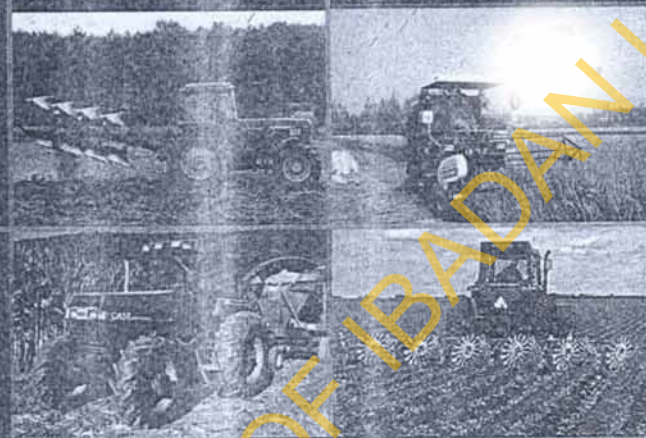


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**MECHANIZATION FOR SUSTAINABLE
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ASSESSMENT OF KWARA STATE TRACTOR HIRING UNIT

By

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ABSTRACT

A survey was undertaken to assess the Kwara State Tractor Hiring Unit using fleet of equipment, personnel and workshop facilities, and its impact on the farming populace in the state as assessment criteria. The study adopted the use of a questionnaire and interview schedules, focused group discussion and personal observation for data collection. Records available at the headquarters of the unit provided additional source of information.

The unit has a total of 38 tractors which comprises of 29 Ursus 5312, six New Holland 5635, three heavy duty tractors, 22 disc ploughs, seven mouldboard ploughs, 18 disc harrows, eight disc ridgers, 10 trailers, two rice shellers, five multipurpose shellers, two maize shellers and one four-wheel drive jeep car. Majority (81%) of the equipment were functional, a few (13%) required minor repairs to be used on the farm and 6% were scraps. The unit has neither a workshop nor an implement shed thus exposing the machinery to inclement weather. Personnel in the unit are adequate but the maintenance culture is service driven. There has been a general increase in farm sizes since the introduction of the unit even though only a few farmers have been able to access the services rendered by the unit. Several reasons accounted for the limited beneficiaries from the activities of the unit prominent among which are inability to raise the cost of hiring, delay in service delivery, remoteness of farms and small holdings.

The unit has great potentials for improving the agricultural productivity of the state if the equipment available can be effectively utilized. Towards achieving this, it is recommended that a functional workshop and implement sheds be provided at the headquarters and area offices, the activities should be decentralized while adopting a regular maintenance culture. As an agency of the government, there should be adequate funding by the state government.

Key words: Tractor Hiring, Farm machinery, farm holding, Kwara State.

INTRODUCTION

Prior to the advent of the oil boom of the 1960s, the Nigeria economy was substantially agriculturally dependent. Cash crops such as cocoa, cotton, groundnut and livestock products contributed more than 70% of total exports. Various food crops were also cultivated in sufficient quantities to meet the demand of the teeming population and Nigeria was one of the food self-sufficient countries of the world (Ikpi and Ikpi, 1998; Ado, 2005; Opara, 2006).

The discovery and exploration of crude oil as a more lucrative income earner for the country was the first major setback to the agricultural sector. The introduction of the nationwide universal free primary education in the early 70's and the extension of the free education to the secondary school level in the south western part of the country in 1979 resulted in the withdrawal of the active labour force from the agricultural sector. There was massive rural-to-urban drift made up mainly

of the younger generation which left the farms in the hands of the aged. There was a drastic decline in both cash and food crops production and a country which was a major exporter of various agricultural crops became a major importer of even food crops such as rice and beans, and livestock. The expansion of the area under cultivation was contemplated as a possible means of addressing the food crisis situation and return the country to its former status as a food self sufficient country. If the target of increased area under cultivation was to be achieved with a declining labour force on the farm, then the productivity of the available manpower must be increased. Drudgery in the execution of various farm operations was also acknowledged as a major discouragement to the youths taking up farming. Mechanization of the farms which reduce the drudgery was considered as a possible solution hence the introduction of the tractor and implements into the Nigerian agricultural system (Anazodo *et. al* 1989, Hamidu and Simon, 1999; Haque *et al*, 2001)

Tractor agriculture which started in a few isolated locations in the country have spread to all nooks and crannies of the country and every state in Nigeria at present maintains a tractor and implement unit aimed at helping the Nigerian small scale farmers improve their farmsizes. Over two decades of the massive introduction of tractors into the Nigerian agricultural system, smallholding farms are still prevalent in many farming communities in Nigeria while a number of activities that can be mechanized are still carried out manually.

