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PROJECT

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Department of Rural Economy & Extension

NOTE: RDR Papers are presented as a basis for discussion in Rural Development
Research Seminars and are not publications. They are subject to revision.

MANPOWER PLANNING AND RESOURCE ALLOCATION
IN DISTRICT AGRICULTURAL EXTENSION PROGRAMMES:

A Procedural Paper.

A.B. Wandera

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R.D.R. Seminar
12th August, 1969.

Introduction

This paper is a proposal for survey techniques to be adopted in collecting information required in the research outline appended as Exhibit A. This outlines a manpower planning exercise prepared for a recent University of Sussex Manpower planning training course. This paper assumes but does not repeat the information already expressed in the outline.

Background to the Problem

The shortage of agricultural extension manpower imposed by budgetary limitations and availability of trained personnel has emphasized the need for strategic allocation of extension manpower. As large and sustained profits have become necessary for farmers to improve,¹ it has become necessary to develop economic methods to assist the decision-maker in allocating the scarce extension manpower for maximum contribution to the net farm income.

In the absence of some economic guide lines extension manpower allocation within a district can be over-influenced by one or more less-important factors such as: 1) availability of housing for the extension worker 2) wishes and influence of the worker, 3) the tendency to allocate the worker to his/her home area justified by availability of housing and/or language limitations or familiarity with the farming system, 4) the tendency to allocate one extension worker to every administrative unit; 5) the tendency to have specialized staff allocated on projects and schemes that may be economically obsolete.

For the purpose of this study we have arbitrarily selected East Mengo district as a starting point for manpower planning exercises. Agricultural extension personnel in East Mengo district will have to at least double to 140 by 1971 if the plan target² of one extension worker for every 1000-1500 farmers is to be achieved. The cost of less productive manpower allocation could rise considerably as the scheduled increase is of diplomaes, a relatively high-level of manpower within a median salary income of £(u) 1,095 per annum.³

The recurrent expenditure on Agricultural Extension is justified as an investment for rural development, but this sector of public expenditure has not yet been subjected to economic analysis⁴ for several reasons. Extension viewed as education does not render itself readily to input-output analysis⁵. Moreover in East Africa extension has developed as a service and not as an instrument of development justifiable by economic achievements. Extension Services have been planned in a hit-or-miss fashion with trained personnel flowing into general non-specified extension tasks. The lack of Short cut methods to

1. Anthony Bottomley, "Planning for innovation in African Rural Areas" in F.A.O. Agricultural Economics bulletin for Africa. (United Nations Economic Commission for Africa. E/CN 14/AGREB/9, October 1967) pp.64-65.
2. Work for Progress. Uganda's Second Five-Year Plan 1966-71 (Government Printer Entebbe Uganda 1966?) pp.61-2).
3. Uganda Government Draft Estimates of Recurrent Expenditures 1967-68, for the year ending 30th June 1968. Govt. Printer, Entebbe, Uganda. 1967.
4. The rarity of appropriate economic appraisals of joint costs for agric. extension Education and Research" in the G.A. Helleiner (Ed) Agric. Planning in E.A. (E.A. Publishing House Nairobi, 1968) pp.58-9.
5. J.K. Galbraith Economic Development. Houghton Mifflin Co. Boston, 1964) pp.77-86.

estimate the impact of extension on agricultural output has weakened arguments towards a more rational allocation of extension manpower. The task has to date been exclusively the task of the extension administrator.

Towards a rational allocation of extension manpower.

A Questionnaire Type Survey

The limitation of finance and the researcher's time has dictated adoption of a questionnaire type survey for the proposed research. In a recent study to evaluate the Community Saturation Projects the Makerere research team interviewed about eighty farmers from two parishes in East Mingo district. It was difficult to obtain accurate data on the impact of the extension service on the district's output. Such data would be useful for extension manpower planning but the collection is hampered by the widespread unwillingness by farmers to reveal their income and the very large host of factors that influence farm output. It requires an intensive survey including frequent farm recordings to be able to estimate farm output, particularly in the Subsistence sector. Accordingly a farm input-output survey is not envisioned for this study. Instead we hope to contribute to the task of extension manpower planning in East Mingo district by constructing an array of crops and extension innovations that farmers believe to be profitable. Such a belief, right or wrong, makes the farmer responsive to extension advice about the crop or the innovation and extension manpower should be allocated to crops and to advocate innovations that have been proven at farm-level. During the study we propose to identify viable and profitable innovations both those which are still potential at the research stations and those being extended to farmers by the extension staff. Availability of profitable innovations as a basis for extension man-power allocation requires further analysis, for each innovation there is a saturation point in the long run when either all potential adopters have adopted it or when all required/suitable inputs such as suitable land is used up, or when the market has been saturated. A saturation-level situation, for one or more of the above reasons, can occur at any stage during the adoption of an agricultural innovation. The allocation of extension manpower is most justified where information and skills are the main limiting factors. For innovations with similar potential cost-benefit ratios the priority should be given to those where the potential acreage to which the innovation can be extended or potential adopters where it can be established are greater.

