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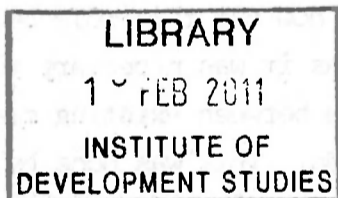
THE ROLE OF GROWTH CENTRES
IN RURAL DEVELOPMENT

1. Theory, Methodology, data

By

S. M. Kisanji

D. R. F. Taylor



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THE ROLE OF GROWTH CENTRES IN RURAL DEVELOPMENT
I. Theory, Methodology, Data

S. M. Kimani and D. R. F. Taylor

ABSTRACT

This paper summarizes the basic theory, methodology and data of an extensive research project carried on in Muranga District from June 1972 to August 1973. This project was a joint venture between the Department of Geography, University of Nairobi and the Department of Geography, Carleton University, Ottawa. Funding for the project was provided by the International Development Research Centre.

Growth centres play an important part in the 1970-1974 Development Plan and the basic hypothesis of the paper is that a growth centre strategy if refined and further developed could play a vital role in rural development in Kenya. It is argued that rural problems and urban problems should not be viewed in isolation but as an inter-related spatial system. The small urban place in the rural areas is a vital interface between urban and rural and an effective rural development strategy should concentrate on this interface.

The research project set out to answer two basic questions;
1) What is the role of the growth centre in rural development?
2) How can this role be made more effective? To answer these questions it was necessary to build up a large data bank on the relationship between existing small centres and the people in their hinterlands. This was done by carrying out a detailed study of all 253 small centres in Muranga District. Primary field data was collected by 3 Canadian and 15 Kenyan researchers on a full time basis. A second group collected detailed information from secondary sources. These research groups were expanded to over 50 at times depending upon the type of data collection involved. All data collection in the field was done by local people. The language used was Kikuyu.

The data was collected and computerized in basic survey fashion and a comprehensive interdisciplinary data bank on the informal sector in a rural area has been built up. The data bank has been designed so that it can be used for many other purposes than that

This paper summarizes the basic theory, methodology and data of an extensive research project carried on in Muranga District from June 1972 to August 1973. This project was a joint venture between the Department of Geography, University of Nairobi and the Department of Geography, Carleton University, Ottawa. The project was funded by the International Development Research Centre, Ottawa, Canada.

The concept of growth centres plays an important part in the 1970-74 Development Plan¹ and the basic hypothesis of this project is that the growth centre strategy, if refined and further developed could play a vital role in rural development in Kenya. In essence, it could form the keystone of a spatial strategy of rural development. It is argued that rural problems and urban problems should not be viewed in isolation but as an inter-related spatial system. The small place in the rural areas becomes vital in such a strategy as it is the interface between urban and rural systems, and an effective rural development strategy should concentrate on this interface.

The research project set out to answer two basic questions;

- 1) What is the role of the growth centre in rural development?
- 2) How can this role be made more effective?

To answer these questions it was necessary to build up a comprehensive data bank on the existing small centres and the people in their hinterlands. There were a number of elements involved. These included an understanding of the history of the centres; discernment and measurement of growth indicators especially the performance of the informal sector; the participation and involvement of the people; the linkages and interactions among centres and their hinterlands; the identification of the most likely centres for potential growth and diffusion of innovations and the spatial patterns of the centres together with the distribution of population. This paper will deal primarily with the methodology used and the data collected; a second paper will further develop the basic theory and give the major conclusions.

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1. Republic of Kenya Development Plan 1970-74, Nairobi, Government Printer 1969.
 2. Taylor, D. R. F., Kimani, S. M. The Role of Growth Centres in Rural Development II. Conclusion and Recommendations, I.D.S Working Paper No. 117, Nairobi 1973.

The study area chosen was Muranga District in Central Province. In view of the fact that the District is to be used as an effective planning unit it was felt that the District level was an appropriate scale on which to work. Muranga was also felt to be representative of the densely populated rural areas of Kenya. In addition, some information on the small places in Muranga District had been collected in 1962/63¹ and was available for comparison with the data collected a decade later.

It was decided at an early stage that an attempt would be made to build up a comprehensive interdisciplinary data bank concentrating on what the I.L.O. Report² has since called the "informal sector". The data has been collected and organized in such a way that it will be useful for purposes other than the immediate ones of this project. The data was collected in a form which would facilitate computerization. The data was, whenever possible, to be comprehensive rather than of a sample nature.

The data collected was of two main types:

- a) Primary data collected in the field
- b) Secondary data derived from documentation much of which is in the form of unpublished records.

Primary data was collected by a field research team over a one year period between June 1972 and August 1973. The team had three vehicles at its disposal and consisted of three Canadian field supervisors and fifteen Kenyan research assistants. All data collection in the field was done by Kenyans, all of whom were residents of Muranga the interviewing language being Kikuyu. Originally it had been hoped to employ Kenyan Graduate Students on the project but this did not prove feasible and the educational qualifications of the research assistants ranged from "O" level to "A" level with considerable work experience. The research teams were expanded on a part time basis to as many as fifty people by recruiting local high school students for specific data collection tasks.

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1. Taylor, D.R.F., Fort Hall District Kenya; a Geographical consideration of the Problems and Potential of a Developing Area, unpublished Ph. D thesis, University of Edinburgh 1966.
 2. International Labour Office, Employment, Increases and Equality; a Strategy for Increasing Productive Employment in Kenya, Geneva 1972.

There were, for the most part, two field bases; one in Muranga town and the other in Thika. Each group followed the same data collection procedures. Each of the 253 small centres in Muranga District was visited in turn and the following basic information collected.

Shops and Businesses¹

In each centre a detailed study on a shop by shop, business by business basis was made. These were distinguished according to type and the year of opening was recorded. Estimates were made of the number of daily customers, the daily turnover and the size of the stock. The main categories of goods stocked were recorded together with new goods added over the last three years. The number of people working in the shop, the number of proprietors and whether the shop was owned or rented was recorded. An attempt was made to discern if the owner/renter had another source of income and if so from where it was derived. The amount of time spent in the shop was recorded as well as the hours of opening. A series of questions were asked to determine the businessman's perception of how business was progressing. He was asked the primary reason he had chosen to conduct his business in that particular centre. Any secondary reason was also recorded. He was asked whether business was improving or declining and why. Where a shop or business had closed an attempt was made to find out the reason for this. Any expansion plans were recorded together with the primary and secondary source of stock for the business. In all, 3697 establishments were surveyed - all of the existing shops and businesses in Muranga District. Of that total, 419 had closed down leaving 3278 establishments in operation.

Markets

A study was made of each of the 51 "barter" markets in the District. It was in the collection of this data that the larger research teams were required. The type of market was recorded as well as the frequency and year of opening. Counts were made of the number of buyers and sellers and if entrance tickets were sold the

1. Details of all files are given later in this paper

number of such tickets was recorded. The product categories sold in the market were recorded and each person was asked for the primary and secondary reasons he or she came to market. The method of transport to market was recorded and people were asked if they used other services in the village. If other services were used these were recorded on a service by service basis. The frequency with which people used the market was discerned together with buying for resale patterns, both in terms of the goods and places involved. Other markets visited were recorded. Estimates were made of the total value of produce sold in each market. In 18 out of the 51 markets this was done by weighing and recording all produce entering the market, determining the average prices of goods, weighing and recording the produce left unsold and calculating the total value of produce sold. These detailed figures were used to check estimates in other markets which were done by determining average price and quantity but which did not involve detailed weighing. A detailed check of 16 representative markets was made in the deficit period to give some idea of seasonal variations.

Other Services¹

In each centre all of the services present, other than shops and businesses already recorded, were recorded along with the year of opening and an estimate of the number of people using each service on a daily basis. In each centre individuals were interviewed and asked to list the services they used in descending order of usage. The number of people who responded to this was 6001.

Perception¹

In the Development Plan the services to be developed in growth centres were grouped in six main categories; Administration and Law enforcement; Communications, power and water; Agricultural and veterinary services; Industry and commerce; Education; and Health facilities. In each centre a random sample of people was asked to list the above services in order of importance. These were presented in the order given above and 6664 responses were obtained. For each respondent age, sex and occupation was recorded. In addition, each respondent was asked his primary and secondary reason for using the village, the village which he or she related to for services and the

1. The details of all questions asked and recorded are given later in the paper.

village in which the respondent marketed goods.

Farm Studies¹

A study was made of a sample of farms in the hinterland of each centre. In all, studies were made of 5141 farms drawn from all over the District. The sex, age and household size of each farmer was recorded. For each farm the total acreage under cultivation crop by crop was recorded, together with livestock totals. Estimates were made of the cash income derived from both crops and livestock. Farmers were also asked whether their cash income had improved or declined and the primary and secondary reason why.

Composite Village¹

For each village an aggregate picture was built up partly by combining information from other files but also by collecting additional data. It includes a population estimate, the total number of each type of business together with aggregates of the time periods in which they were established. The total number of daily customers for all businesses and the total daily turnover. Aggregate information on the market if one exists in the centre is recorded here together with service information. New information recorded includes: the number of buses, lorries and taxis passing through the village; the number of T.V. sets; the existence of piped water and electricity; the distance to the nearest tarmac road; the time taken to reach the main Nairobi road by bus and lorry in both wet and dry seasons and whether or not the village is a designated growth centre.

Transport Study¹

A study was made of "matatua" (public transport vehicles) moving through the District. Detailed studies were made of over 350 vehicles showing the type and age of vehicle, the centres visited, number of miles travelled, number and kinds of passengers carried, amount and type of goods carried, fares, daily turnover, ownership information, main factors perceived as hindering or aiding business and the age, education and experience of the driver and owner.

1. Details of all files are given later in this paper.

Secondary Data

A parallel study was carried out on all available secondary sources on Muranga District. The material collected has not been computerized with the exception of the population data from the 1969 census which has been coded on an enumeration area basis. This data was collected by a separate team based in Nairobi which consisted of one Canadian researcher and a group of Kenyan research assistants which varied in size according to data collection and analysis needs. Data collected from secondary sources was designed to complement the study in two ways. The first of these was to build up a broad picture of the human and physical environment of the District; the second was to complement and add to the specific data in the field.

In the first instance data accumulated was of an aggregate nature largely on a District basis although some information is available at the Divisional level. In the case of the analysis of the physical environment maps on soils, geology, climate especially rainfall (annual and monthly), topography, ecology and drainage were compiled.

With regard to the human environment attention was focused upon the broad nature of the socio-economic and to a lesser extent, political changes in the District both in the Colonial and Post Independence period.

The major sources for the Colonial period were archival documents, Agricultural reports and the minute books of the Local Native and County Councils of Muranga/Fort Hall. A complete index of all sources relating both to Muranga and to the Central Province in the Archives and the Ministry of Agriculture Library has been compiled. The files have been organized on the basis of subject heading chronologically. Consequently it is possible to trace developments in such areas as agriculture, education, roads, water projects, trading centres and markets, health etc.

Sources for the Post Independence period were more numerous and diverse and more time and effort was spent on this period. The annual reports of the Ministry of Agriculture both for Muranga and Central Province were major sources as were the reports of the

District and Provincial Commissions. The minute books of the County Council provided important sources for information on trade licences, summaries were made of the land consolidation records and of all land transactions on a detailed scale. This involved considerable re-organization and recalculation of existing records. A summary of aggregate change in each location has been made.

The files compiled are available in Dr. Kimani's office and have been organized in the following fashion. There are eight main file series organized basically according to source. These are lettered A, a, B, C, D, E, G and Z.

Series "A" Files Source: Kenya National Archives

- A-1 Political and General
- A-2 Missions and Education
- A-3 Posts and Telegraphs, Public Works and Telecommunications
- A-4 Taxation and Finance
- A-5 Supplement to D.C.'s Reports
- A-6 Labour
- A-7 Population Census and Estimates
- A-8 Agriculture and related material
- A-9 Miscellaneous archives, files and documents
- A-10 Fort Hall Political Record Book
- A-11 History of Fort Hall
- A-12 Handing Over Reports (District)
- A-13 Handing Over Reports (Divisional)

Series "a" Files Source: District Commissioners Annual Reports post 1963 which have been considered in greater detail

- a-1 Political and General
- a-2 Farming
- a-3 Missions and Education
- a-4 Public Health and Medical Welfare
- a-5 Labour
- a-6 Taxation and Finance
- a-7 Public Works, Post and Telecommunications; Other

Series "B" Files Source: Minute books of the Local Native,
African District and County Council
of Fort Hall/ Muranga

- B-1 Public Health and Medical Welfare
- B-2(a) Taxation and Finance
- B-2(b) Economic Policy and Legislation
- B-2(c) General Development
- B-2(d) Water Development
- B-3 Missions and Education
- B-4 Trading Centre and Markets
- B-5 Transport and Communications
- B-6 Perceptions and Proposals

Series "C" Files Source: Monthly reports and various files of
the District Health Officer

- C-1 Hospitals, Health Clinics and Dispensaries (General)
- C-2 Infectious Diseases Notified
- C-3 Immunization
- C-4 Analysis of Nutrition Education Work
- C-5 Meat Inspectors
- C-6 Markets
- C-7 Environmental Sanitation
- C-8 Water Projects

Series D. Files Source: The major source is the Ministry of
Agriculture Annual Reports for Muranga
and Central Province. The material was
supplemented from numerous sources as
specified in each individual file.

- D-1 General and Review
- D-2 Weather
- D-3 Food Crops
- D-4 Settlement Schemes
- D-5 Progress in Improved Farming
- D-6 Cash Crops
- D-7 Co-operatives
- D-8 Land Consolidation
- D-9 Tea
- D-10 Coffee
- D-11 Loans
- D-12 Self-help Projects
- D-13 Animal Production
- D-14 Monthly Returns: Divisional Agricultural Officers.
 - a. Kandara
 - b. Kigumo
 - c. Kiharu
 - d. Kangema
 - e. Maragura Ridge

Series "E" Files

Source: Various, organized on a location basis with information on day care centres, village histories and Ministry of Works construction. Included in this series are files on land transactions extracted from the presentation books of the Land Registry, Muranga.

- E-1 Gatanga Location File
- E-2 Kinyona Location File
- E-3 Ruchu Location File
- E-4 Muruka Location File
- E-5 Gachanjiru Location file
- E-6 Muthithi Location File
- E-7 Ngonda Location File
- E-8 Mugoiri Location File
- E-9 Kanyenyaini Location File
- E-10 Weithaga
- E-11 Mbiru
- E-12 Iyego
- E-13 Gitugi
- E-14 Kiru
- E-15 Gaturi
- E-16 Kariara
- E-17 Kamahuhu
- E-18 Kigumo
- E-19 Kiriti
- E-20 Gikindu
- E-21 Muranga Town
- E-22 Presentation Books

Series "B" Files

Series "G" Files

Source: Various

- G-1 Maps of Various aspects of Muranga's physical base

Series "Z" Files References

- Z-1 Archives Reference Catalogue-Fort Hall
- Z-2 Archives Reference Catalogue- Cental Province
- Z-2 Archives Reference Catalogue-Agriculture

Box 1: Unprocessed Raw Secondary Data (contains quarterly returns; Self help projects, 1st, 2nd and 4th quarter 1970 and 1971 and 1st, 2nd, 3rd and 4th quarters 1972; Trading Clearance Certificates 1973; and Plot Size data from the Land Registry)

Box 2: Market Maps-Muranga. Copies of these compiled by Muranga County Council.

Data Reliability;

Survey research, especially on the scale attempted here, suffers from many data collection problems. All of the usual field data collection problems were encountered in varying degrees. In interpreting the data the following points should be borne in mind:

1. Shops and Businesses

Questions relating to daily turnover and size of stock are always difficult. Given the attitudes of Muranga businessmen the figures are likely to be on the low side in both categories in absolute terms, but retain their validity in comparative terms. Ranges of stock value used for example had a maximum of 1001/- and over. This missed some of the very large businesses in centres such as Muranga, Maragua and Saba Saba where stock values rose to as high as 40,000/-. The number of shops in this category is difficult to estimate but was certainly not large. Many shop keepers had difficulty in estimating their stocks as they kept no adequate records. Many of the researchers became very good at asking questions and making their own estimates of stock size which often differed from the shop keepers guess. Daily turnover was given by some small shopkeepers with great accuracy. The lowest category of less than 50/- per day may not have been fine enough to catch some important differences. Many establishments recorded daily turnovers of 10 - 15/-. others were about the 35/- range yet these are all grouped together although the 35/- man might class himself as doing very well whereas the 10- 15/- man was barely holding his own. The general tendency of the shopkeeper was to understate his daily turnover and the larger shopkeeper the less likely the absolute accuracy of the figure given. In comparative terms the figures are accurate; in absolute terms they represent what is probably a minimum daily figure. The figures have consequently been calculated as a range giving the minimum and maximum figures available from the data. The maximum figure is probably closest to the truth and even that is probably low.

Questions relating to new goods added over the last ~~three years~~ should also be viewed with some caution as many of the shop and businesses have opened within the last three year period and consequently the goods they stocked are by definition "new."

The absolute data on the year a business opened is also sometimes suspect as individual shopkeepers sometimes did not know, especially if they had taken over the business from someone else. This was cross-checked from secondary trade licence sources which showed that the trends were accurate although individual dates were in many cases suspect.

Data on closed businesses is also somewhat sketchy as often the businessman concerned was not present. Information was collected from other businessmen in the centre and may not in all cases have been completely accurate. Attempts were made however to get at it from more than one source.

It was found that one "duka" might house several businesses. Where this happened each was recorded separately but it is likely that several businesses of which some are unlicensed may have been missed. This applies especially to itinerant businesses such as barbers.

Business in many of the establishments varies throughout the year and especially throughout the month. This was taken into account during data collection and as data was collected on a continuous basis over a year the aggregate picture will be accurate. No indication of the scale of seasonal fluctuation is however given in the data.

2. Markets

Seasonality strongly affects these markets. The aggregate picture is a fair one as the survey of the markets extended right over a calendar year. In addition several markets were studied twice the second study being made during the deficit period of July to give comparative figures. No account could however be taken of annual fluctuations based on the weather. 1972-1973 was however neither an exceptionally good nor an exceptionally bad year..

3. Other Services

The year of opening of each service given in the field is often not accurate. It can be checked however from the secondary sources available. The estimates of the number of people using the service on a daily basis are those of the people involved in running these services rather than accurate counts. In some instances records are kept; in others they are not.

4. Perception

Collecting this data was very time consuming as it involved long explanations in Kikuyu. The data is reliable within the constraints of the questions asked.

5. Farm Studies

The cash income figures again should be viewed with caution and are liable to be low estimates. They represent profit rather than actual income and are useful on a comparative, rather than an absolute basis. Many of the researchers mentioned the unwillingness of the farmers to give an accurate total for their household size for superstitious reasons.

6. Composite Village

Largely derived from other files. The reliability of the data is dependent upon these.

7. Transport Study

Individual drivers were highly suspicious and information was not easy to obtain. There is an official rate of 12 cents per mile and when asked most drivers gave this rate. However in real terms there was considerable variation which the researchers by observation were able to record. Data on income was especially difficult to obtain and represents an underestimate of profit. Many of the responses to questions on investment of capital are of dubious value.

8. General Considerations

Interviewer bias is a problem in any type of survey research and it indubitably occurred here. To counteract the effect of this, several interviewers were used for each centre. A large number of interviewers was involved and there were staff turnovers during the year so that biases are likely to have cancelled each other out.

It is doubtful if data reliability was seriously affected by the substitution of "O" and "A" level people for University Graduates in the data collection process. The quality of individual field staff varied but in general they did an excellent job.

The cooperation received at all levels from the people of Murangis was excellent and this it is felt has added greatly to the reliability of the data. Without this active cooperation the

... compilation of data of this type would not have been possible. In general the reliability of the data, especially at the comparative and aggregate level is as high as can possibly be expected given the field circumstances.

... detailed description of these files is given later in this report. A preliminary report on the University of Michigan Business Survey is available in the form of a preliminary report from the Survey of Business and Industry in Michigan. District 10 contains information on about 500 shops and businesses. The above information has been prepared in a form which is suitable for computer processing and will allow easy access to the information on the 500 shops and businesses. The information is given in a form which is suitable for computer processing and will allow easy access to the information on the 500 shops and businesses. The information is given in a form which is suitable for computer processing and will allow easy access to the information on the 500 shops and businesses.

Computer Processing of Data

All of the primary data collected in the field has been computerized. Computerization of data gives several advantages:

- 1) Computerization allows easier handling of the large amounts of data collected.
- 2) Data aggregation, manipulation and analysis is facilitated.
- 3) Data can be accessed quickly and easily.

The basic data bank has been built on the University of Nairobi computer. A duplicate data bank exists at Carleton University, Ottawa, Canada. Before data is used, permission should be obtained from Dr. Samson Kimani of the Department of Geography, Kenyatta University College (Telephone Templar 356) or D. R. F. Taylor, Department of Geography, Carleton University, Ottawa K1S 5B6, Canada. Full acknowledgement should be made if the data bank is used. This document contains full details which will allow easy use of the data. Technical questions relating to the data bank should be addressed to Dr. Taylor or Mr. Jonathan Abbott of the University of Nairobi Computing Centre. A copy of any publication or paper utilizing the data or any part of it should be sent to Dr. Kimani and Dr. Taylor.

The data has been computerized in basic survey fashion. There are ten basic files which have been set up in a form to allow use of the data rather than to answer the specific needs of this research project. The aim has been to produce a basic interdisciplinary data bank useable by a wide variety of researchers with different interests. Detailed description of these files is given later in this document; a brief summary will be given here.

