Burkina Faso

nology for women was necessary, little or none was actually in progress. Women almost everywhere said they wanted lighter tools, but there is no scientific research into the benefits of lighter tools in terms of the energy required from their users and the effectiveness with which the work is done. The only institution in the countries of the study with the necessary experience and capability for such research is Makerere University in Uganda. An interesting research activity could be to measure the oxygen uptake of women while weeding with 3, 2.5 and 1.5 lb. hoes and set the energy requirement against the effectiveness of the work done. Properly used, the results of such research could provide an important basis for future manufacturing and marketing policy for tools.

Recommendations

- A small project should be designed and funded to help Makerere University become involved in ergonomic studies of women using various sorts of farm tools, beginning with hoes of different weights and different blade widths in different soils, etc.
- If the results of such research show that there are practical applications that could make women's work easier, seminars and workshops should be organized with government services (especially extension), blacksmiths and the manufacturing/importing sector to disseminate the findings and facilitate their being put into practice.

Attempts to Introduce Exogenous Technology

This is the trickiest area of all because of the human and social factors involved. Moreover, it is frustrating, for it is also the area that could provide the quickest results because production tools and implements used in other developing countries could have a major impact on reducing the African farmers' working time and discomfort if they would only adopt them. However, there have been numerous examples of failed attempts to introduce some model of a tool, usually based on a design used in another country. This report has cited the case of the jab planter in Burkina Faso, and the wheeled push-hoe that appears to be failing in Zimbabwe. Another case, also in Burkina Faso, involved pedal-operated water pumps for wells which were never accepted[3]. These initiatives are usually the idea of a technician. While these tools or implements may be perfect from the technical standpoint, and even economically viable, too often certain social or traditional factors are ignored and they are rejected. Unfortunately, in addition to the early research that could

1. The introductory and descriptive opening sections of this report are based on information gathered during training sessions in qualitative research methods with the national staff who were to conduct the study (all of whom had deep knowledge of the rural situation), on information collected during individual interviews, and on available literature. Some general information has also been lifted from the results of the FGDs with rural people when it was considered that it would best fit in these opening sections.

avoid such mistakes, there is seldom any post-failure investigation to see what went wrong. There is only conjecture, based perhaps on a few isolated comments. This is frustrating, too, because research into the reasons for failure could help technicians to make modifications or, at the very worst, teach them lessons for the future. In general, where exogenous tools have been successfully adopted in various countries worldwide, this has only been achieved after working closely with rural people and after these same people have conducted comparative trials between traditional tools and the proposed new items.

Despite the human, social and cultural factors involved, the benefits of introducing exogenous technology warrant further attempts to do so, but only under carefully controlled conditions and with the participation of the potential beneficiaries.

Punch or jab planters, planter attachments to ploughs or cultivators, push-pull hoes, hand-pushed cultivators and weeders, hand-drawn planters, row markers, harvesting tools such as serrated sickles, hand pumps for irrigation, water-carrying carts: these are just some of the possible candidates for testing and evaluation with people in Africa[4]. The idea should be to import just a few of a selected type that appears to have potential in Africa and to test them carefully with farmers. If accepted, they could be copied by blacksmiths or small-scale industries locally, but incorporating any modifications that the trials demonstrate as being wanted by the users.

In respect of push-pull hoes, it would be particularly interesting to try them for the hand-weeding that remains to be done after an animal-drawn weeder has passed along the inter-row space.

"Women work their individual plots very early in the morning or late in the afternoon, when they don't have other tasks such as cooking and when they are freed by their husbands."
Conclusion by field research team

"Women do the work; men are in charge."
Statement by extension worker

Recommendations

- In the context of projects, and after full consultation with a group of potential beneficiaries and their expressed willingness to try new tools, some of the tools should be brought in and simple participatory field trials conducted.
- If the tools are not found acceptable, a thorough investigation should be made of the reasons for such non-acceptance. Modifications might be possible, and at least some of the obstacles to adoption would be discovered to help similar initiatives in future.

Finally, it is encouraging to imagine a future in which Africa's overworked women will be using tools and implements that save them time and effort, and give them the chance to rest and relax a little. However, before this is likely to happen, men's attitudes towards women will have to change considerably.

A. The Scenario[1]

Context of the Study, Its Scope and Methods

The study was conducted within the context of the IFAD Special Programme for Soil and Water Conservation and Agroforestry which is operating over a broad area (seven provinces) of Burkina Faso's Central Plateau. This is the most densely populated part of the country and, as a result, much of the land has suffered, and is continuing to suffer, severe degradation.