Assumptions

In addition to the economic emphasis already expressed we place a low priority / on allocation of extension manpower on enterprises for which there are no profitable innovations. We would suggest minimum extension manpower allocation for general extension purposes such as encouraging farmers to grow an adequate food supply (except where famine is likely and food shortage has been registered in the last decade and this can be attributed to poor crop or animal husbandry which could be remedied by extension advice).

We would assume that lack of adoption of agricultural inputs, techniques and systems demonstrated and/or taught over a five year period or longer is limited by factors other than extension information.

During the study we plan to investigate the possibilities of using low-cost lower-level manpower for general-type extension and releasing the relatively high-level manpower for extension tasks requiring more foresight and greater skills such as farm planning. We shall for this study further assume that extension personnel in the same salary scale are perfect substitutes one for another, thus we are concerned with the mean rather than the range in extension personnel's performance.

Sources of Information

Information for this study will be collected from all available sources with information on farming in East Mengo district. We shall particularly rely on the Monthly and Annual Reports from the district and the Research Stations and the 1963-4 Reports on Uganda Census of Agriculture. The majority of the information is expected from informal visits to examine various files and hold discussions with the various extension workers, Research Officers and Officials of Cooperative Marketing Societies. A draft questionnaire appended to this paper has been developed to be administered to farmers by enumerators. We plan to visit local shopkeepers stocking agricultural inputs and private agencies offering extension-type information in the district.

(Information to be sought from each source is contained in the appropriate questionnaire appended to this paper).

Sample Size and Sampling

For investigation of the farm-level profitability of extension innovations, we propose a sample of 100 farmers stratified to represent all enterprises of great potential in East Mengo. The sample will be random within each stratum but the list of farmers from which it will be drawn has yet to be made.

To determine the innovations being extended, the current work loads and desirability for further training we propose to interview all Agricultural officers and Assistant Agricultural officers in the district. We propose to interview 16 Agricultural Assistants/Field Assistants including at least one from each specialized project or scheme. In all we expect to interview 38 members of the district extension selected at random from each category. The District Farm Institute staff will be excluded.

We plan to interview all Research officers with experimental trials in the district, all local stockists of agricultural inputs and all representatives of private agencies concerned with extension in the area.

If there is time we might interview each of the County Chief in the district.

The Survey Technique.

The real task of this study is to assess the expected impact of the extension team in the absence of actual measurements of farm incomes. By questioning farmers we hope to establish the awareness, trial and adoption or rejection of each of the major extension innovations. To ascertain whether a high intensity of extension information can achieve adoption of rejected innovations, we hope to test the innovations against cost of adoption, complexity, visibility, divisibility and compatibility. Research elsewhere suggests⁶ that simple low cost high return innovations are more likely to be adopted especially if they are consistent with existing ideas, can be tried on sample basis and yield easily seen results.

The survey technique for staff will be different from the written questionnaire method to be used for Farmers.

We plan to get information from all employed personnel by informal discussion. This we believe is the quickest way to obtain the information we need within the next few months.

In all the questionnaires written or unwritten we have avoided multiple choices or leading questions. In the recent survey in Buganda already mentioned we detected a tendency for farmers to jump on almost every alternative reply read to them by the enumerator with little thought to their particular problem. We shall insist that the enumerator writes down the farmer's reply in full although this will require more enumeration time and more analysis time.

In the course of this study we will assess the case of public and private transportation in the area and the extent of use of mass media methods of communication as these are important factors in a manpower allocation exercise.

6. North Central Regional Extension Pub. No.13. "Adoptors of New Farm Ideas" (U.S.D.A. & Michigan State Univ. 1962.)

Result Analysis and Implications

The simplicity and qualitative nature of the information we can obtain from a survey of this kind does not justify any high powered statistical analysis beyond simple correlations and result tabulation.

From Annual agricultural reports from East Mengo district we hope to obtain annual increases in terms of new or improved acres. By using prevailing and expected prices we hope to calculate for each activity (coffee etc) the annual net value of output. For each extension unit we plan to compile extension costs consisting of 1) the median of the salary scale to which the unit belongs 2) the annual house rent subsidy 3) the annual interest subsidy on the vehicle loan 4) the annual mileage costs and 5) the costs of training and replacement.

By selecting various combinations of extension units and dividing their total cost by the net output of selected agricultural activities (cocoa, coffee, maize etc) we hope to obtain a series of ratios that may be indicative of priority for extension man power allocation between the productive activities. In using these ratios we have to take into account the limiting factors pointed out in the research outline and the saturation points discussed in this paper.

It is hoped that this study will provide a model for the collecting of information required for the more rational allocation of extension manpower in the field of agricultural development.

Appendix I

Research Personnel

Project Leader:

D.G.R. Belshaw: Reader and Head of Department.
Department of Rural Economy & Extension
Makerere University College.

Field Directors:

E.R. Watts: Lecturer Agricultural Extension, Department
of Rural Economy and Extension, Makerere U.C.

A.B. Wandera: Research Fellow in Agricultural Extension,
Department of Rural Economy and Extension,
Makerere University College.

Research Assistants:

D.S. Sengendo: Research Assitant Extension
Department of Rural Economy and Extension
Makerere University College.

Enumerator Supervisors:

Four Makerere students from the Faculty of Agriculture or
Faculty of Social Sciences.

Enumerators:

Four mature secondary school leavers to be recruited locally.

Research advisors:

T.M. Othieno Department of Agriculture (Uganda)
J.S. Ikara Ministry of Planning and Economic development.
B. Brock (Mrs) Lecturer, Rural Sociology, Department of
Rural Economy and Extension, Makerere U.C.

Appendix 2

Research Budget (Sept.1969 to Nov.1969)

A. ESTIMATED MANPOWER COSTS

1. Basic data

- a) Enumerator supervisor wage about 500/= per month.
- b) Enumerator basic pay about 250/= per month.
- c) Basic allowances about 20/= per month.

2. Wages costs.

- a) Field survey.
 - 4 Makerere Students X 500 X 1 month = 2,000/-
 - 4 Enumerators X 250 X 1 month = 1,000/-
 - b) Data analysis assistance
 - 2 secondary school leavers X 250 X 2 months = 1,000/-
- Total estimated wage costs 4,000/-

3. Bonuses and basic allowances:

8 Field staff X 100 Sh. X 1 month = 800/-
Total estimated manpower costs Sh. 4,800/-

Appendix 2 con'd.

B. MATERIAL AND OTHER COSTS

1. Transportation:
UNICEF bicycles available free.
2. Accident Insurance policy.
To be worked out of the contract.
3. Three-days enumerator training at Kabanyoro Farm.
 - a) Enumerator Transportation:
4 Enumerators X 25/= return journey Shs. 100/-
 - b) The UNICEF Kombi should be available for the 4 Makerere students and for pretesting the questionnaires during the three-days training.
4. Stationery for training, field work and Data Analysis
24 pens, and three reams ruled foolscap papers
rubbers and pencils Shs. 100/-
5. Secretarial services.

C. SOURCES OF FUNDS

Agriculture-UNICEF funds are available for wages of non-college employed staff, and for costs of required material.

Appendix 3

Tentative Research Time Table

1969.

August:

- Visit East Mengo district.
- (a) Assess variability and determine sample sizes and the sampling scheme.
 - (b) Select areas and get the farmer sample.
 - (c) Select enumerators and revise the farmer questionnaire

September:

- (a) Train enumerators
- (b) Pretest the questionnaire
- (c) Initiate field survey for farmers.
- (d) Study Department of Agriculture Reports and background information.

October:

- (a) Develop an agricultural sketch map for the district.
- (b) Initiate field survey for the extension personnel.
- (c) Begin tabulating the farmer survey results.
- (d) Interview chiefs and local traders

Appendix 3 con'd.

November:

- (a) Collect market price information
- (b) Interview Research workers and study research reports.
- (c) Continue result analysis

December:

Write up the results for presentation in January , 1970.

Assignment for Agricultural Manpower
Planning Groups.

1. Introduction: The assignment involves selecting appropriate manpower strategies for agriculture for one district of Uganda, East Mengo. In appendices to the assignment various information is supplied. This may be supplemented by questioning during the visit to the District. It is realised that information and statistics are inadequate for the purpose and one of the reasons for the assignment will be to determine what additional information is required.
2. Organisation: There will be 3 groups consisting of 5 people each. Each group should meet on Wednesday evening and elect a chairman and Rapporteur. The Chairman and Rapporteur will be jointly responsible for preparing the draft and final reports.
3. Reference Material: A paper by Mr. Watts will give background material on the organisation of the Department of Agriculture. Another paper extituled "A Review of Agricultural Policy in Coffee-Banana Zone of Uganda" by M. Hall will be circulated to all those in the Agricultural Case Study Group. One copy of "Agricultural Planning in East Africa" will be available for each person. Chapters 4 & 5 should be referred to, for background information on agricultural planning and extension work in Uganda. In view of the short amount of time available it may be necessary to divide some of the preparatory work.
4. The Assignment: Each group is asked to carry out the following:-
 - a) A broad and brief summary of the main points in the present agricultural development situation in the District based on the information supplied and acquired during the visit (this need not be included in the report)
 - b) Develop two tentative strategies for agricultural development based on:-
 - i) existing staffing expenditure (Plan I)
 - ii) expenditure on staffing increased by 50% (Plan II)Details required:-
 - 1) staff reallocations
 - 2) brief job descriptions
 - 3) Implications for further training (for the second plan)The method and data for constructing the two strategies is set out in Appendix C.
 - c) Indicate what additional information would be needed before a final decision on strategy could be taken in practice.
 - d) Review briefly the qualitative aspects of the optimal allocation of agricultural expertise at the grass-roots level:
 - i) Capacity of the staff structure of the Department of Agriculture in East Mengo to take on additional work

- ii) The present and possible future work load on the D.A.O. and suggestions as to how this might be alleviated.
- iii) Possibilities for substituting staff with different levels of training (based on observations during visit)
- IV) The capacity of different levels of staff to undertake the various tasks assigned
 - v) Provision for further training of staff for new tasks or to improve effectiveness.
- vi) Any other comments.

APPENDIX A

MOST IMPORTANT CROPS BY ACREAGE ESTIMATES - 1966/67

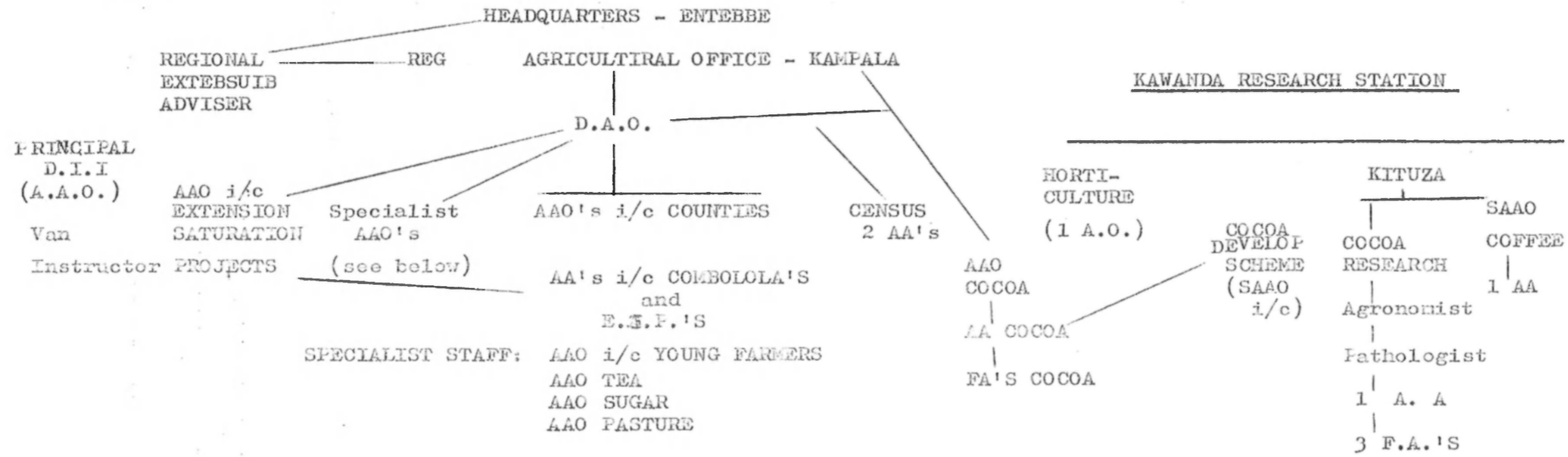
EAST MENGO DISTRICT

<u>CASH CROPS</u>		<u>FOOD CROPS</u>	
Coffee	273,116	Bananas	374,449
Cotton	112,934	Maize	87,305
Sugar	27,823 *	Cassava	67,444
Tea	4,557 *	Sweet Potatoes	46,542
Cocoa	1,572	Beans	36,893
Vanilla	80	Groundnuts	38,081

* The majority of these crops are grown on Asian-owned estates.

APPENDIC B

STRUCTURE OF THE DEPARTMENT OF AGRICULTURE, EAST MENGO DISTRICT



Note: E.S.P.: Extension Saturation Project (one parish)

APPENDIX C: PLAN FORMATION

NOTES ON PROSPECTS FOR EAST MENGO CROPS

COFFEE: The present price for farmers is about one quarter the price they were receiving in the early 1960's. However reasonably managed coffee still compares well with other crops. Where it is severely infected with couch grass it may be better to uproot and plant other crops. Individuals who are short of land for expanding more profitable enterprises are uprooting coffee.

Uganda is at present exceeding her ICA* quota and extra production has to be sold to non quota markets.

Net value to Country = £40/ton green coffee

COCOA: Cocoa is at present a new crop in the area although it was grown on estates in the early part of the century. There is a 7 year delay before trees reach full production. Prices are currently very high at over £400/ton and according to the F.A.O. indicative World Plan the prospects are good. There a number of agronomic problems which include monkey damage but expansion of production is a definite possibility.

Net value to Country = £150/ton

SUGAR: Primarily grown on estates which naturally are keen to process their own production in preference to that of outgrowers. Kenya at present imports Uganda sugar at a higher price than world price. However she expects to become self sufficient by 1970 or possibly 1972. Export values will therefore apply to further increases in output.

Net value to Country = £15 per ton

TEA: Also grown mainly on estates. Price has suffered from devaluation of sterling and world market price prospects are generally poor. On the other hand, higher yields and quality should be obtained from new methods.

Net value to Country = £340/ton made tea

* I.C.A. = International Coffee Agreement

COTTON: Grown primarily in Buruli and Bulemezi Counties. World price is reasonably stable under U.S.P.L. 480 policies. Major plan objective to achieve rapid increase in cotton output.

Net value to Country = £70 per ton seed cotton
(c.1/3 lint, 2/3 cotton seed).

FOOD CROPS: For most of the year there is a good market for matoke. It is a bulky crop so that profitability falls off as the distance from the main market increases. Matoke is however supplied from all parts of the District to Kampala or Jinja.

Maize is subject to wildly fluctuating prices and the guaranteed minimum price of 7c per lb is related to world market levels.

Net value to Country: matoke	Maize
£5 per ton	£7 per ton

TOMATOES: This was popular about 5 years ago but over-production lowered the price and it is now subject to considerable fluctuation.

Net value to Country = £12 per ton

ONIONS: At present there are considerable imports of onions and prices have recently been as high as Shs.2 per lb. in the shops.

Net value to Country = £85 per ton

APPENDIX C: PLAN FORMULATION: TABLE I

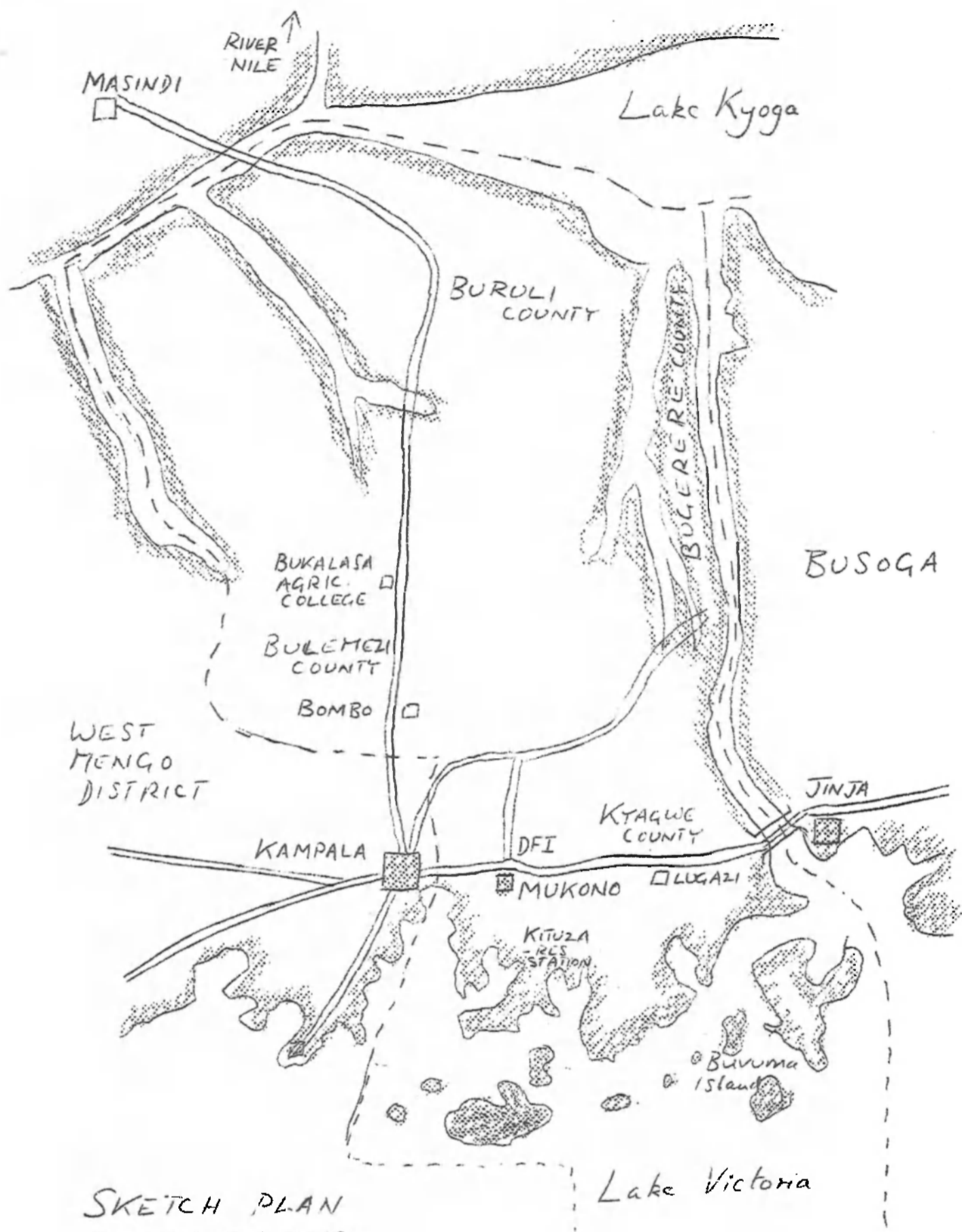
COSTS AND UTILISATION OF EXTENSION STAFF

GRADE OF STAFF	MEDIAN INCOME ANNUM £	HOUSE SUBSIDY ANNUM £	VEHICLE LOAN ANNUM (interest subsidy) £	MILEAGE ANNUM £	TOTAL ANNUAL COST £	ANNUAL COST TRAINING FOR STAFF EXPANSION £	UTILISATION AND TRAINING NEEDS
A. O.	1200	700	100	300	2300	700	Primarily supervision and administration already would need short in-service training for new crops (1 week)
A.A.O	900	500	100	200	1700	400	In the past mainly supervisory but increasingly being used for extension. Need in-service training for new crops (2 - 3 weeks)
A.A.	350	-	-	50	400	300	Training discontinued in early 1960's. Older staff probably unsuitable for further training. Younger AA's need 2 - 3 months training for new crops.
F.A.	120	-	-	-	120		Routine tasks, checking on Farmers, limited follow up use. No further courses are envisaged in training programmes.

N.B. These figures do not reflect current costs of staff and have been devised for this assignment only.

Instructions

- Constraints
- 1) For Staff no's available in each category see Appendix C, Table III
 - 2) Cocoa limited to 1000 new acres p.a. expansion by seedlings.
 - 3) Tea limited to 160 " " " " " processing capacity.
 - 4) Sugar " " 200 " " " " " " "
 - 5) Onions " " 120 " " " " " seed
 - 6) Minimum general extension staffing must be 1 A.A.O. and 2 A.A./F.A.'s per county; there are five counties.
 - 7) With the expanded programme any combination of staff may be selected as long as the total wage cost does not exceed the current bill by 50%. Training costs must be included.
 - 8) Method of solving the District Plan:
 - (i) Find/evolved extension team structure.
 - (ii) Find/estimate expected impact of one team on output per annum (new acres on sustained basis or increased yields on sustained basis).
 - (iii) Allocate minimum staff required for general admin./extension purposes.
 - (iv) Calculate for each activity (coffee etc.) the ratio of extension costs to annual net value of output.
 - (v) Starting with unallocated staff remaining after (iii), allocate them to the highest cost: value activity until the constraint on that activity is reached, and proceed to lower ratio activities until all staff is allocated.



SKETCH PLAN
OF EAST MENGO
DISTRICT

POPULATION DENSITIES &
AREA BY COUNTIES

COUNTY	SQ. MILES	DENSITY
KYAGWE	1124	245
BUVUMIA	121	20
BURULI	1197	19
BULEMEZI	2134	102
BUGERERE	525	167

(1959 CENSUS)

SCALE : 1" = 20 miles
(approx)

- = DISTRICT BOUNDARY
- == = MAIN ROAD
- /// = LAKE SHORE LINE

QUESTIONNAIRE.

FARM-LEVEL SURVEY OF AGRICULTURAL INNOVATIONS PROJECT:
EXTENSION MANPOWER-PLANNING.

INTERVIEWER'S NAME / CODE _____/_____
DATE OF INTERVIEW _____
LANGUAGE OF INTERVIEW _____
FARMER'S NAME/CODE _____/_____
DISTRICT _____ COUNTY _____
SUB-COUNTY _____ PARISH NAME/CODE _____/_____

Introduction

Greetings. (Ask to see the farmer on the sample list).

Greetings. My name is _____ I have been asked by
Makerere University College to collect some information about agriculture
in this Parish for use in training students. Some of the students might
come to work here in the Department of Agriculture. Makerere feels that
before the students complete their agricultural course and come to work,
they should know something about the problems of farming in _____
parish and types of agricultural advice which you have found useful or less so.
name

I have/will interview(ed) several farmers. All the names were selected
at random from a list of all farmers in this area. Your name happens to be
one of them.

The questions I am requested to ask are listed out in this papers
(hold the QUESTIONNAIRE up).

Should I start asking you? (If "NO" ask) Why?
(and spend a few minutes trying to convince him. If necessary tell him/her,
the information will be kept confidential. As you leave record on the sample
list sheet why he/she refused or tried to refuse. If "YES" start
questioning right away).

FARMER'S CODE _____

DATE _____

Q.1 Do you have a soil erosion ~~p~~roblem anywhere on your farm?

Yes _____ No _____

Q.2. Has the soil fertility of your farm been going down over the last five years?

Yes _____ No _____ D.K. _____

Q.3 Do you make manure or compost in one place and put it on your fields

Yes _____ No _____

Q.4 If Q3 is No.

Why? _____

Q.5 Do you have any kraal manure?

Yes _____ No _____

Q.6 How many ox-bulls do you have? None _____

Number _____

Q.7 Has the use of any agricultural chemical been demonstrated to you?

Yes _____ No _____

Q.8 If Q7. Yes

Where _____

When _____

By who _____

Q.9 Have you ever purchased any crop residues such as coffee husk for mulching your crops?

Yes _____ No _____

Q.10 Have you ever purchased any chemical for your crops?

Yes _____ No _____

Q.11 To what crops have you applied a chemical?

<u>Crop.</u>	<u>Chemical applied</u>
_____	_____
_____	_____
_____	_____

Q.12 Which chemicals did you find profitable?

Q.13 Is it easy to obtain chemicals recommended for crops in this area?

Yes _____ No _____ DK _____

Q.14 Is it useful to keep all your crops clean weeded

Yes _____ No _____ DK _____

Q.15 Do you keep all your crops clean weeded?

Yes _____ No _____

Q.16 If Q15 is No

Why? _____

Q.17 What are the most troublesome weeds on this farm?

Q.18 Have you heard of any chemical which can kill any of the weeds?

Yes _____ No _____

Q.19 If Q18 is Yes.

Have you purchased it and tried it?

Yes _____ No _____

Q.20 If Q19 is Yes

Does it pay?

Yes _____ No _____

Q.21 Do you grow plantains (bitoke)?

Yes _____ No _____

Q.22 If Q21 is Yes

Do you have a banana weevil problem?

Yes _____ No _____ DK _____

Q.23 If Q22 is Yes.

What do you do to control them?

Q.24 Do you consider it profitable to buy a chemical to control weevils?

Yes _____ No _____ DK _____

Q.25 What insects or diseases are causing serious damage to your crops?

<u>Insect/disease</u>	<u>Crop</u>
_____	_____
_____	_____
_____	_____

Q.26 (Q25 if any)

What are you doing to control it (them)

<u>Insect/disease</u>	<u>Adopted Control</u>
_____	_____
_____	_____
_____	_____

Q.27 How long have you been farming here?

_____ Years.

Q.28 (If Q27 over 6 years)

What crops are you harvesting more of than you used to get five years ago?

Q.29 What crops do you sell more of than you used to five years ago?

Q.30 What crops do you plan to grow more than you are growing now

Q.31 Is it possible to increase the yield of a given coffee plant?

Yes _____ No _____ DK _____

Sometimes _____

Q.32 What crops (even single plant in homestead) are you growing right now here or on another piece of land in this district?

Q.33 What crops have you grown in the past but you are not growing them now and why did you stop growing each

<u>Crop.</u>	<u>Why no longer being grown.</u>
_____	_____
_____	_____
_____	_____

Q.34 For all crops you are growing I would like to know the crop bringing in more money than all others, then the crop that brings the next large amount progressively down to the crop which brings in the least amount of money

Which is the main source of income? and the next

and the next

Four horizontal lines for recording crop names, with double quotation marks at the beginning of each line.

Q.35 Which crop do you plan to grow more of in the future

Two horizontal lines for recording crop names.

Q.36 What crops you are not growing now do you plan to start growing?

Three horizontal lines for recording crop names.

Q.37 (Q.36 if any)

Why? _____

Q.38 Do you or anybody living in your homestead have a radio?

Yes _____ No _____

Q.39 How often do you listen to a radio?

Never _____ Once a year _____
Monthly _____ Weekly _____ Daily _____

Q.40 How far is your farm to the nearest bus stop.

Q.41 Is it easy to move from here to Kampala.

Q.42 How often do you go to Kampala?

Never _____ Once a year _____
Monthly _____ Weekly _____ Daily _____

Q.43 How do you usually get information about farming?

Q.44 Have you or any member of your family attended courses at the District farm Institute (Mukono)?

Yes. No.

Q.45 If Q.44 is Yes. Who attended? Wife _____ Son _____
Daughter _____ Other _____

Q 46. Has any staff member of the Department of Agriculture come here to advise on farming in the last 12 months?

Yes _____ No _____

Q.47 How far does the Agricultural Advisor for this area live from here?

Q.48 Do you know him? Yes _____ NO _____

Q.49 Have you ever visited him for help about farming?

Yes _____ No. _____

Q.50 Have you attended any meeting arranged by the Agricultural Advisor for this area, in the last 12 months.

Yes _____ No _____

Q.51 Are you registered as a Progressive Farmer by the Department of Agriculture?

Yes _____ No. _____

Q.52 Do you have some children who are members of the Young Farmers of Uganda?

Yes _____ No. _____

Q.52 (If Q.52 is Yes)
How many _____ number.

Q.54 Are you a member of any Association, Club or Society

Yes _____ No. _____

Q.55 What is your age approx?

_____ Yrs. (or guess _____ years.)

Q.56	Can you read?	Yes	No
	Vernacular e.g. Luganda	___	___
	English	___	___
	Swahili	___	___

Q.57 What language do you use with your family?

Q.58 How many people are you living with here at the moment?

Q.59 How many can read and write?

_____ Number.

Q.60 How many adults between 16 and 54 (inclusive) help you on the farm all year round?

_____ Number.

Q.61 Is it profitable?	Y.	N.	DK	Never heard of it
R.1 to prepare the seedbeds early before the rains	_____	_____	_____	_____
R.2.to plant crops early at the beginning of steady rains	_____	_____	_____	_____
R.3 to clean weed crops	_____	_____	_____	_____
R.4 to thin seedlings (e.g.cotton)	_____	_____	_____	_____
R.5 to prune crops	_____	_____	_____	_____
R.6 to plant crops in rows at recommended spacings	_____	_____	_____	_____
R7. to prevent soil erosion	_____	_____	_____	_____
R8. to mulch perennial crops especially coffee & plantains	_____	_____	_____	_____
R9. to rest your fields	_____	_____	_____	_____
R10.to plant grass and legume seed in resting fields	_____	_____	_____	_____
R11.to rotate annual crops on fields	_____	_____	_____	_____
R12.grow Serena or Bobbs Sorghum	_____	_____	_____	_____
R13.grow White Star maize	_____	_____	_____	_____
R.14.grow mosaic resistant cassava	_____	_____	_____	_____
R ¹⁵ . grow B.I. or Bukene bunch groundnuts	_____	_____	_____	_____
R16.buy planting seed from research stations or Dept.of Agriculture	_____	_____	_____	_____
R17.grow cocoa	_____	_____	_____	_____
R18.grow ginger	_____	_____	_____	_____
R19.produce citrus fruits	_____	_____	_____	_____
R20.grow vegetables	_____	_____	_____	_____
R21. use lindane against sorghum maize or bean weevil in store	_____	_____	_____	_____
R22.Seedless sorghum or groundnuts before planting	_____	_____	_____	_____
R23. Spray groundnuts with a chemical against rosette	_____	_____	_____	_____
R24.Spray weeds with chemicals	_____	_____	_____	_____

Is it profitable to	Y.	N	DK	Never heard of it
R25. put compost in planting holes for plantains	___	___	___	___
R26. prune bitoke to 4 to 6 per blump	___	___	___	___
R27. prune bitoke by stripping off withered leaves	___	___	___	___
R28. Cutting old bitoke stumps below ground level and covering stump with soil	___	___	___	___
R.29 splitting old "stems" for mulch.	___	___	___	___
R.30 rotating sorghum with crop like groundnuts or cotton to control striga	___	___	___	___
R31. dry coffee on trays or concrete ground	___	___	___	___
R32. Sort coffee before selling	___	___	___	___

Q.62 Which of the recommendations (R1-R32) do you use regularly?

Q63. Which of the recommendations (R1 - R32) have you tried and rejected and why?

<u>Recommendation</u>	<u>Why Rejected</u>

Q.64. Sex of farm Male _____ Female _____

Q.65 Attitude of the Farm
 Interested _____ Somehow reluctant _____ Difficult _____

That is all.
 Thank you very much. Are there any particular problems you would like students to know about farming in this area?
 (If any) (List them:

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