File 0 - A transport study of public vehicles. Detailed information is available on about 350 "matatus."

File 1 and 2 - Detailed information on a shop by shop, business by business basis of the 3697 shops and businesses in Maranga District. File 2 contains information on about 400 shops and businesses of the above total which have gone out of business or closed. File 1 and 2 in computer terms are treated as one file.

File 3 - Detailed information on the 51 Barter Markets in Muranga District.

File 4 - Information on the services other than shops and markets available in Muranga District such as schools, health centres, administration, etc.

File 5 - Individual records on the perception of 6634 respondents on the relative importance of different groups of services. It contains information on each individual; sex, age and occupation.

File 6 - Detailed information on 5141 farms drawn from all areas of Muranga District.

File 7 - A composite village file which amalgamates information available on the 253 villages in Muranga based on the other files as well as additional information on the village such as transport.

File 8 - A population file which contains information from the 1969 census on an enumeration area level of disaggregation.

File 9 - Information on the use of other services which appear in File 4.

All files with the exception of File 0 have been geocoded which allows access to be made at the District level, the Divisional level, the Locational level, the Sub-locational level, and village level or the enumeration area level. Hence different levels of spatial analysis as well as statistical analysis are possible. Villages have also been coded as to whether or not they were designated as growth centres in the 1970-74 Development Plan.

DETAILED DATA BANK DESCRIPTION

File code (0 - 9) - column one (1) on all cards* within each file. Files 1 and 2 are treated as one file.

Village code - columns 2 - 10 on all cards within each of the following files: 1 and 2, 3, 4, 5, 6, 7, 9. Each village was uniquely geo-coded by division (digits 2 - 3), sub-location (digits 4 - 5), enumeration area (digits 6 - 7), village (digits 8 - 9). Sub-location codes begin with 01 for each location as do enumeration areas for each sub-location and villages for each enumeration area. A complete list of codes appears later in this document. Villages have also been coded on the basis of whether or not they are designated growth centres. This appears on file 7 card 5 column 34.

Village name - card 1, columns 11 - 35 for the following files: 1 and 2, 3, 4, 6, 7, 9.

Records for all files consist of one or more 80 column cards.

Card number within each record is in column 80 on each card (except for file 8 which has no card number). Specific record formats for each file are given later in this document.

* The word "card" is used here to mean an 80 column card image. As the files are on magnetic tape, records with more than one card should be considered as follows:

card 1: tape columns 1 - 80
card 2: tape columns 81 - 160
card 3: tape columns 161 - 240
card 4: tape columns 241 - 320
card 5: tape columns 321 - 400
card 6: tape columns 401 - 480

Magnetic Tape Descriptions

Each tape ends with a 99999....record of at least 80 columns. This record is not counted in number of records for each file.

Each file has been transferred to two magnetic tapes, one in STANDARD format and one in FORTRAN format. The FORTRAN tapes can be accessed by FORTRAN user programs and FORTRAN package programs except for XDS3. The STANDARD tapes can be accessed by user programs written in PLAN or COBOL and ICL package programs except for XDS3. For each file, the following information is given: format, tape file name, tape reel number.

File 0: 3 cards, - 240 characters, - 364 records (record = Matatu)
STANDARD - TRANSPORTSTN - Reel 10144
FORTRAN - TRANSPORTFTN - Reel 10145

File 1 and 2: 2 cards - 160 characters - 3697 records (record = duka)
STANDARD - DUKAFILESTAN - reel 20535
FORTRAN - DUKAFILEFORT - reel 20536

File 3: 5 cards - 400 characters - 51 records (record = market)
STANDARD - MARKETFILEST - reel 10132
FORTRAN - MARKETFILEFT - reel 10133

File 4: 1 card - 80 characters - 2003 records (record = service)
STANDARD - OTHERSERVSTN - reel 10134
FORTRAN - OTHERSERVFTN - reel 10135

File 5: 1 card - 80 characters - 6634 records (record = person interviewed)

STANDARD - PERCEPTIONST - reel 20537

FORTTRAN - PERCEPTIONFT - reel 20540

File 6: 3 cards - 240 characters - 5141 records (record = farm)

STANDARD - FARMSSTANDRD - reel 20541

FORTTRAN - FARMSFORTTRAN - reel 20542

File 7: 6 cards - 480 characters - 253 records (records (record = village)

STANDARD - COMPVILLSTAN - reel 10136

FORTTRAN - COMPVILLFORT - reel 10137

File 8: 1 card - 80 characters - 734 records (record = enumeration area)

STANDARD - POPULATIONST - reel 10140

FORTTRAN - POPULATIONFT - reel 10141

File 9: 1 card - 80 characters - 239 records (record = village)

STANDARD - OTHERSDRVPST - reel 10142

FORTTRAN - OTHERSERVPFT - reel 10143

FILE 0
TRANSPORTATION

card	column	
(1)	1	file code (0)
(1)	2-4	number of vehicle in study
(1)	5	type of vehicle 1 matatu, 2 w.d. 2 matatu, 2 w.d., combie 3 matatu, 4 w.d. 4 passenger bus 5 saloon taxi (pgt) 6 lorry (any size) 7 other (specify)
(1)	6	route of vehicle - this vehicle usually travels 1 a round-trip, not returning the same way 2 a round-trip, returning the same way 3 indefinite route pattern centres, in order of visit-frequency
(1)	7-15	1st
(1)	16-24	2nd
(1)	25-33	3rd
(1)	34-42	4th
(1)	43-51	5th
(1)	52-60	6th
(1)	61-69	7th type of growth centre (visited centres) 1 not a growth cnt 2 urban 3 market 4 rural 5 local
(1)	70	1st
(1)	71	2nd
(1)	72	3rd
(1)	73	4th
(1)	74	5th
(1)	75	6th
(1)	76	7th
(1)	77-78	year of registration of vehicle
(1)	79	main purpose of vehicle 1 passenger 2 goods 3 both
(1)	80	card number (1)
(2)	1	file code (0)
(2)	2-4	number of vehicle in study
(2)	5-6	number of owners, shareholders, for this vehicle
(2)	7	number of employees for this vehicle
(2)	8	number of vehicles previously used on this route and replaced due to accident or deterioration
(2)	9-10	number of years of service provided by the company for this situation

card column

- (2) 11-13 number of passengers which can be seated in vehicle
- (2) 14-17 number of tons of vehicle load capacity
- (2) 18-19 number of times vhcl travels primary route per day
- (2) 20-21 number of times vhcl travels secondary route per day
- (2) 22-24 number of miles vhcl travels on average per day
number of passengers served en route by vhcl on average per day for the following conditions
- (2) 25-28 1 normal day (week-day, dry season)
- (2) 29-32 2 week-end day, dry season
- (2) 33-36 3 prior to end-of-month pay-day
- (2) 37-40 4 after end-of-month pay-day
- (2) 41-44 5 week-day, wet season
- (2) 45-48 6 special case (specify)
- (2) 49 do transport fees for passengers/goods
 - 1 remain the same for all the above conditions
 - 2 change according to the above conditionsbasic passenger fee for the following conditions (cents/m.)
- (2) 50-51 normal day (week-day, dry season)
- (2) 52-53 week-end day, dry season
- (2) 54-55 prior to end-of-month pay-day
- (2) 56-57 after end-of-month pay-day
- (2) 58-59 week-day, wet season
- (2) 60-61 on tarmac sections
- (2) 62-63 on murrum sections
- (2) 64-65 on seasonal roads during rains
- (2) 66-67 in remote regions (forest areas), poor roads
- (2) 68-69 special case (specify)
- (2) 70-74 K.Sh. earned daily, on average, goods and passengers
- (2) 75 if a profit, into what is capital invested, most of all
 - 1 improve existing land
 - 2 buy additional land
 - 3 improve existing duka, whls
 - 4 buy duka or wholesale
 - 5 improve this business
 - 6 start extra transport
 - 7 family living costs
 - 8 savings, bonds
 - 9 other (specify)
- (2) 76 a second investment of profits from business (see (2) 75)
- (2) 77 a third investment of profits from business (see (2) 75)
- (2) 78 first priority for business plans, in present situation
 - 1 expand service of this route by additional vehicles
 - 2 expand service by starting new routes
 - 3 continue service as is
 - 4 terminate business
 - 5 other (specify)

card column

- (2) 79 second priority for business plans
- (2) 80 card number (2)
- (3) 1 file code (0)
- (3) 2-4 number of vehicle in study
- how factors listed affect business, estimated on the following scale:
 - 1 enables significant success
 - 2 contributes to business for profit
 - 3 has no effect
 - 4 hinders business slightly
 - 5 hinders business significantly
 - 6 will cause bankruptcy
- (3) 5 the topography or shape of the land en route
- (3) 6 the conditions of roads en route (tarmac, murrum)
- (3) 7 competition by rival transport companies en route
- (3) 8 availability of loans for business
- (3) 9 availability of capital from personal sources
- (3) 10 economic success of area being served en route
- (3) 11 presence of public services en route (dispensaries, etc.)
- (3) 12 legal problems (police checks, fines, etc.)
- (3) 13 presence of centres (towns) en route
- (3) 14 presence of markets en route
- (3) 15 availability of vehicle maintenance, petrol, etc.
- (3) 16 rains
- (3) 17 gov't restrictions on vehicle parts, tires, etc.
- (3) 18 other (specify)
- (3) 19 other (specify)
- (3) 20 identity of driver
 - 1 owner
 - 2 employee, relative of owner
 - 3 employee, non-relative
- (3) 21 sex of driver 1 male 2 female
- (3) 22-23 age of driver
- (3) 24 formal education of driver
 - 1 none
 - 2 primary I-IV incomplete
 - 3 primary V-VII incomplete
 - 4 O-level incomplete
 - 5 A-level incomplete
 - 6 post secondary incomplt
 - 7 post secondary complete
 - 8 other additional
- (3) 25-26 number of years of driving experience
- ownership information (if the driver is not the owner)
- (3) 27 sex of owner 1 male 2 female
- (3) 28-29 age of owner

card colum

- (3) 30 formal education of owner- (see (3) 24)
- (3) 31-32 number of years of ownership in this business
- (3) 33-34 average time of day business begins (hours 01- 24)
- (3) 35-36 average time of day business ends (hours 01 - 24)
- (3) 37 is business available and used "off hours" for hire
 - 1 never 2 rarely
 - 3 sometimes 4 often
- goods carried by vehicle for passenger or for hire using the following designations:
 - 1 never 2 rarely
 - 3 sometimes 4 often
- (3) 38 subsistence crops from shamba to sell or barter at market
- (3) 39 subsistence crops from shamba to sell at duka
- (3) 40 subsistence crops obtained at duka/mrket for consumption
- (3) 41 subsistence crops obtained at duka/mrkt for resale
- (3) 42 cash crops from shamba to sell to cooperative
- (3) 43 cash crops from shamba to sell to wholesalers
- (3) 44 cash crops purchased for resale elsewhere
- (3) 45 chickens for sale or purchased
- (3) 46 sheep for sale or purchased
- (3) 47 goats for sale or purchased
- (3) 48 pigs for sale or purchased
- (3) 49 dairy cattle for sale or purchased
- (3) 50 beef cattle for sale or purchased
- (3) 51 manufactured goods: category 1 - food
- (3) 52 manufactured goods: category 2 - household goods
- (3) 53 manufactured goods: category 3 - clothing and blankets
- (3) 54 manufactured goods: category 4 - luxury items
- (3) 55 manufactured goods: category 5 - farm equipment and supplies
- (3) 56 manufactured goods: category 6 - medical supplies
- (3) 57 manufactured goods: category 7 - transportation items
- (3) 58 manufactured goods: category 8 - other
- to what degree is this vehicle used by the following people and/or circumstances, using the following designations
 - 1 never 2 rarely
 - 3 sometimes 4 often
- (3) 59 farmers as passengers
- (3) 60 farmers on hiring basis
- (3) 61 duka businessmen, etc. as passengers

