



The United Republic of Tanzania



Population Census

GEOGRAPHICAL WORK

**Takwimu - Bureau of Statistics
President's Office, Planning Commission
Dar es Salaam, TANZANIA**

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THE UNITED REPUBLIC OF TANZANIA

**1988 POPULATION CENSUS
VOLUME II**

CENSUS GEOGRAPHICAL WORK

**Bureau of Statistics
President's Office, Planning Commission
Dar es Salaam**

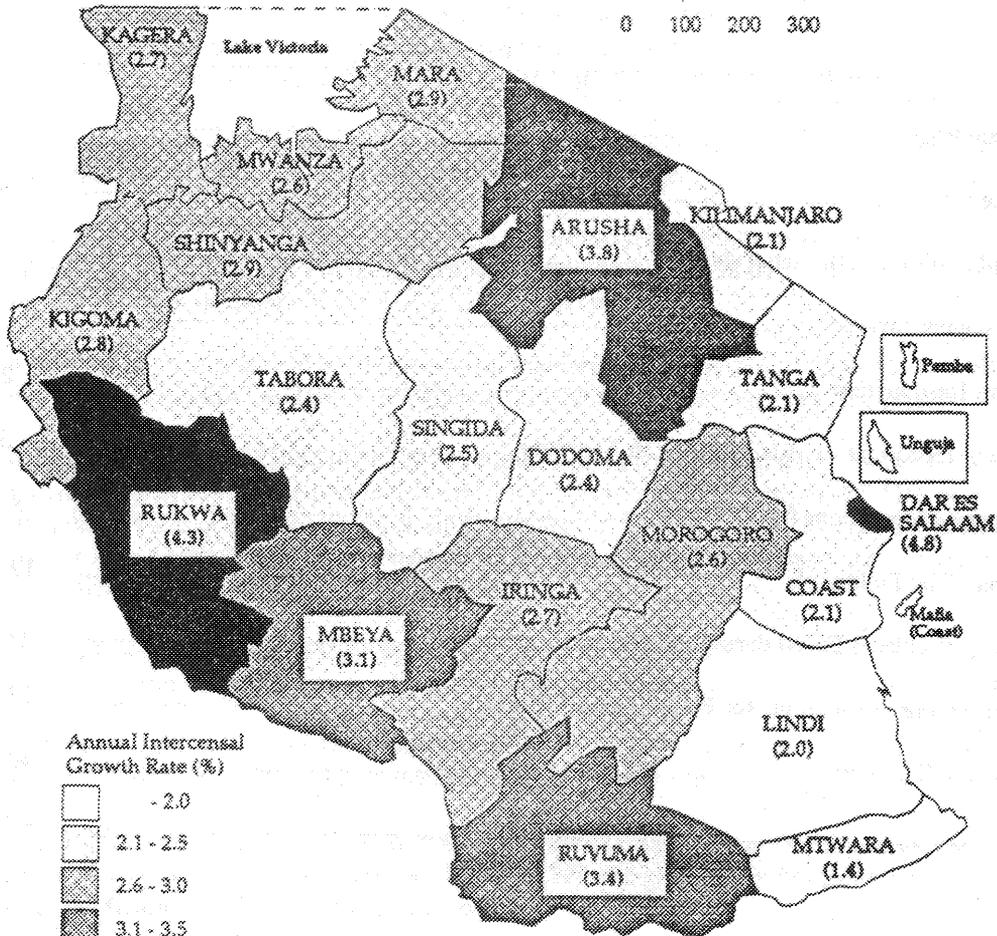
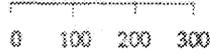
August 1991

TANZANIA

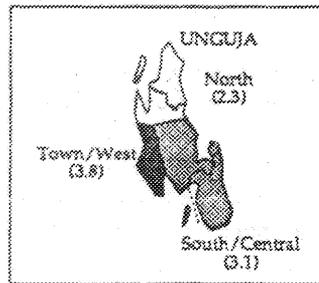
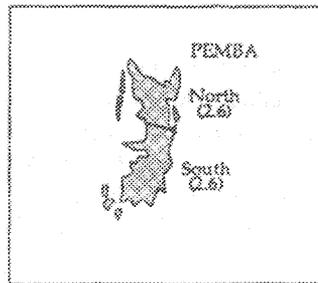
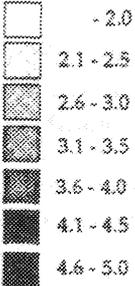
Annual Average Inter-censal Population Growth Rate by Region, 1978 - 1988

Scale 1: 7,500,000

Kilometres



Annual Inter-censal Growth Rate (%)



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FOREWORD

This report the second in the series of seven based on the 1988 Population Census - details with the pre-enumeration geographical work prior to the census of August 1988.

The important role played by this report is centred on four main objectives, namely:-

- (a) To give a frame work for planners engaged in planning censuses and surveys in future.
- (b) To give a base to persons engaged in the analysis of the Census data.
- (c) To give a base to those interested in designi ng development strategies.
- (d) To give a base to population locations for different administrative levels.

The success of the Census geographical work was mainly due to united efforts and cooperation rendered by different organizations and individuals during the preparatory stage.

Chama Cha Mapinduzi (with its well knitted system of ten cells leadership), the Regional and District authorities, the wards officials as well as the Village governments played a big role in the project made the whole cercise of mapping (demarcation of Enumaration Areas) easier than expected.

Special remarks of thanks should go to the external donors namely the ECA, UNFPA. and SIDA (Statistics Sweden) for their immense assistances of expertise as well as material support to the project.

Special vote of thanks should go to the ECA - Consultant on Census Cartography - Mr. R. R. Tripathi who paid regular visits to our office and gave technical advices on census mapping. Also the UNFPA provided the census office with the services of on UN-Volunteer Mr. Perera for one year. Moreover, Mr. Ian D. Thomas of the ODA, University of East Anglia should also be thanked for his visit to our office and advice on a workable proposal on quick and timely completion of the Census Mapping.

The framework of this report is the result pf the joint efforts by Bureau of Statistics and a Mission Consultant, Mr. Peter Springfeidt from Statistics Sweden. His contribution to the publication of this olume is greatly appreciated.

Statistics Sweden who were with us at all times, deserve special thanks for their contribution towards the success of the mapping work especially from the material support point of view.

At the local level, many thanks should go to the Ministry of Lands, Urban Development and Tourism for the secondment of their senior cartographers (Mr. Mikunde, Mr. Giligili and Mr. Msigwa) to the census office from the start of the fieldwork until the enumeration period.

The Central Census Office Staff who laboured tirelessly to ensure that the mapping work went on as scheduled, also deserve special recognition.

The Bureau of Statistics acknowledges the vital contributions by Ndugu Lucy Lameck and Ndugu Mwinyiwesa Idarus who were the 1988 Census Commissars for Mainland and Zanzibar respestively, their publicity campaign made the Census geographical work much easier than expected.

During all the period of the Census Geographical work, Mr. L. Komba Head of the Census Geographical work, worked in close cooperation with both external and local staff in order to achieve the best results of the mapping work.

The publication could be used as a guide for future personnel who shall be engaged in the Population Census Geographical work preparations.

N. K. MBALILAKI
GOVERNMENT STATISTICIAN

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Previous Publications in the Same Series

1. 1977 FIELD REVIEWERS TRAINING MANUAL AND WORKBOOK.
2. 1978 CENSUS GEOGRAPHICAL WORK REPORT VOL. III
3. 1986 KIJARIDA CHA MAFUNZO YA FIELD REVIEWERS
(FIELD REVIEWERS TRAINING MANUAL)

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 - 1.2 What is included in the geographical work
 - 1.3 The cartographic Unit in the Census Organization

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CHAPTER SEVEN SUMMARY

CHAPTER ONE: INTRODUCTION

1: Census mapping a key to a successful census

1.1 The aim of the geographical work.

Census mapping in Tanzania has always played a key role to the successful population census undertaking.

The aims of the census geographical (mapping) work can be underlined as:-

- (a) To provide the indispensable framework for enumerator allocation.
- (b) To establish a frame for the sampling before the census enumeration
- (c) To provide a permanent frame to be used by other statistical surveys.
- (d) To provide the type of data in the census reports that the government requires. To link maps and census data to show population distribution.
- (e) To provide the balance of requirements of logistics, statistical appropriateness intercensal comparability and so on.

1.2. What is included in the geographical work.

There are several issues included in the census geographical work. Issues that dominate in this exercise are as listed hereunder:

(a) Recruitment and Training of field staff.

It is important to recruit field reviewers with adequate academic education (in the case of Tanzania, secondary school leavers were recruited) in order to ensure that they acquire the required knowledge of mapping work with ease. In turn, after training them, one should expect good quality of mapping work performed by the field reviewers.

(b) Procurement of materials/equipment for the geographical field work.

Another important issue to observe is to ensure that all necessary materials/equipment for the field work are procured well before the mapping work starts, that is before the training of field reviewers starts. The materials and equipment so acquired must reach the field teams in advance of the start of mapping work. The lists of materials and equipment shall be dealt with in detail in the chapter three of this report.

(c) Demarcation of EAs and SAs

The major task of field reviewers was to demarcate enumeration and supervision areas which were essential for the coverage of enumeration of the entire population of Tanzania. The enumeration as well as supervision areas helped the authorities of the district to determine the number of workers required during enumeration (enumerators, supervisors and so on) and to allocate them efficiently to all areas created for enumeration. The size of enumeration area used for the 1988 population census was a target of 800 people in rural areas with a range of between 700 and 900 people (800 ± 100). For urban areas the target was 400 people with the range of between 300 and 500 people (300 ± 100). For supervision areas the order was 5 ± 1 EAs for rural areas where as for urban supervision areas it was also 5 ± 1 EAs.

What is an Enumeration Area?

The enumeration area may be defined as a well delimited territorial unit in which the enumeration is to be carried out by a single enumerator.

(d) Listing of Heads of households and Balozis

In order to be able to determine the required size of an enumeration area (rural or urban) it was necessary for the field reviewers to do the listing of households first. Approximately 80 - 100 households formed one enumeration area in townships, whereas in the rural area the size was between 100 and 200 households on average.

(e) Description of EA boundaries

It is very important to describe on the ground, the boundaries of each enumeration area so as to ensure that each area is unique and that no overriding of enumeration areas boundaries occurred. The descriptions of EA boundaries help the enumerator to locate his/her area of work during the census enumeration. Without this being done, lots of problems may occur during the enumeration period, between one enumerator and the other.

(f) Drawing of EA and SA maps

Sketches of EAs drawn by field reviewers while in the field were later taken to the regional drawing office for final fair drawing of the EAs. The draughtsmen by using the field copy maps (base maps) together with sketches of EAs were able to prepare master traces of EAs and SAs which were then used to produce enough copies required by District Census Officers during the enumeration period.

(g) Procurement of copies of maps for the enumeration work:

The fair drawings of EAs and SA master traces were the basis for the procurement of dyeline copies of EAs and SAs which were then sent to relevant District Census officers for enumeration purpose. For each EA map, four copies were produced. Three of them were sent to District Census Officers concerned, whereas one copy was sent to Central Census Office D'Salaam as an advance copy. The distribution of dyeline copies to District Census Officers and the Central Census Office D'Salaam was the responsibility of the Regional Census Officers. All master traces of EAs and SAs were kept by the Regional Census Officers at the regional drawing offices.

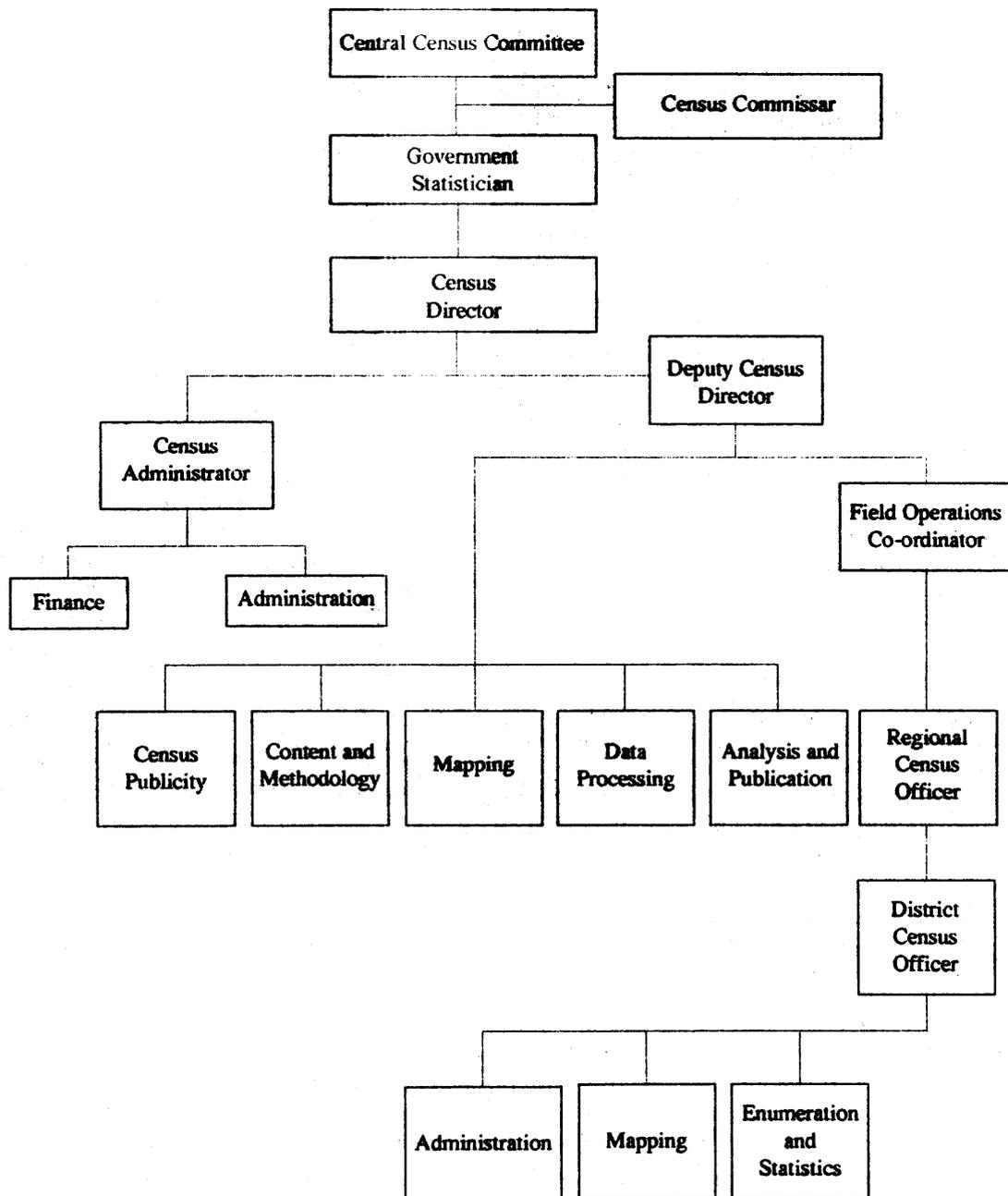
1.3 The Cartographic Unit in the Census Organization.

The cartographic unit, a source of the success of the census enumeration is shown in the chart of the census organisation on the next page.

This unit which is earmarked to become a separate section in the Bureau of Statistics is now being strengthened and maintained in order to give it a recognition it requires and to serve not only the Population Census undertaking, but also other Statistical Censuses and Surveys of Social and Economic nature.

Appendix 1

**The Cartographic Unit (Mapping Unit)
in the Census Organizational Chart**



CHAPTER TWO: HISTORICAL CENSUS MAPPING IN TANZANIA

2.1 Census 1967-1st Post Independence Census in Tanzania.

The Population Census of 1967 was the first one after Tanzania got independence. It was also the first time a full programme of pre and post-enumeration mapping in Tanzania was done.

In 1967, the planning for the Census began twelve months before the enumeration date, but the mapping of EAs was done largely in the last six months of this period. It was the first time the demarcation of Enumeration Areas (EAs) was done.

The published district census maps showed a sample of 20 % of the enumeration areas where detailed questionnaires were used.

However the mapping work of 1967 population census faced some problems which contributed to poor quality of demarcation exercise as detailed below:-

- a) Competent personnel to do the mapping work were not available for all the districts of Tanzania. In several districts personnel with primary education only were available and recruited to do the mapping work. This resulted into poor map sketches.
- b) Each district recruited its own field reviewers (Census Assistants as known in 1967), and the mapping work went on in all districts of Tanzania at the same time. This rendered poor supervision of the mapping work by the few experts who were centered at the Bureau of Statistics Head Office in Dar es Salaam.

The few experts were not able to travel to every district of Tanzania during the six months period of the mapping work. Hence the quality of mapping work in many districts was not of acceptable standard.
- c) Another bottleneck was transport. Vehicles for the field inspection were not acquired on time and thus hindering the experts to make regular field inspection. Hence very few field inspection trips were made.
- d) Most parts of Tanzania were not covered by the 1:50,000 map series which were essential for the effective census mapping task. In many areas the Census Assistants resorted to drawing free hand sketches by only using the district maps available.
- e) Another problem that contributed to poor demarcation work was the short period allocated to finish demarcation work which was only six months. This made some census assistants execute the field work (Mapping work) in a hurried manner, and the end result was poor demarcation work.

2.2 Census 1978-2nd Post Independence Census in Tanzania

Contrary to the 1967 census mapping work that faced lots of problems, the 1978 census demarcation of EAs had less problems as it was better organised than that of 1967. The devices which contributed to a good census mapping are listed hereunder:

- a) In the 1978 census mapping, there was a standardised form EA1 marked with grids which was used for demarcating enumeration areas.
- b) Maps were used in the training programme of field reviewers.
- c) Geocoding for different levels of administrative units was introduced.

- d) The preparation of census maps was decentralised and carried out at regional level.
- e) The system of monitoring and evaluation was developed in order to establish progress and quality control.
- f) By comparison with 1967 there were more basic topographic map series available (1:50,000 series sheets) in 1978. An attempt was made to produce enumeration area maps with the aid of the published survey maps and with greater attention to relative location, to orientation and to scale than had been the case in the 1967 enumeration area mapping.

However, the mapping work during 1976/78 was not an easy ride as there were problems more or less similar to those of 1967 which blocked the good progress of the work output and the quality of work. Some of the problems faced during 1976/78 mapping period are listed hereunder:-

- a) The Supervision of field reviewers was not satisfactory as one geographical supervisor was assigned to check the mapping work in two or three regions and so allowing only one visit to a region in a month by the supervisor to do the checking of demarcation work.
- b) Field reviewers were attached to each district, and worked almost independently (without supervision) as they rarely had a supervisor with them to see if work done was satisfactory.
- c) Transport was a very big problem. Vehicles for the Census Mapping work were obtained late and were few. Hence one vehicle was shared between two or three regional census officers. In the absence of the vehicle the regional census officer or the geographical supervisor could not go to the districts to check the work progress as well as the quality of work.
- d) Experts from the Central Census Office D'Salaam could not visit the regions of Tanzania every month to inspect the mapping work due to lack of transport.
- e) Some parts of Tanzania (especially the western parts) were not covered by 1:50,000 map series, thus rendering difficulties in the demarcation work.

As can be seen, most of these problems could be classified as administrative and were beyond the reach of the technical staff of the Bureau of Statistics. The Bureau of Statistics (Central Census Office) was however better staffed by local Officers with technical know how as well as with expatriates with relevant knowledge of the census mapping work.

2.3 Lessons from the two previous censuses.

The two mapping projects of 1967 and 1978 had created a solid lesson and base for the future census geographical work. They also gave experiences to staff engaged in the cartographic work of 1986-88.

2.4 Organisation of this report

This report contains mostly an account of the pre-enumeration mapping work, and to a little extent a short description of the post-census work programme.

Major topics included in this report include:-

- a) Preparations for the field work**
- b) The field work itself, describing how it was organised, measures taken to ensure completion of fieldwork, the results of the field work and evaluation of the fieldwork and a brief explanation of the post census mapping activities.**
- c) Another topic to be dealt with shall be the problems faced during the fieldwork.**
- d) Recommendations for future census mapping shall form a separate topic.**
- e) Finally, the summary of the report shall be presented.**

CHAPTER THREE : PREPARATIONS FOR FIELDWORK

3.1 To find out the magnitude of the field work

The Central Census Office started preparations for the Census mapping work sometime in mid-year of 1986. In order to find out the magnitude of the fieldwork, the Census office wrote to all Regional Development Directors informing them about the start of the census preparations. They were requested to direct their regional/district planning officers to prepare complete lists of wards, villages in each ward and estimated population in each village for all rural areas in the district. In the townships information was sought on the lists of wards and population estimate in each ward.

The response from the regional/district officers was good, as most of them managed to send the required data to the Bureau of Statistics (Central Census Office). For the few districts that did not respond on time, field visits were made by the Central Census Office staff to such districts and succeeded to bring the required data to the Central Census Office.

With that information on hand, it was then possible to determine:

- a) the number of field staff required
- b) the approximate number of EAs to be created in each region
- c) materials/equipment needed for both fieldwork and census enumeration
- d) approximate number of enumerators and supervisors needed during the enumeration time.

3.2 Inventory of maps for fieldwork

Survey published maps are important documents for use during the Census mapping. In that case it is necessary to make a full inventory of maps which are available at the Surveys Department and record down those which are not available. The census office D'Salaam, was lucky this time, as the whole of Tanzania (1986/88) was covered by the 1:50,000 map series. Also almost all townships were covered by relevant urban map sheets.

Therefore the task of producing enumeration area maps with the aid of the published survey maps, with greater attention to relative location, orientation, and to scale was better this time than the two previous censuses of 1967 and 1978.

The published survey maps used during the 1986/88 demarcation work were mainly of two types.

- a) For rural areas of Tanzania, maps of scale 1:50,000 were used. Fortunately the whole of Tanzania is covered by this type of maps. However for Zanzibar and Pemba the map series in scale 1:10,000 cover both islands.
- b) For the townships of Tanzania mainland, map series in scales of 1:2,500, 1:5000 and 1:10,000 are available.

In both cases the Ministry of Lands, Urban Development and Tourism, was the main source of these maps. All maps acquired from the Ministry (Survey and Mapping department) in November/December 1986 were taken to the regions by officers from Bureau of Statistics who went to Zonal Centers to conduct the training of Field Reviewers and Geographical Supervisors.

3.3 Organization of the Geographical Fieldwork

The organization of the geographical fieldwork during 1988 census was similar to that of the 1978 Census with some minor changes. The first step taken by the Central Census Office, D'Salaam was to conduct a seminar for two days in October 1986 in Dodoma. The Dodoma seminar included all Regional Planning Officers and representatives from Zanzibar, who met with Takwimu Officers to discuss the 1988 Census preparations.

The Seminar brought to light the needs, interests and problems of various parties involved in the Census operations. Several resolutions were taken at the meeting, but the main ones affecting the geographical work were:-

- A: Each region should appoint a Regional Census Officer (RCO) and a District Census Officer (DCO) whose primary responsibility was to supervise the execution of the Census project in their region and districts.

The list of Regional and District Census Officers is shown in appendix 2.

Appendix 2:

LIST OF REGIONAL AND DISTRICT CENSUS OFFICERS DURING 1988 POPULATION CENSUS

REGION OR DISTRICT	REGIONAL CENSUS OFFICER	DISTRICT CENSUS OFFICER
01 <u>DODOMA</u> Kondoa Mpwapwa Dodoma Rural Dodoma Urban	M.K.M. Migetto	M.W. Kabeta Kimulika PJ Kaligunga Mathias Hyera Sifrosa Mmasi (Miss)
02 <u>ARUSHA</u> Monduli Arumeru Arusha Kiteto Hanang Ngorongoro Babati	S.E. Kiwoli	Ephaim M. Maegie Elice B. Lyimo(Miss) Shiri Lovilile (Mrs) M.J. Mtui H.J. Udongole M.S. Mtengeti A.W. Mlay
03 <u>KILIMANJARO</u> Rombo Mwanga Same Moshi Rural Hai Moshi Urban	G.K.B. Fuime	A. Msigwa F.W. Rugemerina J. Simbeya D. Mollel A.L. Mtalo G.K. Mashele
04 <u>TANGA</u> Lushoto Korogwe Muheza Tanga Pangani Handeni	M.R. Luchele	R. Shangali H.A. Sabuni C.D. Magembe J.S. Tingatinga H.H. Lukuta D.K. Mulokozi

REGION OR DISTRICT	REGIONAL CENSUS OFFICER	DISTRICT CENSUS OFFICER
05 <u>MOROGORO</u>	C.P. Chondo	
Kilosa		I.A. Milanji
Morogoro (Rural)		A.A. Lyimo
Kilombero		J.J.M. Tindwa
Mahenge (Ulanga)		
Morogoro (Urban)		M.B.B. Tatala
06 <u>PWANI (COAST)</u>	P.A. Minja	
Bagamoyo		M. Mchomvu
Kibaha		E. Matemba
Kisarawe		P. Ulimali
Rufiji		E.N. Kajuna
Mafia		J. Ntenga
07 <u>DAR ES SALAAM</u>	A.R. Maleko(Mrs)	
Kinondoni		Mwailolo A.J
Ilala		D. