

Women's access to animal traction technology: case studies from Darfur, Sudan, and Turkana, Kenya

by

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Abstract

This paper compares and contrasts the experiences of two projects—one in Sudan and the other in Kenya—which have, as part of a wider work programme, attempted to introduce animal traction technology. In both cases there has been an explicit attempt to ensure that women, who are traditionally responsible for the majority of cultivation tasks, are provided with the necessary skills and knowledge to access this new technology. Project successes and failures are described and discussed. The paper concludes that local culture and the context in which innovation takes place are crucial factors that need to be addressed if, in patriarchal societies, women are to gain access to animal traction technology. The importance of understanding technological innovation as a social process is stressed.

Introduction

This paper examines the experience of two development projects which have, as part of wider programmes of work, attempted to ensure that women have access to animal traction technology. Although these two projects—one in Sudan and the other in Kenya—were in very different cultural settings, there are many similarities between them. The projects' experiences are compared and contrasted to draw lessons that may be applicable to other projects. The paper briefly examines each project's approach to draft animal technology and looks specifically at their experience of attempting to that ensure women have access to this.

In both projects there was, on paper, a firm commitment to ensuring that women cultivators had equal access to project extension messages. Both projects worked through local institutions as a means of ensuring community participation in decision making and of working towards long-term sustainability. In both cultures most cultivation work is done by women. Both are patriarchal societies, where men are far more likely to take the lead in any new initiative. Men will also take the lead in any interchange with people from outside the community. In both cases the use of animal draft for cultivating was an innovative practice.

Kebkabiya, Darfur, Sudan

Kebkabiya Area Council lies in a remote part of Sudan's western state of Darfur. The majority of the population practise rainfed subsistence agriculture, with millet being the major crop. The Oxfam funded Kebkabiya Smallholders' Project works mainly with rainfed cultivators.

Project work started in 1986, developing out of a relief initiative following the famine of 1984/85. In its early days the project concentrated on establishing seed banks in a number of central villages as a means of increasing food security. However, the project soon became involved in providing a small level of agricultural extension.

To facilitate the operation of the seed banks and, later, other activities, the project worked through local committees in several villages that were natural centres of rural life. These committees consisted of elected members representing the central village and outlying hamlets.

In some of the areas the women formed separate committees, as they felt that they were unable to make their voices heard at meetings where men were present. In other centres the committees comprised both men and women. The project did not have a fixed policy on this, but rather preferred to allow women to make up their own minds on the institutional structure that they felt was most appropriate and would best serve their needs.

Despite men's tendency to dominate relationships with project staff, they have never objected to the formation of women's committees or to the project's attempts to target women specifically.

The committees were able to articulate farmers' priorities to project staff and, as the project expanded, it began to try to address a number of these. Assistance with introducing draft animal power was one of these priorities.

The majority of farmers had never used draft animals in their fields. A few of the wealthier families had used camels for plowing, but most farmers could not afford to use these expensive

animals. Donkeys, which are widely used as beasts of burden, were chosen as an alternative draft animal. Nearly all households own at least one donkey.

Donkey plows

Early work with draft animal technology concentrated on identifying and developing suitable tillage equipment. Because of the combination of low household cash incomes and very poor communications with the remainder of the country, it was felt important to develop equipment that could be made by local village blacksmiths.

Experiments with various designs were initially carried out on the project's three demonstration plots. Farmers were also encouraged to try plows in their own fields and their experiences were fed into the design process. Training courses in plow maintenance, cultivation techniques, donkey training, husbandry and harnessing were held throughout the project.

By the end of 1988 the project had identified two possible alternative plow designs, which were being manufactured by blacksmiths and sold to farmers. The demand was very high and the project could not ensure that enough plows were manufactured to meet it. Despite the considerable support provided by the project, a survey in 1989 indicated that very few women had any knowledge of plows or had seen them in operation at the demonstration sites. It was clear that the plows were being used predominantly by men, and hardly any women used or owned plows. This is despite the fact that women traditionally do the majority of cultivating.

Involvement of women

The project was explicit in its determination to understand and take account of the particular situation facing women. However, this proved to be far easier to state on paper than to put into practice.