- card column
- (3) 62 duka businessmen, etc. on hiring basis
 - (3) 63 government officials on business
 - (3) 64 professional people (teachers, etc.) to employment
 - (3) 65 migrant workers (rural residents commuting to centres)
 - (3) 66 market buyers and/or sellers
 - (3) 67 primary students
 - (3) 68 secondary students
 - (3) 69 other (specify)
- rank order of the degree to which the following major urban centres influence this transport (take or provide passengers/goods)
- (3) 70 Maragua
 - (3) 71 Meru
 - (3) 72 Muranga - Mukuyu
 - (3) 73 Nairobi
 - (3) 74 Nyeri
 - (3) 75 Saba Saba
 - (3) 76 Thika
 - (3) 77-78 age of vehicle to nearest year
 - (3) 79 odometre reading, basis given in miles
 - 1 under 1,000 2 1,000 to 5,000
 - 3 5,000 to 10,000 4 10,000 to 20,000
 - 5 20,000 to 30,000 6 30,000 to 40,000
 - 7 40,000 to 50,000 8 50,000 to 60,000
 - 9 over 60,000
 - (3) 80 card number (3)

FILES 1 & 2

DUKA

card	column	
(1)	1	file code (1 - open, 2 - closed)
(1)	2-10	village code
(1)	11-35	village name
(1)	36	type of duka 1 wholesale 2 retail/wholesale 3 general 4 general/specialized 5 specialized
(1)	37-38	type of specialty (if specialized or genrl/specialized) 01 butcher 02 baker 03 bicycle repair 04 hotel 05 bar 06 tailor 07 laundry 08 carpenter 09 blacksmith 10 shoe repair, shoe shop 11 car repair 12 petrol station 13 lodging 14 bookstore 15 maize mill 16 barber 17 charcoal, wood 18 metal work 19 hides and skins 20 slaughterhouse 21 weaver, knitter 22 clothier 23 sugar mill 24 saw mill 25 quarry 26 maize store 27 mobile kiosk 28 building supplies 29 dairy 30 watch repair 31 artisans 32 water, soup, samosa seller 33 wattlebark str 34 other - dispensary, shoeshine
(1)	39-40	year of opening of present business
(1)	41-44	number of daily customers
(1)	45	size of stock by value in shillings 1 0-100 2 101-300 3 301-700 4 701-1000 5 1001 and over
(1)	46	daily turnover in shillings 1 less than 50 2 50-100 3 101-200 4 201 and over goods stocked by category (1 = yes 2 = no)
(1)	47	category 1 - food
(1)	48	category 2 - household goods
(1)	49	category 3 - clothing and blankets
(1)	50	category 4 - luxury items
(1)	51	category 5 - farm equipment and supplies
(1)	52	category 6 - medical supplies
(1)	53	category 7 - transportation items
(1)	54	category 8 - other new goods stocked in the last three years (1 = yes 2 = no)
(1)	55	category 1 - food

card	column	
(1)	56	category 2 - household goods
(1)	57	category 3 - clothing and blankets
(1)	58	category 4 - luxury items
(1)	59	category 5 - farm equipment and supplies
(1)	60	category 6 - medical supplies
(1)	61	category 7 - transportation items
(1)	62	category 8 - other
(1)	63-76	blank
(1)	77-79	duka identification
(1)	80	card number (1)
(2)	1	file code (1 - open, 2 - closed)
(2)	2-10	village code
(2)	11-12	if closed duka, year closed
(2)	13	if closed duka, primary reason closed 1 lack of business 2 lack of capital 3 no trade liscenc 4 other 5 relocated shop 6 emergency
(2)	14	if closed duka, secondary reason closed (see (2) 13)
(2)	15	does shopkeeper: 1 own 2 rent
(2)	16	if owner, other source of income 1 no 2 land 3 other shop 4 other job 5 buses 6 other
(2)	17	if renter, other source of income (see (2) 16)
(2)	18	amount of time spent in shop 1 all 2 half 3 less than half
(2)	19-20	time shop opens (hours 01 - 24)
(2)	21-22	time shop closes (hours 01 - 24)
(2)	23-24	time shop opens again, if twice (hours 01 - 24)
(2)	25-26	time shop closes again, if twice (hours 01 - 24)
(2)	27-28	number of people working in the shop
(2)	29-30	month survey taken
(2)	31-32	number of proprietors
(2)	33	primary reason shop was built/rented here 1 near the farm 2 good trade and business 3 near friends and relatives 4 inherited, running for a relative 5 other 6 don't know 7 government assigned the plot 8 no other shop available

card column

- (2) 34 secondary reason shop was built/rented here (see (2) 33)
- (2) 35 has the business improved over the last few years
 - 1 improved
 - 2 about the same
 - 3 declined
 - 4 don't know
- (2) 36 if improved, why
 - 1 improved road conditions
 - 2 people have more money
 - 3 new services introduced
 - 4 decreased demand for goods
 - 5 loan available for business
 - 6 don't know
 - 7 other
 - 8 decrease in competition
- (2) 37 if declined, why
 - 1 worse road conditions
 - 2 people have less money
 - 3 lack of services
 - 4 decreased demand for goods
 - 5 no loan available for business
 - 6 don't know
 - 7 other
 - 8 increase in competition
- (2) 38 expansion plans for the near future
 - 1 yes, definite plans underway
 - 2 no, nothing has been done
 - 3 would like to but ... no definite plans
- (2) 39 primary source of stock
 - 1 Nairobi
 - 2 Thika
 - 3 Muranga
 - 4 Maragua
 - 5 wholesaler in v1
 - 6 dealer delivers
 - 7 local trader
 - 8 other
 - 9 Saba Saba
- (2) 40 secondary source of stock (see (2) 39)
- (2) 41-76 blank
- (2) 77-79 duka identification
- (2) 80 card number (2)

FILE 3

MARKET

card	column	
(1)	1	file code (3)
(1)	2-10	village code
(1)	11-35	village name
(1)	36	type of market 1 general traditional (liscenced) 2 cattle auction 3 roadside 4 rented market (stalls, buildings)
(1)	37-38	year started
(1)	39	when market open 1 every day 2 once weekly 3 twice weekly 4 thrice weekly 5 occasionally
(1)	40-43	total female sellers
(1)	44-47	total female buyers
(1)	48-51	total male sellers
(1)	52-55	total male buyers
(1)	56-60	total people from tickets (if available) product categories in the market (1 = yes 2 = no)
(1)	61	category 1 - food
(1)	62	category 2 - household goods
(1)	63	category 3 - clothing
(1)	64	category 4 - beverages and food (eaten at market)
(1)	65	category 5 - medicines, ornaments, miscellaneous
(1)	66	category 6 - livestock
		primary reasons people come to market (totals)
(1)	67-70	sell products
(1)	71-73	buy products
(1)	74-76	to socialize
(1)	77-79	market identifier
(1)	80	card number (1)
(2)	1	file code (3)
(2)	2-10	village code
		primary reasons people come to market (continued)
(2)	11-14	to meet friends
(2)	15-18	curiosity
(2)	19-22	other
		secondary reasons people come to market (totals)
(2)	23-26	sell products

card	column	
(2)	27-30	buy products
(2)	31-34	to socialize
(2)	35-38	to meet friends
(2)	39-42	curiosity
(2)	43-46	other
		how people come to market (totals)
(2)	47-50	bus
(2)	51-54	car
(2)	55-58	lorry
(2)	59-62	bicycle
(2)	63-66	foot
(2)	67-68	month survey taken
		people using other services in the village
(2)	69-72	number yes
(2)	73-76	number no
(2)	77-79	market identifier
(2)	80	card number (2)
(3)	1	file code (3)
(3)	2-10	village code
		services used (totals)
(3)	11-13	shops
(3)	14-16	D.C
(3)	17-19	court
(3)	20-22	police
(3)	23-25	bar
(3)	26-28	community development officer
(3)	29-31	social centre
(3)	32-34	bank
(3)	35-37	District Agricultural Officer
(3)	38-40	District Veterinary Officer
(3)	41-43	Chief
(3)	44-46	other
		frequency the market is visited (totals)
(3)	47-50	regularly (rarely miss a day)
(3)	51-54	often, but not always
(3)	55-57	occasionally

card	column	
(3)	58-60	seldom
(3)	61-64	total number of people buying products to resell where products are sold again (totals)
(3)	65-67	another market
(3)	68-70	Nairobi
(3)	71-73	Thika
(3)	74-76	Muranga
(3)	77-79	market identifier
(3)	80	card number (3)
(4)	1	file code (3)
(4)	2-10	village code where products are sold again (continued)
(4)	11-13	other town
(4)	14-16	home area
(4)	17-19	elsewhere product categories sold again (total people)
(4)	20-22	category 1 - food
(4)	23-25	category 2 - household goods
(4)	26-28	category 3 - clothing
(4)	29-31	category 4 - beverages and food (eaten at market)
(4)	32-34	category 5 - medicines, ornaments, miscellaneous
(4)	35-37	category 6 - livestock
(4)	38-40	total people bringing products to sell, bought elsewhere where the products were bought (total people)
(4)	41-43	another market
(4)	44-46	Nairobi
(4)	47-49	Thika
(4)	50-52	Muranga
(4)	53-54	other town
(4)	55-57	home area
(4)	58-60	elsewhere product categories brought to sell again
(4)	61-63	category 1 - food
(4)	64-66	category 2 - household goods
(4)	67-69	category 3 - clothing
(4)	70-71	category 4 - beverages and food (eaten at market)

card	column	
(4)	72-74	category 5 - medicines, ornaments, miscellaneous
(4)	75-76	category 6 - livestock
(4)	77-79	market identifier
(4)	80	card number (4)
(5)	1	file code (3)
(5)	2-10	village code
		visit of other markets
(5)	11-13	number yes
(5)	14-16	number no
		frequency other markets visited (totals)
(5)	17-19	regularly (rarely miss a day)
(5)	20-22	often, but not always
(5)	23-25	occasionally
(5)	26-28	seldom
(5)	29-33	estimated value of products
(5)	34-76	blank
(5)	77-79	market identifier
(5)	80	card number (5)

FILE 4
OTHER SERVICES

card column

- (1) 1 file code (4)
- (1) 2-10 village code
- (1) 11-35 village name
- (1) 36-37 service (see codes for Other Services)
- (1) 38-39 year established
- (1) 40-44 number of people per day using the service
- (1) 45-77 blank
- (1) 78-79 month survey taken
- (1) 80 card number (1)

CODES FOR OTHER SERVICES

Administration and Law Enforcement

- 01 District Commissioner
- 02 District Officer
- 03 Chief
- 04 Sub-Chief
- 05 Headman
- 06 police station
- 07 police post
- 08 district court
- 09 local court

Agricultural and Veterinary Services

- 10 District Agricultural Officer
- 11 Assistant Agricultural Officer
- 12 Agricultural Instructor
- 13 Land Adjudication Officer
- 14 Veterinary Officer
- 15 Livestock Officer
- 16 Range Management Officer

Educational Facilities

- 17 government nursery school
- 18 harambee nursery school
- 19 mission nursery school
- 20 government primary school
- 21 harambee primary school
- 22 mission primary school
- 23 government secondary school
- 24 harambee secondary school
- 25 mission secondary school
- 26 village polytechnic
- 27 farm training centre
- 28 district development centre
- 29 technical institute
- 30 District Education Officer

Health and Social Services

- 31 dispensary
- 32 health centre
- 33 hospital
- 34 District Nurse
- 35 District Medical Officer of Health
- 36 Community Development Officer
- 37 social centre

Churches

- 38 A.C.C.&S. Church
- 39 A.I.M. Church
- 40 Catholic Mission Church
- 41 Anglican Church
- 42 Moslem Mosque
- 43 S.D.A. Church
- 44 Presbyterian Church
- 45 other church

Industry and Commerce

- 46 Cooperative Officer
- 47 Marketing Officer
- 48 Marketing Board
- 49 Marketing Agent
- 50 coffee factory
- 51 tea factory
- 52 maize mill
- 53 other industry and tea collection centre
- 54 bank
- 55 mobile bank
- 56 coffee cooperative
- 57 tea cooperative
- 58 dairy cooperative
- 59 vegetable cooperative
- 60 other cooperative

Communications and Power

- 61 post office
- 62 postal agency
- 63 airstrip
- 64 piped water supply
- 65 electricity

Other

- 66 youth centre
- 67 sugar mill
- 68 petrol station
- 69 cattle dip
- 70 quarry
- 71 saw mill
- 72 skin dealer
- 73 hostel for schools
- 74 milk collection centre

FILE 5
PERCEPTION

card	column	
(1)	1	file code (5)
(1)	2-10	village code
(1)	11-35	village name
(1)	36-37	age
(1)	38	sex 1 male 2 female
(1)	39-40	occupation
		01 farmer (owning the farm)
		02 farm worker
		03 shopkeeper
		04 shop worker or helper in shop (barmaid)
		05 teacher
		06 government officer - D.C., D.O., Chief
		07 government employee - clerk, A.O., G.S.U.
		08 trader
		09 tradesman - carpenter, tailor, butcher, fundi
		10 primary school child
		11 secondary school student
		12 hotel worker (Hilton), domestic servant
		13 factory and cooperative worker
		14 casual employment, odd jobs
		15 drivers and turnboys, machine operators
		16 unemployed
		17 other
		18 office worker
		19 clergy
		20 labourer
		21 professional - engineer, doctor, lawyer
		services, in order of importance, person would like to see later developed in the village
(1)	41	administration and law enforcement
(1)	42	communications, power, water
(1)	43	agricultural and veterinary services
(1)	44	industry and commerce
(1)	45	education
(1)	46	health facilities
(1)	47-48	primary reason for using the village
		01 live in the village
		02 to shop
		03 to socialize
		04 D.C., administration, police
		05 post office
		06 to catch a bus
		07 agricultural and veterinary services
		08 health facilities
		09 education
		10 other
		11 to sell things
		12 work in the village

card	column	
(1)	49-50	secondary reason for using the village (see (1) 47-48)
(1)	51-52	month survey taken
(1)	53-61	village related to for services etc.
(1)	62-70	village in which goods marketed
(1)	71-79	blank
(1)	80	card number (1)

FILE 6

FARMS

card	column	
(1)	1	file code (6)
(1)	2-10	village code
(1)	11-35	village name
(1)	36-37	age of farmer
(1)	38	sex 1 male 2 female
(1)	39-40	number of people in the household
(1)	41-42	number of persons working the land
(1)	43-46	total acreage
(1)	47-50	acreage under cultivation
		acreage devoted to:
(1)	51-54	coffee
(1)	55-58	tea
(1)	59-62	pineapple
(1)	63-66	maize and beans
(1)	67-70	sisal
(1)	71-74	fruits and vegetables
(1)	75-76	month survey taken
(1)	77-79	farm identification
(1)	80	card number (1)
(2)	1	file code (6)
(2)	2-10	village code
		acreage devoted to: (continued)
(2)	11-14	grazing land for cattle
(2)	15-18	wattle
(2)	19-22	other crops
		annual income in shillings from:
(2)	23-26	coffee
(2)	27-30	tea
(2)	31-34	pineapple
(2)	35-38	maize and beans
(2)	39-42	sisal
(2)	43-46	fruits and vegetables
(2)	47-50	blank
(2)	51-54	wattle
(2)	55-58	other crops
(2)	59-61	number of cattle
(2)	62-64	number of sheep

card	column	
(2)	65-67	number of goats
(2)	68-70	number of pigs
(2)	71-73	number of chickens
(2)	74-76	number of other animals
(2)	77-79	farm identification
(2)	80	card number (2)
(3)	1	file code (6)
(3)	2-10	village code
		annual income in shillings from:
(3)	11-15	cattle
(3)	16-19	sheep
(3)	20-23	goats
(3)	24-27	pigs
(3)	28-31	chickens
(3)	32-35	other animals
(3)	36	membership in cooperative 1 yes 2 no
(3)	37	change in cash income over the past few years 1 improved 2 declined 3 about the same 4 don't know
(3)	38	if improved, primary reason for improvement 1 better agricultural and veterinary services 2 new or better cash crops available 3 transportation improved 4 marketing system improved 5 loans available 6 better weather conditions 7 other 8 better soil conditions
(3)	39	secondary reason for improvement (see (3) 38)
(3)	40	if declined, primary reason for decline 1 inadequate agricultural and veterinary services 2 cash crops not available 3 poor transportation 4 poor marketing system 5 no loans available 6 poor weather conditions 7 other 8 poor soil conditions 9 farm too small to be viable
(3)	41	secondary reason for decline (see (3) 40)
(3)	42-76	blank
(3)	77-79	farm identification
(3)	80	card number (3)

FILE 7
COMPOSITE VILLAGE

card	column	
(1)	1	file code (7)
(1)	2-10	village code
(1)	11-35	village name
(1)	36-40	total population (estimate)
(1)	41-45	blank
(1)	46-48	total number of dukas (open and closed) total number for each type of duka
(1)	49-50	wholesale
(1)	51-52	retail/wholesale
(1)	53-55	general
(1)	56-58	general/specialized
(1)	59-61	specialized
(1)	62-63	closed dukas
		total number of open specialized and general/specialized
(1)	64-65	butchery
(1)	66-67	bakery
(1)	68-69	bicycle repair
(1)	70-71	hotel
(1)	72-73	bar
(1)	74-75	tailor
(1)	76-77	laundry and dry cleaner
(1)	78-79	carpenter
(1)	80	card number (1)
(2)	1	file code (7)
(2)	2-10	village code
		total number of open specialized and general/specialized
(2)	11-12	blacksmith
(2)	13-14	shoe repair, shoe shop
(2)	15-16	car repair, garage
(2)	17-18	petrol station
(2)	19-20	lodging
(2)	21-22	bookstore
(2)	23-24	maize mill
(2)	25-26	barber
(2)	27-28	charcoal and firewood (continued on card 6)
		general dukas (open and closed) by year of opening

card column

- (2) 29-30 1900 - 1910
- (2) 31-32 1911 - 1920
- (2) 33-34 1921 - 1930
- (2) 35-36 1931 - 1940
- (2) 37-38 1941 - 1945
- (2) 39-40 1946 - 1950
- (2) 41-42 1951 - 1955
- (2) 43-44 1956 - 1960
- (2) 45-46 1961 - 1963
- (2) 47-48 1964 - 1966
- (2) 49-50 1967 - 1969
- (2) 51-52 1970 - 1973

specialized and general/specialized dukas (open and closed)
by year of opening

- (2) 53-54 1900 - 1910
- (2) 55-56 1911 - 1920
- (2) 57-58 1921 - 1930
- (2) 59-60 1931 - 1940
- (2) 61-62 1941 - 1945
- (2) 63-64 1946 - 1950
- (2) 65-66 1951 - 1955
- (2) 67-68 1956 - 1960
- (2) 69-70 1961 - 1963
- (2) 71-72 1964 - 1966
- (2) 73-74 1967 - 1969
- (2) 75-76 1970 - 1973

(2) 77

origin code

- 1 traditional market centre
- 2 traditional social centre
- 3 transport station
- 4 administrative centre
- 5 mission centre
- 6 traditional and mission centre
- 7 traditional and administrative centre
- 8 traditional, mission and administrative centre
- 9 other

(2) 78-79

blank

(2) 80

card number (2)

(3) 1

file code (7)

(3) 2-10

village code

card	column	
		closed dukas by year of closing
(3)	11-12	1900 - 1910
(3)	13-14	1911 - 1920
(3)	15-16	1921 - 1930
(3)	17-18	1931 - 1940
(3)	19-20	1941 - 1945
(3)	21-22	1946 - 1950
(3)	23-24	1951 - 1955
(3)	25-26	1956 - 1960
(3)	27-28	1961 - 1963
(3)	29-30	1964 - 1966
(3)	31-32	1967 - 1969
(3)	33-34	1970 - 1973
(3)	35-38	total daily customers for all dukas
(3)	39-43	total daily turnover in shillings for all dukas
(3)	44-45	total number of shopkeepers wholly dependent on shop
(3)	46-48	total number of people helping in shops
(3)	49	is there a market 1 yes 2 no
(3)	50	type of market 1 general traditional 2 cattle auction 3 roadside 4 rented market (stalls, buildings)
(3)	51	when market open 1 every day 2 once weekly 3 twice weekly 4 thrice weekly 5 occasionally
(3)	52-53	year started
(3)	54-57	total persons using the market (buyers and sellers)
(3)	58-61	total buyers using the market
(3)	62-65	total sellers using the market
		product categories in the market (1 = yes 2 = no)
(3)	66	category 1 - food
(3)	67	category 2 - household goods
(3)	68	category 3 - clothing
(3)	69	category 4 - beverages and food (eaten at market)
(3)	70	category 5 - medicines, ornaments, miscellaneous
(3)	71	category 6 - livestock
(3)	72-76	estimated value of all products in shillings

card	column	
(3)	77-79	blank
(3)	80	card number (3)
(4)	1	file code (7)
(4)	2-10	village code
		primary reasons people come to market (totals)
(4)	11-14	sell products
(4)	15-18	buy products
(4)	19-22	to socialize
(4)	23-26	to meet friends
(4)	27-30	curiosity
(4)	31-34	other
		secondary reasons people come to market (totals)
(4)	35-38	sell products
(4)	39-42	buy products
(4)	43-46	to socialize
(4)	47-50	to meet friends
(4)	51-54	curiosity
(4)	55-58	other
		services people would like to see in the village (1st choice)
(4)	59-61	industry and commerce
(4)	62-64	administration and law enforcement
(4)	65-67	communication, power, water
(4)	68-70	agricultural and veterinary services
(4)	71-73	education
(4)	74-76	health
(4)	77-79	total number of buses per day
(4)	80	card number (4)
(5)	1	file code (7)
(5)	2-10	village code
(5)	11-13	total number of lorries in the village
(5)	14-17	total number of telephones in the village
(5)	18-20	total number of taxis (matatus) in the village
(5)	21-23	total number of televisions in the village
(5)	24-26	number of miles to the tarmac road
(5)	27	is there a radio telephone (1 = yes 2 = no)
(5)	28	piped water supply (1 = yes 2 = no)
(5)	29	electricity (1 = yes 2 = no)

card column

- time it takes to reach the main Nairobi road
- (5) 30 by bus - dry season
1 less than $\frac{1}{2}$ hour 2 $\frac{1}{2}$ to 1 hour
3 1 to 2 hours 4 2 to 3 hours
5 3 to 6 hours 6 6 to 12 hours
7 12 to 24 hours 8 more than 24 hours
- (5) 31 by bus - wet season (see (5) 30)
- (5) 32 by lorry - dry season (see (5) 30)
- (5) 33 by lorry - wet season (see (5) 30)
- (5) 34 type of growth centre
1 not a growth cnt 2 urban
3 rural 4 market
5 local
- (5) 35-36 month survey taken
services available in the village (1 = yes 2 = no)
- (5) 37 District Commissioner
- (5) 38 District Officer
- (5) 39 Chief's Camp
- (5) 40 Sub-Chief
- (5) 41 Headman
- (5) 42 police station
- (5) 43 police post
- (5) 44 district court
- (5) 45 local court
- (5) 46 District Agricultural Officer
- (5) 47 Assistant Agricultural Officer
- (5) 48 Agricultural Instructor
- (5) 49 Land Adjudication Officer
- (5) 50 Veterinary Officer
- (5) 51 Livestock Officer
- (5) 52 Range Management Officer
- (5) 53 government nursery school
- (5) 54 harambee nursery school
- (5) 55 mission nursery school
- (5) 56 government primary school
- (5) 57 harambee primary school
- (5) 58 mission primary school
- (5) 59 government secondary school
- (5) 60 harambee secondary school

card column

- (5) 61 mission secondary school
- (5) 62 village polytechnic
- (5) 63 farm training centre
- (5) 64 district development centre
- (5) 65 technical institute
- (5) 66 District Educational Officer
- (5) 67 dispensary
- (5) 68 health centre
- (5) 69 hospital
- (5) 70 District Nurse
- (5) 71 District Medical Officer of Health
- (5) 72 Community Development Officer
- (5) 73 social centre
- (5) 74 A.C.C.&S. Church
- (5) 75 A.I.M. Church
- (5) 76 Catholic Mission Church
- (5) 77 Anglican Church
- (5) 78 Moslem Mosque
- (5) 79 S.D.A. Church
- (5) 80 card number (5)
- (6) 1 file code (7)
- (6) 2-10 village code
- (6) 11 Presbyterian Church
- (6) 12 other church
- (6) 13 Cooperative Officer
- (6) 14 Marketing Officer
- (6) 15 Marketing Board
- (6) 16 Marketing Agent
- (6) 17 coffee factory
- (6) 18 tea factory
- (6) 19 maize mill
- (6) 20 tea collection centre and other industry
- (6) 21 bank
- (6) 22 mobile bank
- (6) 23 coffee cooperative
- (6) 24 tea cooperative
- (6) 25 dairy cooperative

card column

- (6) 26 vegetable cooperative
- (6) 27 other cooperative
- (6) 28 post office
- (6) 29 postal agency
- (6) 30 airstrip
- (6) 31 piped water supply
- (6) 32 electricity
- (6) 33 youth centre
- (6) 34 sugar mill
- (6) 35 petrol station
- (6) 36 cattle dip
- (6) 37 quarry
- (6) 38 saw mill
- (6) 39 skin dealer
- (6) 40 hostels for schools
- (6) 41 milk collection centre
- (6) 42-43 total number of open specialized and general/specialized metal work
- (6) 44-45 hides and skins
- (6) 46-47 slaughterhouse
- (6) 48-49 weaver, knitter
- (6) 50-51 clothier
- (6) 52-53 sugar mill
- (6) 54-55 saw mill
- (6) 56-57 quarry
- (6) 58-59 maize store
- (6) 60-61 mobile kiosk
- (6) 62-63 building supplies
- (6) 64-65 dairy
- (6) 66-67 watch repair
- (6) 68-69 artisans
- (6) 70-71 water, soup, samosa seller
- (6) 72-73 wattle bark store
- (6) 74-75 other
- (6) 76-79 blank
- (6) 80 card number (6)

FILE 8
POPULATION

card	column	
(1)	1	file code (8)
(1)	2-8	identification code (district - enumeration area)
(1)	9-11	blank
(1)	12-16	location population
(1)	17-20	blank
(1)	21-25	sublocation population
(1)	26-30	blank
(1)	31-35	enumeration area population
(1)	36-40	blank
(1)	41-64	sublocation name
(1)	65-67	location area (sq. km.)
(1)	68-69	blank
(1)	70-72	sublocation area (sq. km.)
(1)	73	blank
(1)	74-76	location density
(1)	77	blank
(1)	78-80	sublocation density

FILE 9
OTHER SERVICES PERCEPTION

card	column	
(1)	1	file code (9)
(1)	2-10	village code
(1)	11-35	village name
(1)	36-49	blank
(1)	50-53	number of people interviewed
(1)	54-57	blank
		services used (codes for 10 most frequently mentioned in descending order of usage)
(1)	58-59	most frequently used
(1)	60-61	
(1)	62-63	
(1)	64-65	
(1)	66-67	
(1)	68-69	
(1)	70-71	
(1)	72-73	
(1)	74-75	
(1)	76-77	least frequently used
(1)	78-79	month survey taken
(1)	80	card number (1)

Designated Growth Centres

Muranga	111040000	2	Urban Centre
Kahuro	108010201		
Kandara	404040701		
Kangema/Gakira	312020201		
Kigumo	218060201		
Kiriaini	314020101	3	Rural Centre
Kirwara	401060201		
Makuyu	622040101		
Maragua	207040701		
Saha Saba	217040401		
Githumu	403030501		
Ichagaki	207040101		
Kagunduini	405020701		
Kamahuha	217020301	4	Market Centre
Kanyenyaini	309030201		
Mugumoini	401100101		
Ndunyu Chege	416080301		
Gacharage	403050501		
Gathera	207010401		
Gatura	416060401		
Geitwa	115030102		
Githunguri	405060401		
Gitugi	313020301		
Kabati	405080101		
Kaharati	217040501		
Kahuti	110010102		
Kangari	202060401		
Kariti	405020401	5	Local Centre
Karuri	110030701		
Kaweru/Gaturi	115030501		
Kinyangi	623150101		
Kinyona	202020301		
Kirere	218030301		
Kiria	108020401		
Kiunyu	401090301		
Mariira	202070201		
Muthithi	206010401		
Njumbi	319040401		

Kiharu Division 1

Mugoiri Location 08

- 01 Kahuro
 - 108010101 Kiboi
 - 108010102 Kianjogu
 - 108010201 Kahuro
 - 108010301 Mugoiri
- 02 Kiria
 - 108020201 Mnyutha
 - 108020301 Ndutumi
 - 108020401 Kiria
 - 108020801 Kamaguta
- 03 Mirichu
 - 108030201 Kagaa
 - 108030202 Mirichu
 - 108030401 Githagara
 - 108030501 Yamugwe
- 04 Gatuya
 - 108040301 Kagumo
 - 108040501 Gatuya
- 05 Kaganda
 - 108050501 Kaganda
- 06 Gathaithi
 - 108060201 Gatara
 - 108060202 Mariaini
 - 108060401 Kaharo
- 07 Murarandia
 - 108070101 Githambo
 - 108070301 Mathariti
 - 108070401 Theri
 - 108070601 Murarandia 2
 - 108070701 Murarandia 1
- 08 Gatundu
 - 108080101 Mbaryahiti
 - 108080301 Gatundu
 - 108080401 Gitaro

Kiharu Division 1

Weithaga Location 10

- 01 Kahuti
 - 110010101 Gitweku
 - 110010102 Kahuti
 - 110010801 Koimbi
- 02 Wanjengi
 - 110020301 Gituto
 - 110020601 Wanjengi
 - 110020801 Gathinja
- 03 Kirogo
 - 110030301 Kirogo
 - 110030601 Kahuhia
 - 110030701 Karuri
- 04 Mukangu
 - 110040501 Mukangu
- 05 Gitui
 - 110050401 Gatheru
 - 110050501 Gitige
 - 110050601 Gitui

Kiharu Division 1

Mbiri Location 11

- 01 Gikandu
111010601 Gikandu
- 02 Maragi
111020801 Maragi 1
111021201 Mukuyu
- 03 Muchungucha
111030201 Ndikwe
111030601 Muchungucha
111031001 Kiangochi
- 04 Muranga
111040000 Muranga

Kiharu Division 1

Gaturi Location 15

- 01 Gathukiini
 - 115010201 Muringa
 - 115010401 Gathukiini
 - 115010501 Kiambuigi
- 02 Gakuyu
 - 115020201 Gakuyu
 - 115020501 Mweru
- 03 Mugeka
 - 115030101 Githanga
 - 115030102 Geitwa
 - 115030401 Mugeka
 - 115030501 Gaturi/Kaweru
- 04 Kimathe
 - 115040101 Kigongo
 - 115040301 Kimathe
 - 115040302 Kigetuni
 - 115040701 Karuri
- 05 Nyakihai
 - 115050201 Nyakihai
 - 115050401 Kangure

