

Hire services by farmers for farmers

FAO Diversification booklet 19



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Preface

The purpose of the FAO Diversification booklets is to raise awareness and provide decision support information about opportunities at farm and local community level to increase the incomes of small-scale farmers.

Each booklet focuses on a farm or non-farm enterprise that can be integrated into small farms to increase incomes and enhance livelihoods. The enterprises profiled in the FAO Diversification booklets are suitable for smallholder farmers in terms of resource requirements, additional costs, exposure to risk and complexity. The products or services generated by the enterprises are suitable for meeting demand on a growing, or already strong, local market and are not dependent on an export market.

The main target audience for these booklets are people and organizations that provide advisory, business and technical support services to resource-poor small-scale farmers and local communities in low- and middle-income countries. It is hoped that enough information is given to help these support service providers to consider new income-generating opportunities and how these might enable small-scale farmers to take action. What are the potential benefits? What are farmer requirements and constraints? What are critical 'success factors'?

The FAO Diversification booklets are also targeted at policy-makers and programme managers in government and non-governmental organizations. What actions might policy-makers take to create enabling environments for small-scale farmers to diversify into new income-generating activities?

The FAO Diversification booklets are not intended to be technical 'how to do it' guidelines. Readers will need to seek more information or technical support, so as to provide farmer advisory and support activities relating to the introduction of new income-generating activities. To assist in this respect, each booklet identifies additional sources of information, technical support and website addresses.

A CD has been prepared with a full series of FAO Diversification booklets and FAO technical guides, together with complementary guides on market research, financing, business planning, etc. Copies of the CD are available on request from FAO. FAO Diversification booklets can also be downloaded from the FAO Internet site.

If you find this booklet of value, we would like to hear from you. Tell your colleagues and friends about it. FAO would welcome suggestions about possible changes for enhancing our next edition or regarding relevant topics for other booklets. By sharing your views and ideas with us we can provide better services to you.

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Acknowledgements for the series

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Introduction

Rural people depend heavily upon agriculture either as farmers, casual labourers, workers in agro-based industries, traders in agricultural produce or as hire service providers. One of the principal causes of poverty among smallholder farmers is the lack of farm power (labour saving tools and equipment, animal and mechanized power) and importantly access to it. Farm power embraces all forms of power inputs in agriculture and the commercialization of its

products, ranging from human inputs, animal traction, engine-driven technologies, together with associated tools and implements (FAO, 2005a).

Rural poverty is exacerbated by smallholder farmers not being able to expand and/or intensify their area of cultivation of food and cash crops. Lack of availability and access to farm power by smallholder farmers is a key factor that leads to a decline in production and consequently farm output. Timeliness of farming



FIGURE 1 Farmers in Bolivia preparing land to cultivate potatoes on ancient Inca terraces. They use the same tool (*chaquitacla*) as used by their ancestors
(Photo: FAO/22400/ R. Faidutti)

operations can also have a critical effect on crop yields. Delays in planting after the optimal date can amount to yield penalties of up to one percent per day of delay.

■ ***Hire services as a smallholder enterprise: common hire services***

Hire services, be they rental, custom or leasing services, can commonly be found in many countries and concern production, harvest, post-harvest and marketing operations. The most popular hire services encountered are those devoted to:

- Land preparation
- Planting
- Spraying

- Threshing
- Shelling
- Transportation

In rural areas of many developing countries, consumers of hire services are typically smallholder farmers within village communities cultivating less than one hectare of land. Providers of hire services in this context are primarily farmers themselves who have invested in equipment, both for their own use and because they have identified a potential for hiring services to their local markets. In more sophisticated settings with more rigorous demands and better rewards, specialised service providers commonly emerge.



FIGURE 2 *Rice threshing by machine in the United Republic of Tanzania*
(Photo: FAO/17672/ A. Conti)

Realistically the option that many small-scale farmers have is hiring power services from neighbours or service providers. Hiring the power

service spreads the cost and brings the animal or engine powered operation into the realms of financial possibility for many small-scale farmers.