The main thrust of the work reported in this paper was to assess the performance of the tractor hiring unit of Kwara state, a state with a climate and soil conditions that are suitable for the production of a number of crops and various livestock.

METHODOLOGY

The Kwara State Tractor Hiring Unit (KWSTHU), has its headquarters at Ilorin, the state capital. Towards ensuring effective service delivery to the nooks and crannies of the state, the activities of the unit are executed through 12 area offices spread among the four zones of the state. The catchment areas of each zone and the area offices are as presented Table 1.

Table 1: Zones and Area Offices of the Kwara State Tractor Hiring Service

Zones	Catchment Local Government Areas	Locations of Area Offices
A	Baruteen, Kaiama.	Kaiama, Okuta.
B	Patigi.	Patigi, Lade, Saragi, Lafiagi.
C	Asa, Ilorin East, Ilorin West, Moro, Ilorin South.	Ilorin Farm Centre, Songa, Bode Saadu.
D	Ekiti, Ifelodun, Oke-ero, Irepodun, Offa, Oyun, Isin.	Erin-ile, Omuaran, Obbo-ile.

The information of interest in this study included inventory of farm tractors and implements, and their conditions; farm holdings, increment in farm sizes, maintenance culture adopted, service charges and the unit responses to request for services. These pieces of information were obtained through the use of structured questionnaire, focus group discussion, interview schedules and personal observation.

Sixty questionnaires were administered to small scale farmers randomly selected in each of the zones, making a total of 240 respondents. Mechanized farms were excluded from this study because they usually own their machinery and do not depend on tractor hiring services.

The data obtained were collated and analyzed using descriptive statistics such as frequencies and percentages to describe and summarize the characteristics of the observations.

RESULTS AND DISCUSSIONS

a) Coordination of Activities.

The activities of the unit are centrally coordinated from the headquarters located at the Ministry of Agriculture and Natural Resources Ilorin. The equipment are distributed to the area offices at the beginning of the season and at the end of the season, all tractors and implements are returned to the headquarters where major repairs and annual maintenance are carried out.

b) Equipment Inventory and Condition

Table 2 shows the equipment inventory of the unit as at survey period. In order to ascertain the capacity of the unit for service delivery, the tractors and implements were classified as functional, serviceable and scrap. Scrap was used for those equipment which have broken down to such a state that the unit believes that it may as well be better to acquire a new one rather than invest on their repair while serviceable was for all those that repairs will get them back to the field. 81% of the machinery were functional, 13% were serviceable and 6% were scraps.

c) Workshop Facilities and Personnel

The unit has neither a workshop nor an implement shed. An open field is used to accommodate the equipment and also used as workshop to service and undertake minor repairs. Major repairs and overhauling are contracted out. The unit has staff strength of 80 made up of four Engineers, 14 Technologists, Four Work Superintendents, and 58 Tractor Operators. The ratio of tractor to operator is 2:3 which means that there are three operators to two tractors. This ensures that the tractors are not idle at any time due to lack of operator. Interaction with the operators revealed that there are periodic in-serve training to upgrade their skills and expertise.

Table 2: Machinery/Equipment Inventory

S/N	EQUIPMENT	NO OF UNIT	YEAR PURCHASED	PRESENT CONDITION		
				FUNCTIONAL	SERVICEABLE	SCRAP
1.	Heavy duty tractor	3	1998	3		
2.	Ursus 5312	29	2003	28	1	
3.	New Holland 5635	6	2003	6		
4.	Disc plough (Baldan)	22	2003	16	4	2
5.	Mouldboard plough	7	1999	2	2	3
6.	Disc harrow	18	2003	16	1	1
7.	Disc ridger	8	2003	5	2	1
8.	Trailers	10	2003	8	2	
9.	Rice sheller	2	2003	2		
10.	Multipurpose sheller	5	2003	5		
11.	Maize sheller	2	2003	2		
12.	4 wheel-drive jeep	1	2003	1		
	Total	113		91	15	7
	%			81%	13%	6%

d) **Services Rendered and Charges**

The services rendered by the unit and charges are presented in Table 3. These rates exclude fueling and the individual to whom the service is rendered is expected to provide the fuel. Farmers who patronize the unit complained of delay in service delivery which in most cases either make them to reduce the area of land they would have cultivated, or affects the crop yield because of delayed operation, Hamidu and Simon (1999), Mijinyawa and Kisaiku (2006) made similar observations in Bauchi and Edo States respectively.