The area is extremely poor. According to the IFAD project document of December 1994 for Phase II of the Programme, per capita income is approximately US$ 75 per annum, about half the poverty threshold level of US$ 147.

Soils in the Central Plateau are problematic. They are mainly lateritic, of a complex gravelly texture and of generally low fertility; and, when dry, they harden and become difficult to work.

The field research for the present study was conducted with a team of eight people – five women and three men – made available by the IFAD project. The team received two days of formal workshop-type training and two days of supervised work in the field, after which it divided into two groups of four. One group remained in the area around Yako, in Passoré Province, while the other went to work in the area around Koudougou in the Province of Boulkmiende.

Although the maximum number of participants in an FGD should not normally exceed 12, this proved difficult to maintain in the area around Koudougou. Despite having requested the development agents to limit the groups to 20, which would be divided into two groups of 10 for the discussions, many more women turned up. When this happened, the groups were further divided and, on some occasions, the facilitator had to double as the observer. However, it was the only solution in the circumstances, and it does not appear to have unduly influenced the results of the discussions because there was a remarkable degree of homogeneity in, and between, both areas where the research was carried out.

In all, 41 group discussions were conducted, 35 with women and six with men, for a total of 370 participants. The group discussion participants were always asked to bring their production tools to the meeting.

After the training and supervision of the field researchers, the team leader and the APO held detailed discussions with groups of blacksmiths in Zougoungou, Ouahigouya and Kombissiri. In addition, interviews were conducted with various people in government concerned with planning, research, farm mechanization, women's extension services and credit. A meeting was also held with a women's NGO. Finally, a round-up meeting with the field researchers was held to review, discuss and note the results of their work.

The Agricultural Production System and Women's Role Within It

Agricultural production is essentially at subsistence level, with significant quantities of produce for sale only in years of favourable rainfall. The situation, and the

pressure on the land, are such that migration towards more fertile areas, especially in the east of the country, is on the increase.

The land resources used by each family in the Central Plateau are divided into different plots. The *family plot* is where the principal crops are grown, usually staples such as millet, sorghum or maize for home consumption and sale. Part of the family plot is close to the village (*champs de case – house plot*) but the rest of it may be some distance away (*champs de brousse – bush plot*). In all, the family plot averages about 3 ha in the Central Plateau and is invariably under the complete control and management of the head of the family, who is usually male.

Each woman is allocated an individual plot, usually of some 500-1 000 m^2, on which she grows various crops, mostly to provide ingredients for sauces to accompany the family's cereals but also for sale. The women's plots are usually adjacent to the family plots.

Formally recognized women's groups may be allocated a *collective plot* to work.

Many women walk one-to-two hours to reach their family or individual plots. Seen in this context, a bicycle virtually becomes a 'production tool' in the sense that it could save women many hours of walking time in a typical cropping season. However, bicycle ownership is very rare among women in the poorer areas. Indeed, whenever a discussion group was held with men, almost all of them came on their bicycles, whereas the women nearly always turned up on foot.

The women are involved in all the family's agricultural work. Priority is given to work on the family plot, and women help their husbands with all operations on this plot before turning to their own. Furthermore, it is usually the women who transport any produce to be sold to markets. They are also responsible for the poultry and small ruminants normally kept by the family and for looking after the children and the household chores. It is generally accepted, and by the men, too, that women work much harder than men.

According to a Ministry of Agriculture and Animal Resources paper of May 1994, entitled *Femmes, Agriculture et Développement Rural*, women account for 86% of the adult rural population. However, within a typical rural family, the men control the finances and the women's only direct income comes from the sale of surpluses from their individual plots.

It is difficult to obtain figures on the use of animal traction in the Central Plateau. Field staff of the IFAD project estimate that about 5% of families own animal-draught equipment and animals while, according to a government spokesman, about 20% of the land in the Central Plateau is cultivated with animal traction. The above-mentioned 1994 paper on women, agriculture and rural development estimates that, nationwide, some 27% of farm families own animal-traction equipment. However, this includes agricultural areas that are much richer than the Central Plateau.

When animal traction is available, it is controlled by the men and used mainly for primary tillage and inter-row cultivation. When it is not available, direct planting without primary tillage is the norm except in the case of maize and groundnuts which

need a loose, deep seedbed for water retention and growth. Once the annual rains start, there is great urgency to complete planting for the short cropping season. There is seldom time for land preparation, hence the common practice of direct planting.

The Production Tools Encountered and Their Use

The tools found in every group that were basically the same (details and photographs provided in Annex 6) were as follows:

"If a woman has not worn out her *daba* during one season, her husband will think she is lazy."
Comment from a group of blacksmiths

- The ***daba*** (hoe), made by local blacksmiths from scrap metal, is used for cultivating, bund building and weeding. The handle is invariably short-to-medium in length, which obliges the user to bend almost double when working with it. In most cases, the handles are cut from trees by the farmers themselves; but in some areas, where the blade is fixed to the handle by a tang that is heated and driven through the wood, the *dabas* are sold by blacksmiths as complete tools.
- The ***pioche*** (pick), also produced by local blacksmiths, has a narrow chisel point made from old vehicle leaf springs. The handle is always short. It is used for planting, held in one hand while a gourd or calabash containing the seed is held in the other. Bent double, the user drives a hole in the soil with the *pioche*, flicks a seed from the gourd into the hole with the fingers of the other hand, and then presses his/her foot over the hole to fill it.
- **Harvesting tools**. These involve a variety of knives, sickles and machetes, most of which are made locally. However, the machetes are usually imported from Ghana and Côte d'Ivoire.

"Sowing is not a problem for me. I have two wives and seven children."
Farmer replying to mechanization specialist talking about the advantages of a hand seeder

Other tools found, but by no means in all groups, were:

- **Animal-draught implements**, produced by local blacksmiths and fitted with a duckfoot tine for inter-row work. Plough and ridger bodies are also manufactured locally but, at the time of the study, only duckfoot tines were seen mounted. The design and quality of these animal-draught implements varied considerably. Only implements built by blacksmiths were encountered in the field, despite the availability of industrially-produced or imported models. However, these generally cost about twice as much.
- **Row markers**, pulled by hand. Most of these are made of timber cut from trees and left as roundwood. They have three steel spikes driven through the cross member at the desired row spacing so that, when dragged across the field, they mark the lines for seeding, thus enabling inter-row weeding using animal traction. Other row markers were made of steel and had the marking spikes set at different distances on the top and bottom of the cross

member. Thus, by turning the whole marker over, different line spacings can be marked in the soil.

According to verbal reports, these row markers are just beginning to be used in only one part of Burkina Faso (Manga, in the south). They first mark up and down and then across the plot at right angles so that planting can be done on the square. This allows inter-row cultivating with animal traction in both directions, and virtually eliminates the considerable *daba* work that is still required for weeding between the plants in the rows when lines are marked in one direction only.

Of the 41 groups that participated in the research, only three mentioned that they owned an **animal-drawn seeder**, but one had been broken down for a long time.

Additional items mentioned by groups were: wheelbarrows, donkey carts, two-wheeled handcarts known as *pouses-pouses*, and bicycles for transport. These items were secondary to the main emphasis of the study and thus they were not deemed worthy of special attention.

CNCA – National Agricultural Credit Bank – was founded in the mid-1970s as part of an FAO-supported animal traction project which had three components: the manufacture of implements, training, and credit. Thus, CNCA began life as part of the Ministry of Agriculture and devoted its main attention to credit for animal traction. However, it was later moved to the Ministry of Finance and it has since virtually abandoned credit for agricultural production, mainly confining its activities to financing commercial operations. In 1996, only about 1% of its total loan portfolio was for activities by women's groups. Overall, according to the above-mentioned 1994 paper on women in agriculture and rural development, less than 5% of rural women had benefited from credit, compared to more than 95% of men.

New Production Techniques That Require New Tools

In recent years, it has been found that local placement of farmyard manure and compost, and planting in that mixture before the rains arrive, gives far better results – in terms of plant survival and yield – than traditional planting methods. Known locally as the practice of *zaï*, it involves digging a hole about 10 cm deep by 10 cm^2, filling it with well-rotted manure and compost, and planting the seed to await the rain. The results are so dramatically visible that the practice is being increasingly adopted in the Central Plateau.

According to mechanization specialists, however, to practice *zaï* more efficiently calls for a number of tools that are not yet generally available. First, **rakes** would be useful for gathering the crop residues that are added to the manure in the pits where it is placed to mature and rot; secondly, **forks**, preferably with steel tines, for extracting the manure from the pits; thirdly, wider use of existing **donkey carts** would help in the transport of the manure to the planting holes in the field; and, finally, it would be easier to dig the planting holes speedily, and to the appropriate shape, depth and size, with a **spade** rather than with a daba. With the exception of the donkey cart, which costs some CFAF 200 000 (about US$ 330), the other tools are not generally available in Burkina Faso.

It should be stressed that these ideas did **not** emerge from the discussion groups with farming women and men in Burkina Faso, but rather from government and specialist staff.

The CNEA made available 1 000 hand-operated plunger-type planters to farmers, and had to take back 840 of them. When asked why this was so, the Director speculated that it might have been because the planter was not suitable for the soil conditions, or that perhaps it was because it could be used standing upright, and that this was contrary to the work tradition of the Mossi people.

Cultural and Socio-Economic Considerations

Working Posture

The cultural tradition of the Mossi people of the Central Plateau is to cultivate, plant, and weed with short-handled tools that cause them to work bent double. No doubt, the short-handled tools of the Central Plateau have evolved to meet the general needs of working the difficult and often hard soils in the area, especially weeding when sowing has taken place with no seedbed preparation. However, the people recognize that they work in an uncomfortable posture and complain of the back-ache it causes.

In some parts of the country, people work standing up with long-handled hoes. This is particularly the case of the Peul people in the north, where the soil is lighter. While soil conditions have certainly affected the evolution of tools and related working posture in the Central Plateau, it is also true that there is today an established cultural attitude that work in the field can only be done properly while bent double. Anything less is laziness. According to one interviewee, the fact that the Peul people, who work standing up, are primarily herders may add to the perception that it is lazy to work upright, for it is common for farmers in many parts of Africa to think of herdsmen as being work-shy.

The Influence of Polygamy

Polygamy is very common in rural areas of Burkina Faso, and it has an effect on the production technology available to women. For example, when a man has only one wife and he uses animal traction, it is very common for him to work his wife's plot for her. But if he has several wives, he seldom works any of their plots, fearing that if he does not finish all of them there would be family strife. Only if the wife of a polygamous husband is going to grow groundnuts on her plot is there any significant chance that he will plough it for her.

To what extent polygamy has an influence on the willingness of a farmer to invest in new technologies is a very interesting – but so far unanswered – question. In simple words, if given the choice, will a farmer 'invest' in another wife or in animal traction? In one scenario, he would marry another wife as a cheap source of labour; in another, he would only marry another wife when he had the real means to do so; and if those means derived from his successful farming, say through using animal traction, more women might benefit from this technology.

Credit

With agriculture mainly at the subsistence level and with low cash incomes, credit is a crucial issue for improving production technology. However, credit is only granted to a farmer when he or she has cultivation rights on a reasonably-sized plot of land. In this, women are at a disadvantage: they are seldom recognized as having cultivation rights because the *land chief* in a village apportions these rights only to men.

In general, unless women have grouped together for a cash crop activity – as they have for horticultural produce in a few areas – or for a commercial activity, such as the processing of farm produce for sale, they have no chance of securing credit. Furthermore, unless women have formed a group for an activity, they have virtually no say in the financial matters of their family. The result is that individual women will almost never seek credit, for they know they would have no control over reimbursing the loan. In fact, if their husbands needed cash when a credit repayment was due, they would be forced to default.

However, there is a broader issue of credit to farmers in the Central Plateau, regardless of whether they are men or women: in such a subsistence-based economy, in difficult soil conditions seriously aggravated by erratic rainfall, not enough regular cash is generated to be able to service and pay back loans. Indeed, a spokesman for the National Agricultural Credit Bank (CNCA) reported that loans for such items as animal traction in the Central Plateau were not economically viable.

Work	Days/year
Application of compost and manure	15-30
Land preparation	20-30
Weeding	60
Harvesting	30

Mechanization Policy and Institutional Factors

In general, the question of manually-operated tools for agricultural production has not attracted significant attention in Burkina Faso. The Agricultural Mechanization Service of the Ministry of Agriculture and Animal Resources is working in the areas of motor-powered mechanization and animal traction, but it has never dealt with manually-operated equipment and has no plans to do so in the future.

In connection with animal traction, the above Service is developing a cheap seeder – copied from a Bolivian model – that can be attached to the plough beam. It is also working to introduce a single-point ripper – copied from Zambia – which, the staff believe, could bring significant benefits in the difficult soil conditions of the Central Plateau. For example, working a plot up and down and across, at the appropriate planting distance between runs, would create a deep planting hole at each intersection, and manure or fertilizer could be applied at each planting point.

