

Post-cultivation constraints to increasing productivity using animal traction in The Gambia

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Abstract

Using animal-drawn land preparation implements but lacking harvest and post-harvest processing equipment, farmers tend to cultivate more land than they can harvest and process. This situation leads to crop losses and low profitability. Improved information exchange will allow people to gain from the experience of those Third World countries that have surmounted these constraints.

Introduction

This paper focuses on the unmechanized stages of agricultural production in The Gambia. Animal traction has been used in The Gambia since the 1940s. Gambian farmers have mastered the technology for primary cultivation, planting and weeding. The SISCOMA/SISMAR Sine Hoe (*Houe Sine*) implements, which were recommended for adoption in the mid-1970s, have been a useful mechanization package. Unfortunately they only covered the initial stages of agricultural production. No provision was made in the package for the equally crucial subsequent stages of harvesting and post-harvest processing which to this date remain unmechanized.

Animal traction users

Surveys conducted on the use of animal traction technology in The Gambia have revealed that the adoption of the Sine Hoe packages has been uneven but widespread. As animal traction was adopted, more land was cultivated and yields increased.

Rice production

Women are the main producers of rice which is the staple food in The Gambia. They also carry out the heavy tasks of harvesting and processing their rice crops. Use of the mechanization packages both in upland and rain-fed areas has extended the cultivated areas and increased the rice production. Women farmers are tempted to cultivate too large an area because of the relative ease with which their land is prepared and seeded. At the time of harvesting and processing the crops, they find themselves short of appropriate harvesting equipment and are forced to resort to traditional methods which are slow and arduous, and wasteful of grain.

Elite and peasant farmers

The elite farmers with tractors or several pairs of oxen are also prone to crop more land than they can cope with at harvest time because they are better mechanized. Since mechanical harvesters in general are not available, these farmers are forced to fall back on the use of casual labour to harvest their crops. Traditional harvesting is costly and extremely slow, and unharvested crops are subjected to the elements and pests. Post-harvest processing presents further constraints as few farmers possess rice threshers, dehullers or cereal mills.

Smaller-scale peasant farmers have more problems to achieve timely cultivation. These farmers understand that the more land they cultivate, the greater the area they have to weed. Weeding can be very arduous and needs

to be done with speed. Such farm families normally possess a Sine Hoe plow and tine cultivator, a Super Eco seeder and a pair of work oxen. Some have groundnut lifters. Groundnuts are normally harvested, processed, bagged and sold by male members of farm families. In the case of cereals (millet and sorghum) men and women join forces to fell the stands and harvest the crops, thereafter any further processing is carried out by the women.

Previous schemes

During the pre-independence period animal traction was promoted in some African countries through viable research and development programmes, often designed to encourage production of export crops. African governments inherited the institutions and infrastructures left behind and these were later used as research centres for development of animal traction and manufacture of farm implements. This appears to have been a useful means of facilitating agricultural mechanization in both anglophone and francophone

countries, including Guinea, Mali, Senegal, Sierra Leone and Tanzania.

Conclusion

The constraints discussed above are prevalent in many Third World countries. However it appears that some countries, such as China, India and Pakistan, may have overcome some of these constraints. It is to be hoped that sharing of experience between countries will help identify solutions and encourage faster development.

Résumé

La plupart des fermiers utilisant la traction animale pour préparer leurs terres, et démunis d'équipement de récolte et de post-récolte, tendent à cultiver plus qu'ils ne peuvent récolter et traiter. Cette situation maintient une rentabilité basse et un pourcentage de pertes élevé. Les équipements nécessaires demeurent inaccessibles aux budgets des petites exploitations. L'amélioration des communications et des échanges d'information devrait permettre à de nombreux projets de bénéficier de l'expérience des pays du tiers-monde qui ont surmonté ces problèmes.