Kiharu Division 1

Gikindu Location 20

- 01 Githuri
120010101 Githuri
120010601 Thanju
- 02 Kambirua
120020201 Muthiginini
120020301 Kambirua
- 03 Mirira
120030201 Mirira
120030401 Gikuu

Kigumo Division 2

Kinyona Location 02

- 01 Gacharage
 - 202010101 Mununga
 - 202010102 Gacharage
 - 202010301 Gikoe
 - 202010401 Boro
 - 202010501 Gikigie
- 02 Kinyona
 - 202020301 Kinyona
 - 202020302 Karinga
- 03 Gatare
 - 202030101 Maini
 - 202030102 Gatare
 - 202030301 Gatiaini
- 04 Makomboki
 - 202040101 Makomboki
 - 202040301 Gituru
- 05 Kanderendu
 - 202050501 Kanderendu
- 06 Kangari
 - 202060301 Ikumbi
 - 202060401 Kangari
 - 202060402 Ngurweini
- 07 Mariira
 - 202070201 Mariira
- 08 Kamukabi
 - 202080201 Kamukabi

Kigumo Division 2

Muthithi Location 06

- 01 Muthithi
206010401 Muthithi
- 02 Kiugu
206020401 Kahariro
206020402 Kandiri
- 03 Githembe
206030101 Kianjugu
206030401 Githembe
206030701 Githima
- 04 Munguini
206040701 Karuri
- 05 Gikarangu/Ruanganga
206050101 Mariaini
206050201 Kiangwachi
206050301 Ruaturu
206050801 Kagurumo
- 06 Giathaini
206060601 Gakuvu

Kigumo Division 2

Nginda Location 07

- 01 Gathera
 - 207010201 Ihumbu
 - 207010401 Gathera
 - 207010501 Githunguri
 - 207010901 Itaga

- 02 Kaharo
 - 207020201 Kaharo
 - 207020501 Irembu
 - 207020701 Kiriti
 - 207020702 Gikomora
 - 207020801 Munguini

- 03 Gakoigo
 - 207030201 Nginda
 - 207030301 Iregi
 - 207030801 Gakoigo
 - 207031101 Ikundu

- 04 Ichagaki
 - 207040101 Ichagaki
 - 207040401 Gichugu
 - 207040701 Maragua
 - 207040801 Kianjiruini

- 05 Maragua Ridge
 - 207050201 Karuni
 - 207050401 Mungetho
 - 207050501 Tana River Bridge

Kigumo Division 2

Kamahuha Location 17

- 01 Iganjo
 - 217010101 Igikiro
 - 217010401 Gituamba
 - 217010501 Iganjo

- 02 Kamahuha
 - 217020301 Kamahuha
 - 217020302 Maranjau

- 04 Saba Saba
 - 217040401 Saba Saba
 - 217040501 Kaharati

Kigumo Division 2

Kigumo Location 18

- 02 Gachocho
 - 218020701 Gachocho
 - 218020801 Gatumbi
- 03 Kirere
 - 218030301 Kirere
 - 218030501 Kiiriangoro
- 04 Marumi
 - 218040101 Marumi
- 05 Githima
 - 218050101 Mathareini
 - 218050301 Turuturu
 - 218050501 Githima
 - 218050801 Kariaini
 - 218050901 Nguku
- 06 Iriguini
 - 218060101 Karega
 - 218060201 Kigumo

Kangema Division 3

Kanyenyaini Location 09

- 01 Kiruri
 - 309010101 Tuso
 - 309010201 Kiruri
 - 309010401 Karurumo
- 02 Ichichi
 - 309020301 Ichichi
- 03 Kanyenyaini
 - 309030201 Kanyenyaini
 - 309030301 Gitugu
- 04 Githiga
 - 309040101 Kibutha
 - 309040401 Gatangara
 - 309040501 Githiga

- 58 -

Kangema Division 3

Iyego Location 12

- 01 Muringaini
 - 312010301 Kiairathe
 - 312010701 Muringaini
- 02 Gakira
 - 312020201 Gakira/Kangema
 - 312020501 Kaingunyi
 - 312020601 Ihigaini
- 03 Gikui
 - 312030301 Kigumo
 - 312030601 Githunguri
- 04 Mununga
 - 312040101 Munungaini
 - 312040501 Kiamara
- 05 Nyakahura
 - 312050201 G3
 - 312050501 Nyakahura

Kangera Division 3

Gitugi Location 13

- 01 Karunge
 - 313010601 Mihuti
 - 313010801 Karunge
 - 313011101 Ngutu
- 02 Gitugi
 - 313020301 Gitugi
 - 313020401 Chui
- 03 Gakoe
 - 313030301 Yakarengo
 - 313030501 Gakui
 - 313030801 Kambara

Kangema Division 3

Kiru Location 14

- 01 Kairo
 - 314010301 Kairo
 - 314010601 Kiambuthia
- 02 Kiriaini
 - 314020101 Kiriaini
 - 314020401 Umbui
 - 314021001 Gatura
- 03 Kagumoine
 - 314030201 Kagumoini
 - 314030501 Kora
- 04 Kiri/Kamacharia
 - 314040501 Kamacharia
 - 314040801 Gaitheri
 - 314041001 Gakurwe
- 05 Kamune/Thuita
 - 314050401 Thuita
 - 314050801 Kamune
 - 314050901 Iruri

Kangema Division 3

Kiriti Location 19

- 01 Gacharageini
 - 319010201 Kiamuturi
 - 319010501 Mioro
 - 319010701 Gacharageini
 - 319010702 Gatunguru

- 02 Kiawambogo
 - 319020101 Wanjereri
 - 319020201 Nyagatugu
 - 319020701 Kiawambogo

- 03 Rwathia
 - 319030201 Kanyuira
 - 319030601 Rwathia
 - 319030901 Kihoya

- 04 Njumbi
 - 319040201 Gikoe
 - 319040401 Njumbi
 - 319040601 Nyakianga

Kandara Division 4

Gatanga Location 01

- 01 Kiriaini
401010201 Kiriaini
- 02 Chomo
401020201
- 03 Rwegetha
401030101 Rwegetha
- 04 Mukurue
401040201 Mukurue
- 05 Mukarara
401050301 Mukarara
401050302 Chugo
- 06 Kirwara
401060201 Kirwara
- 07 Thuita
401070101 Gatuikira
401070201 Thuita
- 08 Kihumbuini
401080101 Kihumbuini
- 09 Kiunyu
401090201 Gituamba
401090202 Kiawaihiga
401090301 Kiunyu
- 10 Mugumoini
401100101 Mugumoini
401100102 Mabanda
401100103 Ithangarari
401100104 Rwaitira
- 11 Kigio
401110101 Mununga
401110201 Mbarivaigi
401110301 Giatutu
- 12 Gatanga
401120401 Gatanga

Kandara Division 4

Ruchu Location 03

- 01 Gitureu
403010401 Kiruga
- 02 Gichagiini
403020301 Gichagiini
- 03 Githumu
403030501 Githumu
- 04 Mukuria
403040101 Mukuria
403040401 Mutheru
- 05 Gacharage
403050501 Gacharage
- 06 Kariua
403060101 Kariua
- 08 Mungaria
403080201 Ithanga
403080402 Rwathe

Kandara Division 4

Muruka Location 04

- 01 Kaguthi
 - 404010101 Kaguthi
 - 404010501 Kabati
- 03 Gakui
 - 404030201 Gakui
 - 404030601 Karimamwaro
- 04 Gakarara
 - 404040301 Munyori
 - 404040701 Kandara
- 05 Naaro
 - 404050301 Naaro
- 06 Kiranga
 - 404060301 Kiranga
- 07 Gatitu
 - 404070201 Gatitu
- 08 Nguthuru
 - 404080301 Nguthuru
- 09 Muruka
 - 404090401 Muruka
- 10 Ngararia
 - 404100101 Matenjagwo Stadium
 - 404100301 Ngararia
 - 404100601 Kahaini

Kandara Division 4
Gaichanjiru Location 05

- 01 Kagira
405010301 Kagira
- 02 Kagunduini
405020101 Kirirwa
405020401 Kariti
405020701 Kagunduini
- 03 Ngurweini
405030401 Ngurweini
- 04 Mariaini
405040301 Mariaini
405040501 Kihuruini
405040601 Kerugia
- 05 Kagumoini
405050201 Gaichanjiru
405050501 Kagumoini
405050601 Manjuu
- 06 Githunguri
405060401 Githunguri
- 07 Gitura
405070301 Gitura
405070302 Makutano
- 08 Kabati
405080101 Kabati

Kandara Division 4

Kariara Location 16

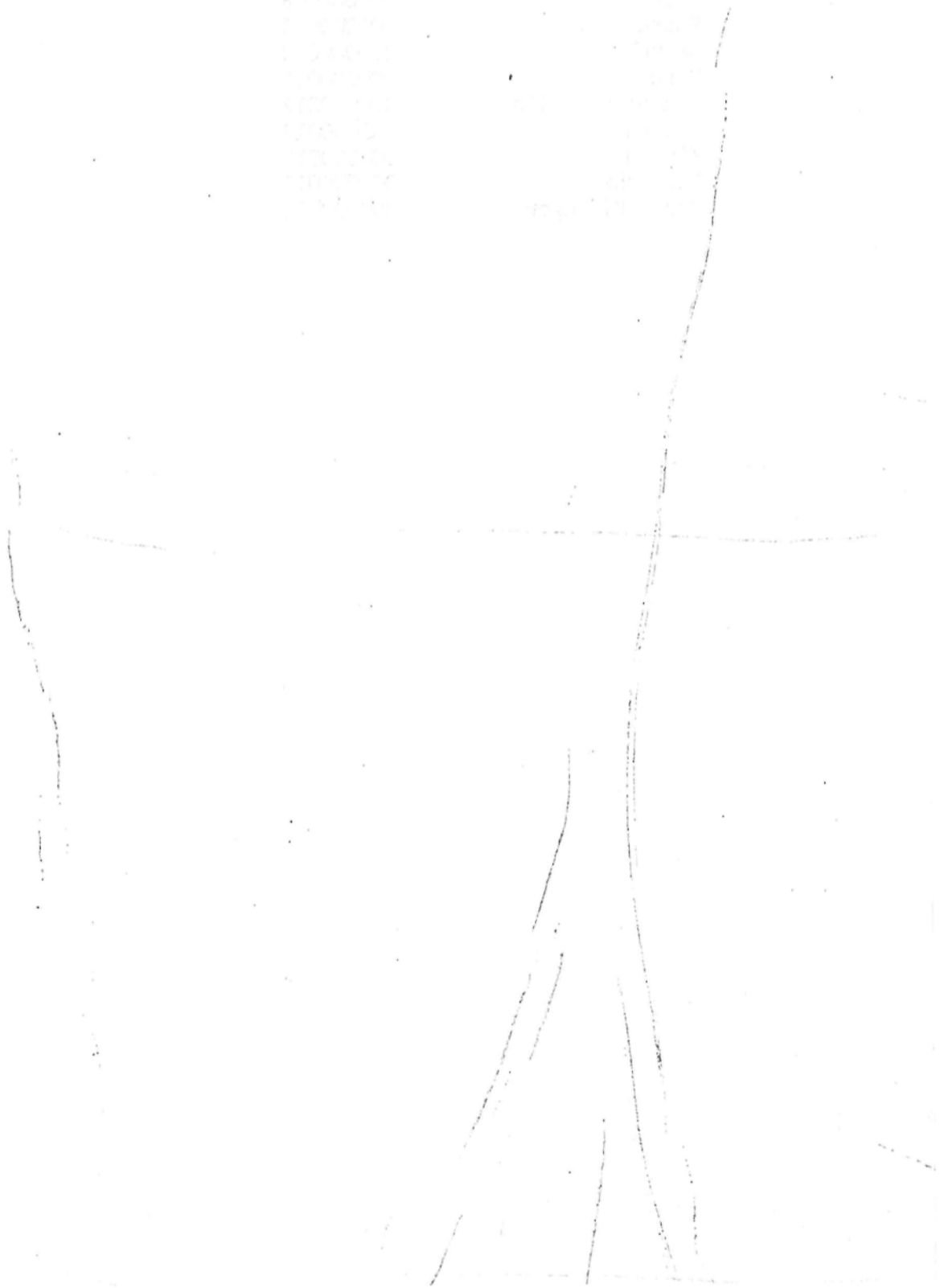
- 01 Kimande/Wanyaga
 - 416010201 Kimande
 - 416010301 Wanyaga
- 02 Mbugiti
 - 416020201 Mbugiti
 - 416020202 Karangi
- 03 Kiarutara
 - 416030202 Kiarutara
- 04 Ndakaini
 - 416040301 Ndakaini
- 05 Kigoro
 - 416050101 Kanunga
 - 416050201 Kigoro
- 06 Gatura
 - 416060401 Gatura
- 08 Ndunyu Chege
 - 416080301 Ndunyu Chege

