IFAD projects and the FARMESA programme for their interest and support. Special thanks must go to Dr. Mona Fikry, the IFAD staff member who launched the idea of the study and who supervised it, and to Dr. Lawrence Clarke, Chief, AGSE/FAO, for his wholehearted support.

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Executive Summary

Findings and Recommendations

The study was conducted in Burkina Faso, Senegal, Uganda, Zambia and Zimbabwe. A qualitative research technique, known as Focus Group Discussions (FGDs), was used in a series of sessions with some 1 500 women and men farmers. These discussions were complemented by 52 interviews with key informants in the government, non-government and commercial sectors. The research took place in areas of relatively poor agriculture where women are assuming an ever-increasing role in farm work, mainly because the men migrate to towns and cities in search of work.

The poor socio-economic status of women in rural Africa impinges strongly on the production tools and implements they use. Women's direct access to cash from work on the family holding is usually minimal because, traditionally, men control most of the cash crop revenues. Credit is virtually unavailable to women. Indeed, it is rarely available to any small farmer – man or woman – in the countries covered by the study, although Senegal is about to relaunch credit schemes. However, for women farmers, the situation is even more difficult because land and cultivation rights are ascribed almost exclusively to men, and women can thus offer no collateral for loans. Furthermore, usually they are too burdened with farm and family chores to be able to spend time on the bureaucratic process of obtaining credit. And, finally, their literacy and numeracy skills are often lower than those of the men, which adds to their difficulties.

Under present circumstances, the only way that women can obtain land and credit is through women's groups. However, the land that community authorities allocate to women's groups tends to be far from the village and of poor quality, and the women are seldom allowed to use it for more than one or two years because otherwise they would acquire permanent rights to it.

In some of the countries covered by the study, there had been a backlash of resentment from men due to what they saw as an excessive and exclusive emphasis on women-in-development programmes over the last decade or so, and a similar backlash seemed to be building up in others. Some of the countries appeared to be avoiding the problem, or solving it, by developing a family focus for development rather than focusing solely on women. In some countries, women's groups were even inviting men to join.

In the past, there was a clear distinction between the role of men and women in farming. But this distinction has become blurred, with women handling all the work while their men are away. The improved status and recognition that women might logically expect due to their increased responsibilities and workloads has not yet materialized and, as a general rule, rural society still treats them as second-class citizens. For their part, most women continue to accept that it is natural for them to work ever harder, with little material benefit or improvement in status.

There were significant differences in the levels and types of production tools used in the countries under review. The lowest level of technology was found in Burkina Faso, where the few animal-draught implements and all hand tools seen in the study area had been made by blacksmiths using poor-quality scrap material. The best tools and implements were seen in Zimbabwe, where they were produced by

industrial concerns or blacksmiths, the latter having access to high-quality scrap – mainly from old ploughshares and defunct tractor-drawn implements.

The hand-hoe is still the farm implement most used in all the countries reviewed. However, the quality and durability of this implement are often poor, and little can be done to improve its design.

Many of the groups stated that the hand-hoe imposed strict limitations on production and that they would never make any progress without access to animal traction. Indeed, in every area where it was known, animal traction was widely seen as the solution to the farmers' problems. However, the spread of this technology is, at best, slow; and in some countries its use is blocked, or has actually retreated, because of animal disease, unfavourable weather conditions, lack of credit, and taboos against women working with cattle.

There were no taboos against women working with donkeys in the areas covered by the study. Since donkeys are seen as low-class animals which involve less initial costs compared with bovines, they are more accessible to poor women.

In all the countries reviewed, the axes, slashers and harvesting tools used were much the same, but there was wider variation among implements and tools for tillage, planting and weeding. The basic African hoe of the chop-down-and-pull type showed variations in the length of the handle, the width and weight of the blade and in the method of fixing the blade to the handle.

An entirely different type of weeding hoe was found only in Senegal. This was a very long-handled push-pull hoe that allows the user to stand upright and is widely used in the central part of the country: the short-handled, more traditional hoes that obliged the farmer to work in a squatting or crouched position had been almost totally abandoned.

In all probability, the traditional African hoe has evolved locally over time in accordance with the particular soil conditions and tasks involved. However, almost everywhere except Senegal, there is a widespread belief that work can be properly performed only if the worker is bent double and armed with a short-handled hoe. This type of cultural conditioning is an obstacle to the introduction of more comfortable long-handled implements, such as jab planters and the like, since working upright is perceived as laziness.

Among the groups consulted, it was generally felt that women needed different tools to men and that manufacturers should differentiate between the two sexes, as they do with bicycles. Unfortunately, as a general rule, manufacturers and importers of tools and implements undertake no market research, have no follow-up links with their clients, do little to ensure that the full range of their wares is available at sales points, and seem to ignore the fact that, nowadays, the main users of their products or imports are women. As a result, many implements, especially animal-draught cultivators, are too heavy for the women. People have to buy whatever they can find, without being able to choose, for example, a lighter model of hand-hoe that would make weeding easier for women. Nor is there any consultation between blacksmiths and their women clients that might lead to more suitable tools being produced.

Of all the women's tasks on the land, the consensus was that weeding with a hand-hoe was the most punishing and time-consuming and that it caused fatigue and back-ache. Passing an animal-drawn inter-row cultivator through a crop, thus leaving only the spaces between the plants in the row to be weeded by hand, can reduce the weeding time per acre from two-to-four weeks to two-to-four days. However, this obviously requires familiarity with animal-drawn planters or hand-planting in rows. Government services and institutions still concentrate their support on men. Thus, the majority of animal-traction training courses are aimed only at men, despite the fact that it is the women who really need such training.

In conclusion, there is no quick or simple solution to improving the production tools and implements used by women. However, to bring about any change in the situation requires action on the part of governments, development agencies and non-governmental organizations (NGOs). This might involve:

Organizational Issues

- Initiating specific, well-planned and sustained communication efforts to bring about greater awareness of the enormous role that women play in African farming and of their special needs in terms of production tools and implements.
- Continuing to promote women's groups, with the involvement of some men, and adopting a family development focus rather than focusing exclusively on women.

Market Issues

- Working in the closest possible cooperation with private sector producers or importers of tools and implements, inducing them to undertake market research and involving them in meeting farmers' needs, especially those of women.
- Accentuating the importance of production tools and implements in development projects, creating a demand-led environment for such items and establishing the necessary delivery/supply networks.
- Encouraging governments to pursue tax and duty policies favourable to local producers and distributors of tools and implements.

Training Issues

- Becoming proactive in ensuring women farmers' involvement in demonstration and training activities concerning, for example, animal traction.
- Intensifying training programmes for blacksmiths and promoting forums for consultation between blacksmiths and their male and female clients.
- Causing extension services to include advice on farm tools and implements in their traditional messages concerning production techniques, seeds, fertilizer, etc.

Research and Development Issues

- Promoting ergonomic research projects on women's use of energy with different types of tools, for instance, with varying hoe weights and blade widths in diverse soils, etc.
- Working in close consultation with potential users at all stages of the importation and testing of exogenous tools (for example, jab planters, seeders for attachment to ploughs, etc.), and investigating cases of non-acceptability.
- In cooperation with potential beneficiaries, making a careful study of the weeding problem; examining the possibility of promoting row planting and the use of donkeys with light-weight weeders; and taking into account the concomitant need for animal care and veterinary services.

Scope of the Study and Methods Used

The five countries covered by the study were selected on the basis of their providing a fair cross-section of sub-Saharan Africa and as the site of a number of IFAD and FAO-assisted projects that could provide field support.

The tools and implements used were reviewed from three main standpoints:

- the possibility of improving the tools used by women;
- determining why certain tools and implements were not always accessible to women; and
- identifying recently-introduced farm production techniques necessitating locally-available tools and implements.

The term *improvement* in respect of tools and implements can be taken to mean anything that will reduce the time or physical effort required to do a particular task; increase production and economic returns; and/or attenuate the health and safety risks.

Given the factors of culture and tradition surrounding the tools used by rural people, it was deemed unlikely that research based on normal interviews would provide the information required. People with little formal education are often reluctant to reveal what they really think and they tend to tailor their replies to what they think the interviewer wants to hear. This being the case, the team leader proposed using a participatory research technique based on separate FGDs for rural women and men.

The FGDs bring together eight to twelve people of similar educational, economic and social backgrounds with the same lifestyle and problems. The groups are segregated by sex in the event it is felt likely, as for this study, that the men might dominate the discussions. A facilitator and an observer are present at all times, and the aim is to create an informal atmosphere for group members to talk among themselves about the themes put forward by the facilitator. The speakers follow a basic question guide but are expected to pose follow-up questions that provoke deeper analysis of the issues being discussed by the group. This method has much in common with group therapy, but special techniques have to be used by the facilitator and observer if it is to function well as a process and faithfully record a group's ideas and opinions.

For the purpose of this study, the FGDs were backed up by interviews with persons working in the government, non-governmental and private sectors concerned with agricultural production, gender issues, and farm mechanization.

In each country, the team leader – supported by one of the APOs – trained eight local researchers in FGD techniques. There were always at least four or more women among the eight researchers. Almost all the researchers were staff of institutions working in the field of agricultural production systems and women's role therein. Each training workshop was of two-to-three day duration, followed by another two-to-three days of supervision and training in the field. In order to demonstrate the participatory research technique, the workshops began with a group discussion among the trainees – the latter, in effect, constituting a focus group.

Following the discussions, the APO – acting as observer – summarized the information that had emerged, using flip charts for the purpose. The trainees then held FGDs among themselves, analysing the way the facilitator and observer had performed, and thus the training was a highly practical learning-by-doing experience.

The discussion themes followed during the workshops related specifically to women and agriculture in order that the team leader and APO would be provided with a broad picture of the national situation.

For the two-to-three day training sessions in rural communities, the researchers worked under the general supervision of the team leader and the APO. This was followed by a review of the results of each FGD, which helped the facilitator and the observer to refine their command of the technique. The researchers then worked for another week in the field without the team leader and APO with a view to eliminating any possible distortions caused by the presence of foreigners.

The question guides for the FGDs, which were drawn up by the team leader prior to leaving for Africa, were discussed with each of the research teams; modified slightly to facilitate translation into local languages or to suit local conditions; and, if necessary, further modified after initial use in the field. Thus, the question guides changed to some extent, mainly in the first two or three countries, but the changes were of a specific nature and the overall thrust of the research remained the same for each country.

In all, 155 FGDs were conducted in the five countries covered by the study, including 119 with women and 36 with men, for a total of approximately 1 530 people. Local languages were used for all FGDs with rural people. Fifty-two interviews, conducted by the team leader, the APO and the study coordinators, were held with government staff concerned with agricultural development, gender matters, and mechanization; representatives of banking and credit services; university and research staff; representatives of NGOs; blacksmiths; and importers and manufacturers of tools and implements.

As a general rule, the study was conducted in areas of relatively poor agriculture where most of the men had left to seek work in the urban areas and women were thus assuming an ever-increasing role in farm work. The agricultural economy of these areas was mainly at the subsistence level, with consequent limitations on the availability of resources for investment in improved production technology.