The emphasis on animal traction is understandable in the country's circumstances. However, as already mentioned, there are serious constraints to its expansion in the poorer regions due to physical, economic and credit conditions. Indeed, staff of the Agricultural Mechanization Service confirmed that, generally speaking, animal traction in the Central Plateau is not viable in strict economic terms. It may reduce drudgery, but the returns in terms of reliable increased production are insufficient to pay for the investment.

Although there may be other experiences, notably among the numerous NGOs at work in Burkina Faso, the only institution encountered by the team leader and

the APO that has attempted to do anything about manually-operated equipment

Type	Source	CFAF
Plough/cultivator	Built by local blacksmith	20 000-24 000
Plough/cultivator	Imported from Ghana	28 000
Plough/cultivator	Built by CNEA	54 000-56 000

was the National Centre for Agricultural Equipment (CNEA). This is a State-run operation that produces animal-draught implements, carts, pumps and other tools.

Tool	CFAF[2]	Tool	CFAF
Pioche	250-500	Sickle	600
Daba (hoe)	500-1 000	Machete	500-750
Knife	100-150	Row Marker	750-2 500

Its several attempts to introduce manual seeders and plunger type-planters have been unsuccessful.

Attempts to introduce foot-operated water pumps were also unsuccessful. In neither case was there an investigation into the real reasons for the rejections, although it seems from anecdotal evidence that the foot-operated pumps were considered dangerous to women's health during pregnancy, and the force required on the pedal made its use impossible for small children.

There are no institutions in the country with capacity in fields such as ergonomics that could assist the mechanization specialists in developing improved manually-operated tools.

Producers of Agricultural Production Tools

Burkina Faso has no industry that produces tools on a significant scale. Although CNEA produces animal-traction implements, carts, etc., sales are decreasing and none of their ploughs or cultivators were seen in the field (most in evidence were the donkey carts made by CNEA). As mentioned above, CNEA's efforts to introduce manually-operated planters were unsuccessful.

The sole providers of hand tools are local blacksmiths, and all such tools encountered in the field were made by them. Blacksmiths are often concentrated in villages where clusters of them – up to 12 in number – work together.

Blacksmiths are also the main producers of animal-traction implements. All ploughs/weeders seen in the field were produced by blacksmiths, rather than by industrial producers. One imported plough from the Tamale Implement Factory (TIF) in Ghana was seen at a roadside outlet in Yako, but again, none were seen in the hands of farmers.

2. US$ 1 = CFAF 600 approximately (September 1997).

The only hand tools that are mainly imported are machetes from Ghana and Côte d'Ivoire and smaller knives from various countries, mostly China. The imported items were not common to all groups.

"Animal traction makes the difference between day and night!"

Statement during a women's discussion group

"Good things sell themselves."

Statement by men's discussion group

Quality and Technical Considerations

Blacksmiths use traditional techniques: they work kneeling or squatting on the ground, using a traditional forge and a heavy piece of metal – such as a truck crankshaft or half-shaft – driven into a heavy log in the ground to serve as an anvil. By means of these traditional techniques, many blacksmiths manage to produce hand tools that are rather well made and sell for a low price.

The build-quality of hand tools varies from blacksmith-to-blacksmith and seems to depend more on their experience and skills than on the tools and technology available. Thus, the introduction of improved (raised) forges, and items such as Western anvils under a project, does not ensure production of higher build-quality. One group of blacksmiths working with such improved technology was producing tools of a significantly poorer quality than those found in the more traditional forges. The surfaces of their *daba* blades were rough and the thickness was irregular. Greater skills were seen in other blacksmith groups who were producing better-quality items with a lower level of technology.

There are also design deficiencies in animal-traction implements. One group of blacksmiths was making plough bodies to be mounted on the same toolbar as the duckfoot tine. It was not evident how this could be done but, in any case, the toolbar clearly lacked the rigidity needed for ploughing. The construction, dimensions and proportions of the plough bodies were not in accordance with basic requirements for efficient ploughing and would certainly result in poor performance and high draught. There were cases, too, where the bolts used to mount the shares to the frog were not countersunk.

Even if the quality and durability of the tools depend partly on the skill with which they are made, the mild steel plate used for soil-engaging parts is bound to give them a relatively short life. Blacksmiths consider their main constraint to be the limited availability and accessibility of raw materials of appropriate quality.

Overall, for the production of more complicated tools and implements, such as those for animal draught, the village blacksmiths' techniques, equipment, skills and knowledge are insufficient. For instance, they depend on workshops in major towns/villages for welding frames for animal-traction implements. The blacksmiths produce only the soil-engaging parts, mostly duckfoot tines and even wheels.