CASE STUDY 1 Animal traction as a hire service in Eastern and Southern Africa

Animal hire services are commonly found in many communities in Eastern and Southern Africa. Between 30 to 60 percent of farming communities in the region benefit from such hire services, mainly as they can access technology (oxen power). For example in the Sumbawanga district in the United Republic of Tanzania 98 percent of rural households use oxen in ploughing, but oxen are owned by only 30 percent of households. This means that animal hire services have a large market to cater for and at the same time provide benefits to the local community.

It has been proven that using animals for hire services in the realm of traction is more profitable and the payback period of investment is quicker when animals are hired out. Moreover small-scale farmer hire service enterprises have recorded increases in farm incomes of more than 50 percent.

Source: Adapted from Shetto, R. M., Mkomwa, S. & Simalenage, T.E. 1999. Entrepreneurship in animal traction: empowering rural initiatives, ATNESA

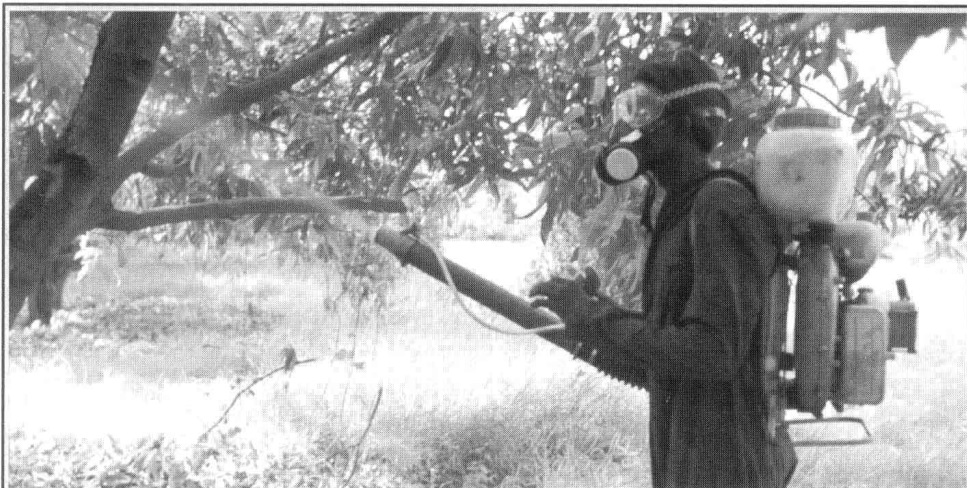


FIGURE 3 *Spraying a mango tree against pest and disease attack using a motorized knapsack sprayer*

(Photo: FAO/9528/ F. Mattioli)

BOX 1 Paying for hire services

While 85 percent of the farmed land in Njombe District, United Republic of Tanzania, is ploughed by oxen, only 40 percent of the households own cattle. About half of the non-oxen owning farmers acquire the services by cash payment while the remainder pay in kind by herding the oxen and cattle of the service provider, deferred payment in kind as crops, as an operator for the oxen in the fields of the ox-owner or in other people's fields.

Source: Adapted from Shetto, R. & Owenya, M (Eds). 2007. Conservation agriculture as practised in Tanzania: Three case studies, CIRAD, FAO, ACT, RELMA, World Agroforestry Centre

Smallholder hire service enterprises in many communities have, for a long time, been characterised by barter trade where the service is offered in exchange for a particular service or commodity or sometimes based on returning a particular favour. It is only recently where some business-minded households, especially those with oxen, started attaching monetary value to the service rendered as illustrated in Box 1.