Merely talking to women proved difficult. It was easy to sit and talk with men, who dominated all contacts with outsiders (eg, project staff). Even when women were specifically addressed by female project staff, progress was slow. Although Arabic is used as a general language, many women do not speak it, but use their own language. To complicate matters further, there are various ethnic groups living in the project area, each with their own language. Women's lack of fluency in Arabic reflects their culturally determined role. Women travel about far less than men, and women are far less likely to receive formal education than men (and formal education is limited for both sexes). Female project staff who initially worked on the

project came from other parts of Darfur. This reflected the original policy of the project to employ staff with formal educational backgrounds (nearly all were graduates). The female project officers identified their own lack of local language skills as a major constraint to progress with the women's groups in general. This general difficulty was reflected in the lack of success in reaching women with the project's animal traction programme.

Female extension staff

In an attempt to overcome this constraint, two local women were recruited as "women's project officers". Although neither of these were graduates, they did speak *Fur* (the local language of one of the larger ethnic groups in the project area); in the light of experience, this was felt to be more important than formal qualifications. However, their own lack of training and experience in either community development or agriculture slowed the pace of work.

Employing new female staff members did not immediately improve the situation. The new female staff initially suffered from another form of prejudice on the part of some project staff. The problem was not so much that they were women, but that they did not have formal training.

The overall thrust of project policy was not to push for radical change in the cultural make-up of the communities with which it worked, but merely to ensure that women had equal access to any extension messages or other services offered by the project. To do this adequately, it was necessary for the female project officers to understand all aspects of project work. The agricultural extension messages were simple, being based around improving crop rotations, contour cultivation and using draft animals for cultivating. However, there was resistance from some staff members to providing this basic knowledge to the newly appointed female staff. It was claimed at first that, because these two women had no formal training in (for example) agriculture, they could not possibly be rapidly trained.

These problems were raised during routine project management meetings and, over time, were resolved through discussion. This has resulted in greatly improved relationships among the project staff and should enable the female staff to work more effectively in future.

Unfortunately, drought has caused major crop failures during the past two seasons and this has disrupted the project's programme of work. It still remains to be seen if the project is any closer to

providing women cultivators with greater access to draft animal technology.

Lokitaung, Turkana, Kenya

Lokitaung Division is in the north-east corner of Kenya's remote Turkana District. The Turkana people are pastoralists who supplement their diet with cereals: some have traditionally cultivated sorghum in the wet seasons.

The Lokitaung Pastoral Development Project (LPDP: formerly the Lokitaung Water Harvesting Project) has been active since the early 1980s. Animal draft had been mentioned in the original project proposals and has been an important component of project work since 1985.

As in Kebkabiya, work at LPDP developed out of relief initiatives after widespread livestock epidemics in 1979–81 devastated the Turkana's pastoral economy. Following the famine a major relief effort was launched and, as part of this, Food for Work (FFW) was used in a widespread way throughout Turkana. The construction of bunds to capture run-off was a common form of "work" that was used on various projects. During its early days, when the LPDP was concentrating on improving sorghum gardens by incorporating bunds, the project also used FFW.

Earth-moving with oxen-drawn scoops

Considerable earth movement is necessary to construct bunds and level the gardens. The heavy workload imposed on people, especially women, in carrying loads of earth on their heads in *karias* (metal bowls), prompted project staff to introduce draft animals for earth-moving.

Although the Turkana own many animals, they had never used cattle or donkeys for draft before. They would not, initially, use their own animals and so the project purchased oxen, and also provided scoops and scraper boards.

Although the "new" technology was adopted fairly rapidly, it soon became clear that the draft animals were being monopolised by the men, while the women continued to have to move earth on their heads.

By this time, project staff were increasingly concerned about the effect of FFW on people's perceptions of the job they were undertaking. It appeared that people were alienated from the purpose of garden construction, feeling they had little control over decisions and were working merely for food payments. However, with so much FFW being offered by neighbouring projects, it was difficult for the project to move away from FFW

completely. People had expectations of receiving food for any activity. (The negative effect of FFW on project activities, and attempts to overcome these by moving away from it, are not discussed in this paper.)

The project then changed the way in which FFW payments were made. First, FFW rates were lowered. Then, instead of FFW payments being calculated on the amount of earth moved, individual contracts were made with garden owners. Food payments were made once a garden was completed. Although this change was made in an attempt to overcome some of the negative effects of FFW, it had an unintended effect on the use of draft animals. Gradually, the men stopped monopolising the draft animals and women were able to use them as well.