In short, if blacksmiths are to produce better animal-traction implements, or tools that are more complicated than existing hand tools, and on a large scale, the upgrading of skills, knowledge and equipment is still needed; and even for the hand tools that they are currently producing, improved skills could be beneficial. Past training programmes for village blacksmiths need to be improved, intensified and expanded. However, the fact that animal-traction implements are now being produced, used and repaired without external support shows that the supply and repair chain is viable as it is now, even if the implements are of low quality.

B. What Women and Men Farmers Say

The Practice and Perceptions of Rural People Regarding Production Technology

Hard Work but Effective

Watching women weeding with *dabas* in crops not planted in rows showed that the short handle allows them to make circular, sweeping movements around individual plants. It would be more difficult to get this precise control with a longer handle. And since the user was already bent double, she could use her other hand to shake soil from the roots of the weeds pulled out by the *daba* or to remove any soil that had been piled on to the plants.

Some of the factual information that came out of the FGDs was combined with information from interviews and available literature to provide the foregoing general description of the agricultural production scene in Burkina Faso. In addition, the following specific points emerged from the group discussions:

Time Spent by Women Working in the Field

Many groups stated that they frequently needed to repeat their planting twice, and even three times, when early rains were not followed by full rains.

When groundnuts are grown, the harvest period can extend to as many as 60 days. No specialized groundnut lifters were seen, but a few groups mentioned that they used a duckfoot tine for the purpose.

Renewal of Tools

Hand tools such as the mild steel *daba* are generally renewed on a yearly basis and, in some cases, even twice a year. The *pioche*, made from leaf springs, lasts two-to-three years but needs to be sharpened annually. Locally-made ploughshares are normally replaced every other year. Sickles last up to 10 years, but with several changes of the wooden handle. Knives often 'get lost by the children', but if not, they are replaced every two-to-three years.

Where Tools are Purchased and At What Cost

Tools are almost invariably bought from local blacksmiths. The figures in the following table provide an overview of the prices paid by farmers for their tools, as well as prices obtained from dealers and industrial producers. Prices in the area around Koudougou were generally somewhat higher than those in the Yako area, although there were also differences associated with the particular type of implement. For example, the most expensive *daba*, ironically dubbed the 'deluxe model' by the research term, was more curved in the blade and it was made from heavier-

gauge material.

3. See, for example, the Buyer's Guide on Tools for Agriculture, produced regularly by Intermediate Technology Publications Ltd, 9 King Street, London WC2E 8HN, UK. This catalogue describes simple equipment produced by hundreds of manufacturers all over the world.

Hand Tools

Animal Draught (Donkey)

Other Tools and Implements Known by Groups but Seldom Owned by Group Members

Groups identified seeders, long-handled hoes for removing manure/compost from pits and for digging the holes for it in the fields (*pioche de zaï*), power-tillers and tractors.

The only variation on a traditional implement – being used in a different part of the country and mentioned by groups – was the long-handled hoe of the Peul (Fulani) people in the north. No value-judgement on this was expressed by the groups, but from numerous conversations with people who had an intimate knowledge of the country, it seems that the Mossi people believe it is impossible to work properly standing up. The same people also commented that the soil in the north is lighter, calling for less effort and not needing the purchase that is available through a short-handled hoe.

Who Decides What Tools to Buy

The groups invariably stated that it is the man who decides on the tools to be bought and in most cases that he buys them. Some women said they might help with the purchase, especially if they had some income from their individual plots. However, it is quite possible that there were socio-cultural reasons for people saying that the full responsibility for decision-making lay with the men, for in many societies it would be indecorous for women to state openly that they played a role in decision-making with their husbands. This would be the case even when, behind closed doors with their husbands, they contributed significantly in the discussions leading to decisions.

Improvements That Women Would Like for Their Tools

The women stated that their hand tools were heavy, fragile and tiring to use. They complained of pains in the back and rib-cage during and after their use, to the point where, after a long day in the field, they had difficulty sleeping. Of the 36 women's groups involved, only one said they would like longer handles on their tools. When pressed as to why they did not have them since they were made in the village, they replied that their husbands would think them lazy if they worked standing up straight. The women also complained that hand tools were slow and time-consuming compared with animal traction.

Overall, the women did not identify any practical improvements to their hand tools or propose that improvements might be possible. Rather, they almost unanimously stated that their problems could only be solved through widespread use of animal traction with donkeys. During several discussions, the women stated that they would need three animal-traction packages per group. With these, they would be able to service the needs of all their members.