■ Opportunities for improved livelihoods

Hire service enterprises offer many opportunities for smallholder farmers in rural areas to diversify and increase income sources. Small-scale farmers can make their cultivation practices more efficient by using hire services. This can lead to reducing costs and thus increasing income. They can raise the intensity of cropping

patterns and/or expand their area of cultivated land, plant more crops and generate more income and provide for more food security for the farm family. Hire services can reduce the drudgery of associated farm work, especially for power-intensive tasks. This is particularly important in lowland tropical areas where high temperatures and humidity render fieldwork arduous (FAO, 2008). Hire services can reduce the labour time spent on farming operations that can be performed by animals and machines, hence enabling more time for small-scale farmers to carry out additional operations. The use of hire services also improve efficiencies in both harvest and post-harvest operations and reduce crop, food and income loss as well as speed up marketing operations enabling faster cash inflows to the farm business.



FIGURE 4 Shelling maize by using a machine considerably reduces drudgery and time.
(Photo by B. Sims)

CASE STUDY 2 Wheat threshing in Nepal

In the 1990s winter wheat was threshed communally in the Nepalese terai plains region. The machine used was a heavy spike-toothed thresher which was owned by a local large-scale landowner and operated with 7 hp diesel engine (also used on an irrigation pumpset). It was a common sight to see scores of village farmers with their stacks of wheat surrounding the communal threshing area and waiting their turn to thresh their crop. Wider use of the threshers encouraged local manufacture and now it is common to see mobile threshing units travelling to the villages and obviating the need for costly transport to a central threshing area. The numbers of threshers in use have grown from 19 000 in 1991 to over 90 000 in 2010. It is estimated that over 50 percent of these are manufactured in Nepal and, of course they have opened up great potential for local entrepreneurs. In the future it may be that the increasingly popular tractor pto driven 25 hp threshers will be the preferred option as they, too are mobile and have a greater threshing capacity. This will open doors for a new breed of service providers.

Source: Justice, S. & Biggs, S. 2010 Rural and agricultural mechanization in Bangladesh and Nepal: Status, processes and outcomes, In FAO.2012. Farm mechanization for development, FAO (Unpublished)

CASE STUDY 3 Two-wheel tractor transport in Bangladesh

With the advent of a major increase in the import of Chinese two wheel tractors into Bangladesh in the 1990s, the opportunities for offering transport hire services became apparent to rural smallholder farmer entrepreneurs. Local artisans have entered the market and manufacture trailers for the imported tractors. Today more than 40 percent of the tractors are equipped with locally-made transport trailers with capacities of between 1 and 2 tonnes.

The trailers are, of course used on their owners' own farms during the cropping seasons but are an important complementary income earning source when used for transporting a wide range of agricultural and non-agricultural goods in rural and peri-urban areas. The transport of non-agricultural goods is, naturally, an activity not tied to the agricultural calendar and can be undertaken at otherwise slack times.

Source: Justice, S. & Biggs, S. 2010 Rural and agricultural mechanization in Bangladesh and Nepal: Status, processes and outcomes, In FAO.2012. Farm mechanization for development, FAO (Unpublished)

■ **Market potential**

There is a growing market potential for smallholder farmers to offer hire services to other farmers and to the wider community in many countries in the world. In the case of sub-Saharan Africa, 65 percent of farm power still comes from manual labour and is tied to the back-breaking use of the hand-hoe. This is followed by 25 percent provided by draught animal power and only 10 percent by engine power (FAO, 2005a). The trends in Asia and Latin America are quite the reverse where tractor numbers have grown rapidly to replace both manual labour and draught animal power (FAO, 2008). All this indicates that there is market potential for small-

scale farm hire service providers, particularly in Africa.

Commonly farm families tied to manual labour are in such a situation because they find it hard to accumulate the capital required to invest in power sources and farm machinery themselves. This means that they are all potential customers for small-scale farmer entrepreneurs who recognize and exploit such a market opportunity.

The market potential for hire services will naturally depend on, or will vary with, purchasing power which in-turn will depend on crop yield trends, price fluctuations, off-farm income and remittances to farmers from relatives.

CASE STUDY 4 The rental market for farm power in Bangladesh

In the 1970s Bangladesh was amongst the poorest and least mechanized agricultural economies in the world. In 2010 this situation has been completely reversed and the country has one of the most highly mechanized sectors in South Asia – 80 percent of all land preparation is mechanized. The work is mainly performed by 300 000 small 2 wheel tractors. Sixty percent of the agricultural land is irrigated by one million small diesel-powered pumpsets and the wheat and rice is threshed by small, engine-powered, machines.