Forest Division 5

Forest Location 21

01 Forest

521010401 Kimakia



Codes for Centres Outside Muranga District

Thika	00000001
Nairobi	00000002
Mombasa	00000003
Embu	00000004
Nyeri	00000005
Karatina	00000006
Sagana	00000007
Kutus	00000008
Ruiru	00000009
Nanyuki	00000010
Meru	00000011
Thompsons Falls	00000012
Chinga	00000013
Kisumu	00000014
Naivasha	00000015
South Kinangop	00000016

Programmes Written for Data Analysis

A series of programmes to analyse the data have been written. Most of these are too large to be run on the University of Nairobi computer and have been run on the Sigma 9 machine at Carleton University. Programmes have been written to answer the following questions and listings of the programmes together with the print out are available from Dr. Kimani. The tapes have been set up in both STANDARD and FORTRAN format to facilitate programming on the University of Nairobi computer. Certain existing package programmes can be used. Users should consult Mr. Jonathon Abbott of the University of Nairobi Computing Centre.

Files 1 and 2 - Duka File - Examined on four levels (district, location, sub-location, village): DUKA is used here to refer to any business, not simply a shop.

- 1 Value of stock (minimum estimate, maximum estimate).
- 2 Value of stock (minimum, maximum) by broad categories of business (wholesale, general etc.).
- 3 Daily turnover (minimum estimate, maximum estimate).
- 4 Daily turnover (minimum, maximum) by broad categories of business
- 5 Number of dukas stocking each category of goods
- 6 Number of dukas stocking each category of new goods.
- 7 Number of closed dukas by primary reason.
- 8 Number of dukas owned/rented.
- 9 Number of proprietors with other source of income by owner/renter.
- 10 Amount of time in duka by category by owner/renter.
- 11 Number of dukas open less than 4 hours a day, 4-8 hours a day, more than 8 hours a day.
- 12 Number of dukas with one proprietor by owner/renter.
- 13 Primary reason duka built.
- 14 Number of dukas improved, declined, stayed the same.
- 15 Number of dukas improved by primary reason.
- 16 Number of dukas declined by primary reason.
- 17 Expansion plans by number of dukas.
- 18 Primary source of stock by number of dukas.

Duka information also obtained from Composite Village File (see Composite Village File 7, II).

File 3 - Market File - Analysed at the district level and by individual market (village):

- 1 Total people using markets.
- 2 Total buyers and sellers by sex
- 3 Total value of all products
- 4 Number of markets by time period opened - district only.
(year of opening for each market at village level)
- 5 Primary reason use the market.
- 6 Secondary reason use the market.
- 7 Number of markets stocking each product category.
- 8 Means of transportation to market by number of people.
- 9 Total number of people using (or not using) other services
- 10 Other services used by number of people
- 11 Frequency of attendance by number of people
- 12 Total number of people buying to resell
- 13 Where products resold by number of people
- 14 Categories of products bought for resale by number of people
- 15 Total number of people reselling products
- 16 Where products bought for resale by number of people
- 17 Categories of products resold by number of people
- 18 Total number of people who visit (or do not visit) other markets.
- 19 Frequency visit other markets by number of people
- 20 When market open by number of markets
- 21 Type of market by number of markets

File 4 - Other Services File - Analysed on district level:

- 1 Total number of people using each service
- 2 Total number of each service

File 5 - Perception File - Analysed at four levels:

A District (cross tabulations)

- 1 Each service want to see developed by choice of response
- 2 Each service want to see developed by occupation
- 3 Primary reason use village by sex
- 4 Primary reason use village by occupation

- 5 Primary reason use village by occupation
- 6 Secondary reason use village by occupation

B Location

- 1 Services wanted by choice of response
- 2 Primary reason use the village by choice of response
- 3 Secondary reason use the village by choice of response

C Sublocation

- 1, 2, 3 Same as location
- 4 Occupation breakdown
- 5 Farmers vs. rest of occupations

D Village

- 1 Services wanted by choice of response
- 2 Reasons use village - primary and secondary
- 3 Percent go out of village for services
- 4 Percent go out of village to market goods
- 5 Total respondents

File 6 - Farm Studies File - Analysed on district level and village level

- 1 Total number of farms
- 2 Total number of farmers by sex
- 3 Age categories by number of farmers (less than or = 15, 16-20, 21-25, ..., 56-60, over 60)
- 4 Household size - smallest, largest, average, categories (1-10, more than 10)
- 5 Total farm acreage - smallest, largest, average, categories (less than 1 acre, 1, 2, 3, ..., 20, 21-30, ... 91-100, more than 100)
- 6 Total acreage
- 7 Cultivated acreage
- 8 Crops by total number of acres (including wattle and other)
- 9 Income by crop, total crop income
- 10 Number of livestock by category
- 11 Income by livestock category, total livestock income
- 12 Total income (crop and livestock)

- 13 Cooperative membership (yes, no)
- 14 Improved, declined, stayed the same
- 15 Primary reason improved by number of farms
- 16 Secondary reason improved by number of farms
- 17 Primary reason declined by number of farms
- 18 Secondary reason declined by number of farms

File 7 - Composite Village File

I Analysed by type of growth centre in three ways:

A General characteristics

- 1 Number of villages having (or not having) a market
- 2 Number of villages having general dukas in each category (less than 5, 5-10, 10-20, more than 20)
- 3 Number of villages having specialized dukas in same categories
- 4 Number of villages having closed dukas in same categories
- 5 Number of dukas opened prior to 1961, 1961-1966, 1967-1973
- 6 Number of dukas closed in same time periods
- 7 Number of villages less than or = 2 miles to tarmac, more than 2 miles to tarmac
- 8 Number of villages having buses per day in each category (less than 5, 5-10, 10-20, more than 20)
- 9 First choice for services wanted in percentages
- 10 Total number of villages and village codes in each growth centre category
- 11 Number of villages by growth centre and type of origin code

B Specific characteristics (for each index described, the number of villages and their codes were output by type of growth centre category)

- 1 Exceptions to expected indicators (if not a growth centre and has a market or more than 10 dukas or more than 10 buses a day; if a growth centre and has no market or less than 10 dukas or less than 10 buses a day)
- 2 Modernization (has 5 or more: bank or mobile bank, electricity, piped water, post office or postal agency, telephone, car repair, petrol station)

- 3 No social attraction (no bar or hotel) (This replaces social attraction of village: 3 of the following - bar, hotel, youth centre, T.V., or social centre, as few villages fit during testing)
 - 4 Social attraction of market (for each market: total people who come, people who come for social reasons (other than to buy or sell), percent who come for social reasons as primary reason)
 - 5 Transportation facilities (has 3 or more: petrol station, 10 or more buses a day, 2 or more taxis, 2 or more lorries)
 - 6 Transportation (less than or = 2 miles to tarmac)
 - 7 Transportation (more than 2 miles to tarmac and more than 2 hours to main Nairobi road during the wet season by bus or lorry)
 - 8 Religion (at least one church or mission)
 - 9 Administration (has 2 or more: District Officer or District Commissioner or Chief's Camp, police station or police post or district court or local court, District Agricultural Officer or Assistant Agricultural Officer, Veterinary Officer or Livestock Officer or Range Management Officer. (Originally tested used 3 out of 4 but few villages fit criteria)
 - 10 Education (at least 3 schools). (Originally used at least 2 schools but almost all villages tested fit)
 - 11 Health facilities (at least 1). (Originally used at least 2 but no villages tested fit)
 - 12 Marketing (has 3 or more: cooperative officer, Marketing Officer, Marketing Board, Marketing Agent, Milk Collection Centre, Skin dealer, Coffee or Tea Cooperative, Dairy or Vegetable or other cooperative). (First used 6 out of 8 but no villages tested fit; dropped to 5 out of 8 but no villages fit so reduced to 4 out of 8 and only 1 village fit)
 - 13 Industry (has 2 or more: coffee factory, tea factory, Maize mill, sugar mill, saw mill, other industry). (Originally used 4 out of 6 but no villages fit so reduced to 3 out of 6 but few villages fit)
- C Type of Origin (village lists and totals for each type of growth centre for each type of origin)

II Duka Information - all the following was obtained for district, location, sub-location, village

- 1 Number of dukas opened by time periods
- 2 Number of closed dukas by time periods
- 3 Totals for broad categories of dukas (wholesale, general, etc.)
- 4 Number of specialty dukas by types
- 5 Number of daily customers for all dukas
- 6 Number of people working in shops for all dukas

File 8 - Population File

- 1 Location population
- 2 Sub-location population
- 3 Enumeration area population

File 9 - Other Services Perception File - analysed on district

level:

- 1 Services ranked in order of weighted frequency of use with number of points for each service. Population weight: less than 10 people = 1 point, 10-20 people = 2 points, etc. Order of choice weight: 10 points for 1st choice, 9 points for 2nd choice, etc. Total points = population weight + order of choice weight.
- 2 Frequency service used by order of choice (unweighted)