

RURAL DEVELOPMENT RESEARCH PROJECT  
MAKERERE UNIVERSITY COLLEGE  
Faculty of Agriculture

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FARM MANAGEMENT UNDER THE IMPACT OF URBANIZATION AND INDUSTRIALIZATION  
IN JINJA, UGANDA

By

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A. Original Outline (abbreviated)

1. Introduction

In 1953 the construction of the Owen Falls Hydroelectric Dam in the Victoria Nile near Jinja was finished. In the following years the largest concentration of industry in all East Africa developed here. As a consequence the labour incomes of Africans in Jinja rose from £619,000 in 1955 to £1,450,000 in 1965<sup>(1)</sup>. From these data one can without closer examination of the development of income distribution draw the conclusion that there must have developed a considerable increase in demand for food in Jinja during this time. Before this happened the farms in the Jinja-area like in neighbouring Buganda had produced the traditional Cash-crops, Robusta Coffee and Cotton. Therefore this study cannot deal with the initial socio-economic change in peasant agriculture.

II. Problems of the planned study and hypothesis

The planned study will mainly deal with the following two questions:

1. How changes farm management under the impact of urbanization and industrialization in the course of time?
2. What different patterns of farm management can one find at various distances from Jinja at present?

For the conditions of Europe and North America the theory of the farm firm from Heinrich von Thunen up to Earl O. Heady generally assumes that an urban centre of demand influences farm management only via the ratios of factors and product prices which vary with the distance. This approach neglects the possible influence of varying distance on farm management via variation of socially influenced production capacities or restrictions. In developing countries this influence may be so strong that it must be observed. The attached diagram tries to exemplify this very complex socio-economic influence of a growing centre of urbanization and industrialization of farm management.

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(1) B. Schubert,

In the following the hypothesis concerning the different blocks of this diagram are given in the form of questions:

1. Hypotheses concerning farm management

1.1 How does the pattern of farm enterprises (product-combination) change with the distance from Jinja?

1.1.1. Are the traditional Export-Cash-Crops substituted by Food-Cash-Crops under favourable price-ratios close to Jinja?

1.1.2. Does farm management really orientate on net prices of the single crops?

1.1.3 Can one consequently find a zonation of production according to varying net prices or transport costs respectively?

1.2 How do the factor - and factor-product-combination on farms change with the distance?

1.2.1 Is there a change in labour intensity of the whole farm or single farm enterprises?

1.2.2. Is there a change in capital intensity of the whole farm or single farm enterprises?

1.2.3. Is there a change in the ratio of cultivated area/total cultivatable area?

2. Hypotheses concerning socially influenced restrictions of productions

2.1 Does the input effective family labour done by a standardized family differ with the distance?

2.2. Does the subjective need for cash change with the distance and in consequence the proportion of marketed produce to total farm production?