Land holding areas are small (average less than 2 ha) and there is much inequality. Small-scale equipment is generally owned by rural entrepreneurs. They will do their own work (sometimes even hiring in specialist services) and hire out their own machines when that work is completed. Specialist markets have developed for tractors, threshers, pumpsets, crop processing and other services as a result of the now ubiquitous spread of small diesel engines.

Source: Justice, S. & Biggs, S. 2010 Rural and agricultural mechanization in Bangladesh and Nepal: Status, processes and outcomes, In FAO.2012. Farm mechanization for development, FAO (Unpublished)

CASE STUDY 5 Hire services in central and southern Iraq

In southern and central Iraq hire services are commonly provided by the private sector solely by farmers on a neighbour to neighbour basis. Current estimates are that 51 percent of farmers use their own equipment and 49 percent use a contractor for undertaking harvesting and seedbed preparation.

Some issues of the hire services sector are its informality and spare parts acquisition for machinery. Since hire services are based mainly on farmer to farmer transactions they are not recognized or represented by an association. The supply of spare parts, which was once a problem for an aging fleet of Iraqi tractors has partly been resolved by the intervention of the private sector. In the past, the government imported spare parts and distributed them through its warehouse network. However this arrangement has been replaced by an agency system whereby the private sector is involved in the distribution process. Current estimates are that 33 percent of farmers purchase their spare parts requirements through the agency system and 67 percent from the local market.

Source: FAO.2003. Towards sustainable agricultural development in Iraq, by F.K. Bishay, Rome

The market potential for agricultural hire service provision also creates opportunities for support service enterprises. For example, repair and maintenance of implements, the veterinary services

BOX 2 The importance of support services for successful service provision

According to a recent study commissioned by FAO in Kenya hire services in the two districts of Laikipia and Nakuru are offered by public sector, private sector and NGOs. Agricultural Machinery Services (AMS) is the government arm (under the Ministry of Agriculture[MOA]) offering mechanization services with about 20 branches country-wide, including one in each of the two districts. Of the hire businesses interviewed, AMS had been in the industry longest but there had been very little penetration by the service to target smallholder farmers. With wide geographic coverage, limited capacity and understaffing, the ability of AMS to offer timely services to their clientele was found to be close to impossible.

The study established that in addition to the MoA initiative, there were private entrepreneurs who were involved in the hire service provision in specific areas such as harvesting, land preparation, weeding and planting. The study concluded that while there was a huge untapped market potential for hire service provision in rural areas, lack of or insufficient support services, high poverty levels and little awareness are critical constraints.

Source: Adapted from FAO. 2006b. Business management skills of agricultural farm related entrepreneurs. A case study of Laikipia and Nakuru districts, by M. Mbaka, P. Ngeli, & T. Apina, Rome (unpublished)

for draught animals and livestock markets. The proximity of repair and maintenance services and the available skills for equipment operation are important initial considerations. In many circumstances, small-scale farmer entrepreneurs have to travel (often by foot) long distances to access support services as a result of poor infrastructure in rural areas.

The presence of support services and necessary infrastructure are an important catalyst for the establishment and operation of hire service enterprises in the smallholder context.

■ Purpose of the booklet

This booklet has the primary purpose of creating awareness about the potential for profitable hire service provision by smallholder farmers to other farmers. It focuses on the most popular hire services found throughout many countries, but also considers hire services which have the potential to become popular.

The experiences described in the booklet are based on situations encountered in Africa, Asia and Latin America and reflect the solid potential of hire services as a viable and

profitable enterprise for small-scale farmers.

Policy-makers need to be aware of this potential and they are the principal target of this booklet. Others will also derive

benefits from the information supplied; key stakeholders will be national extension services, rural development NGOs and even farm machinery manufacturers and suppliers.