Table 3: Charges for Services Rendered by the Unit.

Service	Rate/Day (Naira)
Bush/land clearing	45,000.00
Ploughing	7,000.00
Harrowing	7,000.00
Ridging	7,000.00
Maize and Rice shelling (Post harvest operation).	500/tonne

e) **Impact on the Farming Communities.**

Most farmers in Kwara state are aware of the existence and the activities of the unit but not all of them have been able to benefit from the services. Based on the accessibility to the services rendered by the unit, the farmers in the states can be classified into two broad groups as shown in Table 4. The first group are those who have benefited from the services of the unit and have been able to increase their farm sizes and income. The group consists of full-time farmers and civil servants who take farming as a part time job.

The second group are those who have not benefited from the services rendered by the unit and this group can be further subdivided into :

- (i) those who have sufficient landholdings but cannot afford the cost of hiring the equipment
- (ii) those who are in areas far remote from area offices of the unit and whose farms are in places where there is no access routes for machines to be taken to such places for work even if the farmers can afford the cost of hiring, and
- (iii) those whose farm holdings are too small, usually below 2.5ha and have no means of acquiring more land. In many instances, these small holdings are used for mixed cropping. The use of farm machinery by such individual farmers is uneconomical. During the study, it was observed that some farmers who could not access the services of the unit employed more hands to increase their farm size.

Table 4: Accessibility to the Services rendered by KWSTHU.

Variable	Respondents	Percentage
Benefited	90	37.5
Not benefited	150	62.5
Total	240	100

f) **Maintenance Culture**

A maintenance culture is a programme which specifies what action needs to be taken, at what time, by who and in what form in order to sustain a system. Buhari (2000) reported that the lack of a maintenance culture in Nigeria has been the bane of our predicament of inadequate and non-

functioning infrastructure and that the inculcation of good maintenance culture by operators of public infrastructure and the public at large remains one essential condition to the resuscitation of ailing infrastructure. The maintenance of equipment is customer driven, that is maintenance is only carried out when there is a request for use of the equipment and for which payment has been made. Routine maintenance is not a practice of the unit similar to the findings of Mijinyawa and Kisaiku (2006) in Edo State. Lack of a routine maintenance culture appears to be common to most of the tractor hiring units nationwide. Another observation is the lack of proper care for the equipment in terms of storage. No implement sheds are provided and equipment are exposed to the inclement weather conditions.

CONCLUSIONS AND RECOMMENDATIONS

The Kwara State Tractor Hiring Unit has 29 Stery Ursus 5312, six New Holland 5635 and three heavy duty tractors; 22 disc ploughs; seven mouldboard ploughs; 18 disc harrows; eight ridgers; 10 trailers; one four-wheel drive jeep car and nine post harvest machines. Majority of the equipment are functional but are parked unsheltered for lack of either an implement shed or a workshop. Major repairs and overhauling of tractor and equipment are executed by contract. The maintenance culture adopted is customer driven. A few farmers have benefited from the services of the unit while many have not because of their inability to raise the service charge, small holdings and lack of access routes to their farms.

The unit has great potentials for improving the agricultural production of the state if well managed. Towards achieving this goal, the following recommendations are made.

- a) There should be a functional and well equipped maintenance workshop at the headquarters to ensure prompt repair and complete maintenance services in-house. This will reduce cost and eliminate delays associated with contract servicing. In addition, an implement shed should be provided to protect the machinery from inclement weather.
- b) The unit activities should be decentralized to enable farmers have quick access to the services.
- d) While it is expedient that the state government funds the unit adequately, the unit should be reorganized into a self-sustaining outfit, which is feasible taking into account the possible patronage if the unit can deliver services promptly and effectively.
- e) A culture of regular maintenance should be adopted as this is cheaper and prolongs machine life.

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