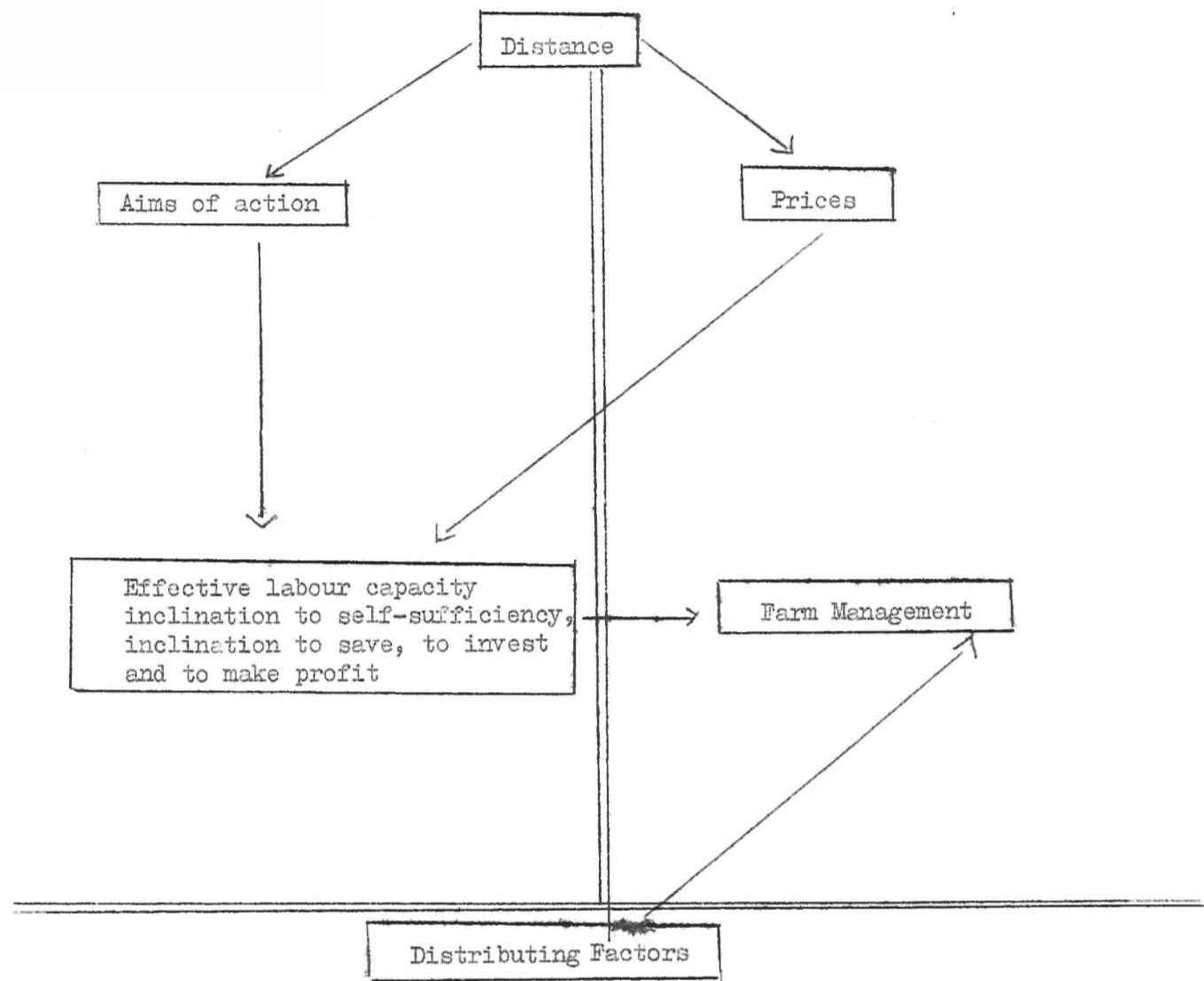
2.3. Does the inclination to save and to invest change with the distance?

III. Discussion of the relevant factors

Farm management is influenced by a number of factors, some of which are dependent on the distance of the centre of urbanization and industrialization and some of which are independent. The following distinction is only correct in the short run.

Relevant Factors:

Factors <u>independent</u> of urbanisation and industrialisation	Factors <u>dependent</u> on urbanisation and industrialization
1. Soil	1. Economic factors
2. Climate	1.1. Prices of products
3. Ratio $\frac{\text{Cultivable area}}{\text{family labour}}$	1.2 Prices of factors
4. Tribe	2. Social restrictions
5. Land tenure	2.1 Labour capacity of a standardised family
7. Education	2.2 Inclination to save and to invest
(8. Credit)	2.3 Endeavour to make cash profit.
	(2.4 Inclination of self-sufficiency)



The criteria of farm management will be the target variables of this study. To make the influence of urbanization and industrialization and these target variables clear, it will be necessary to qualify also the independent factors or to isolate them by keeping them constant.

Discussion of factors independent of urbanization and industrialisation

1. Soil and climate

The natural conditions of production have without doubt the strongest influence on farm management. The soils in a half-circle with about 12 miles radius around Jinja belong to the "Nakabango Catena". They are of a high fertility. After that the "Kabira-Catena" continues the soils of which are a little lighter and not quite as fertile. 20 miles further north another enclave of "Nakabango Catena" can be found around Isimba Falls<sup>(26)</sup>. So it should be possible to vary the factors depending on urbanization and industrialization keeping the soil constant. According to the rain maps, average monthly and yearly rainfall should be fairly constant within the 20 miles radius.

2. Ratio:  $\frac{\text{Cultivable area}}{\text{Family labour}}$

Self-sufficiency is an essential aim of traditional farm management that may only be abandoned very slowly under the impact of urbanization and industrialization. Therefore on a small farm the proportion of sweet potatoes and bananas may be much higher than on a large farm. On the other hand family labour is in direct proportion to family size thereby affecting the above ratio, also the labour inputs of different crops may vary considerably.