It appears that a change in perception of the usefulness of draft animals was triggered by the change in the way the work was organised. While there were relatively large payments of food for moving relatively small amounts of earth, there was no real incentive to use animal draft. As FFW rates dropped, more interest was shown in animal draft. However, there was still little incentive for men to share the draft animals with women. Although the removal of drudgery from the work was appreciated by men, they had used their dominant position in their society to keep the technology for themselves. The fact that the women had to work very hard was not regarded by the men, who controlled decision making, as a sufficiently serious problem to justify widening access to the "new" technology. However, once contracts with individual gardeners were made, it became worthwhile for everybody to work in the most efficient way to ensure that garden construction took the minimum length of time. This meant that as many people as possible should use animal draft power for rapid earth-moving. It was then that women's access to draft animal technology increased.

Project work on draft animal technology continued, identifying and developing suitable implements and training local blacksmiths to manufacture them. Animal draft was introduced for cultivating as well as for earth-moving, as it was felt that the use of draft animals merely for earth-moving was unlikely to be a sustainable practice. As no one was prepared to use their own oxen, the emphasis moved towards the use of donkeys as draft animals. Turkana women traditionally control the use of donkeys as pack animals.

Anthropological study

At the same time, an anthropologist was working with project staff on a study of women's roles in

Turkana society. The anthropologist was able to feed results from this study directly into project policy through informal conversations with the project coordinator as well as through more formal written reports. It is also possible, although untested, that the anthropologist increased the women's self-confidence merely by treating many of their concerns as valid areas for attention and possible change.

One of the major impacts of the anthropological study was the use of women as extensionists in garden cultivation. Acknowledging women as the people who traditionally did most of the cultivating, the project relied on specially trained women to show others how to use draft animals. Using extensionists who have a good understanding of the traditional role of women in gardening, and who are sympathetic to their needs, has resulted in a situation where a high proportion of women have at least some experience of using draft animal technology.

The anthropological study also resulted in elected women representatives sitting on the local Management Board that nowadays runs the project. This ensures that the voice of women is heard at the senior decision-making level and this in turn reinforces their access to all activities promoted by the project, including animal traction technology. The animal draft component of the project was the first activity that women became involved in and it served a valuable secondary role in providing a mechanism for empowering women and has resulted in their active participation in other project activities.

Very recently, the FFW component of garden construction has ceased. This will allow the project to develop more responsive initiatives to traditional gardeners in the area. The real test of the value of the project's approach to draft animals will be to see if the new technology can "escape" the confines of the project and its members and become available to the women who tend the traditional sorghum gardens.

Conclusion

What lessons can be learned from these two case studies? First, it is clear that local culture needs to be taken into account when introducing a new technology. In both cases, the patriarchal nature of the society required special attention to be given to the situation facing women. One means of addressing this problem is by ensuring that the

project is able to interact with women in a suitable fashion, for example by having staff that speak the local language (as in Kebkabiya), employing female extensionists (as in Lokitaung) and by having women represented in the decision-making forum (as is done on both projects). The experience in Kebkabiya also draws attention to the need for all project staff to be supportive to this process, even when it challenges entrenched ideas of professionalism.

It is worth noting that in neither of the examples have men objected to the project targeting women in specific situations. The problem of ensuring equitable access to a new technology stems instead from the general status of women in these patriarchal societies, where men dominate decision making.

Second, the context in which a new technology is introduced may also have a great bearing on the manner of its adoption. The LPDP experience, of the increased access of women to draft power following a change in the way FFW rates were calculated, is an example of this. It also provides an illustration of how, when the relative returns to labour change, new practices become attractive.

While progress at Kebkabiya would appear to be slower than at Lokitaung, it must be realised that there have been considerable disruptions to work on this project over the years. These disruptions have been due to factors beyond the project's control, such as inter-tribal fighting, widespread banditry, and successive droughts and the resultant harvest failures. It is fair to say that in both projects there is still considerable room for improving women's access to draft animal technology.

The underlying message in these case studies is that technological innovation is a social process. It is not merely a matter of providing technically suitable solutions to a given technical problem. While it is important to get the technical side right (plows that do not work well or are difficult to maintain are unlikely to be adopted), it must not be forgotten that technical innovations come about as a response to on-going social processes. Projects attempting to introduce new technologies must ensure that they are taking these social factors into account. In both examples, the issue of women's access to draft animal technology had little to do with the design of implements, but a great deal to do with the approaches adopted to promote the new technology.