3. Tribe

The factor of tribe may also be of considerable influence on farm management and the farmers' response to the actual demand for food. Around Jinja there are three main tribal groups: the Basoga on the east of the new Kamuli road, the Baganda across the Nile and a mixed group in the former tsetse infested area on the old Kamuli road, especially in the Budondo gombolola. As to the Baganda it will be difficult to distinguish between the influence of the factors tribe and land tenure.

4. Land tenure

As in Busoga only the Kibanja system with some modifications can be found, the influence of this factor can only be investigated in Buganda, where some different systems exist.

5. Level of education and advice

Here it would be interesting to find out under which conditions these factors have an influence.

Discussion of the factors dependent on urbanization and industrialisation  
Main tasks of this study will be to find out how with increasing distance of the town the varying "economic factors" as well as the varying "social restrictions" influence farm management. Thereby two main problems arise:

- (a) Is a change of "social restrictions" the consequence of a change in the farmers' pattern of values or simply the consequence of changed "economic factors"?

It is probably logically and technically impossible to answer this question.

- (b) It is unlikely that economic and social variables change in a direct proportion with the varying distance.

I doubt this especially in regard to the traditional Export-Cash-Crops the introduction of which, surely long before the industrialization of Jinja, has caused a lot of initial social changes. Therefore it could be that there is no change of social factors within the area of production for the Jinja market.

#### IV. Selection of research areas

At first one must try to keep the natural conditions of production constant in the research areas. Thereby the main disturbing factor will be eliminated.

Further a discussion with E. Gerken will give an impression of the gradient of social variables. It will also be possible to see from Schubert's study, now under way, which product from which area fetches what price.

A further main orientation is expected from the basic data of the "Uganda Census of Agriculture 1965" which has drawn a sample of 1500 farms in Busoga.

#### V. Plan of the field work

This research work will be carried out in an area wholly subject to the full socio-economic influence of Jinja, in a contrast area outside this zone of influence, and in a transitional area. Thereby the natural conditions of production will be kept as constant as possible. The taxpayers' list can serve as a sample frame.

The field work will consist of three parts.

1. The running of a periodic questionnaire in 3 x 20 farms at 3 to 4 days intervals over one year to obtain accurate input-output data and a good idea about the disposal of produce.
2. A single investigation of some 200 other farms. By this the accuracy of the research will be ensured and a large background of data obtained.
3. The measuring of farm area and plots on all farms under research.

#### B. Modifications

Now, after I have seen and learned something of the research area, the question arises what is feasible according to my funds and time. As a first essential cutting investigations of the dynamic aspect can not be done as far as a vertical comparison of farm management is concerned for comparable

data from the last 15 years are not available. The adaptation of farm management to the demand of the Jinja market can therefore only be checked by a questionnaire as far back and as accurate as the farmers' memories are. Therefore the study will mainly deal with a comparison of present farm management at different distances from the Jinja market. According to the preliminary results of Mr. Schubert's study most of the food supply for Jinja comes from Budondo and the area near to Jinja bordering Buganda. The main area of supply seems to be within a circle of twelve miles radius around Jinja-centre (bicycle-distance). The research will therefore be concentrated in the Budondo area on three villages at 4, 8 and 12 miles distance from Jinja centre. Later on another village by the Isimba Falls will probably be taken on, to find out whether there is a difference of farm management between 12 and 20 miles distance from Jinja. One other village at 4 miles distance from Jinja in the Basoga and one other in the Buganda area will bring some information as to the influence of tribe and land tenure.

The field work will consist of three parts:

1. Measurement of farm area and plots on all farms under research,
2. Investigation of input/output coefficients
3. Questionnaire checking of the other facts of interest.

The whole research will be carried out twice with a half year interval. According to the available funds  $6 \times 30 = 180$  farms can be examined. As I during the pre-test of my questionnaire found some transactions and activities which do not frequently occur (expenditure, income, long absences from the farm etc.) fairly well remembered. But it is doubtful how accurately labour capacity and labour inputs, yields of matoke and sweet potatoes etc, can be obtained by this method. Therefore it would be best to round up the study by running a periodic questionnaire over 8 weeks to see whether there exists significant differences in labour capacity and/or labour inputs.

Another problem arises from the fact, that it is very difficult if not impossible to set up an exact sample frame. The tax-payers' list for the whole mutala are easily available at the gombolola headquarters. But then the difficulties start in checking up on all the changes since the lists were made. Further the farmers are so distrustful and reserved that it is practically impossible to run a random sample because of the quitters. By the way it is doubtful what is more disturbing for the research, the bias you might get by working with co-operative farmers or the possible inaccuracies from distrustful and reluctant farmers.

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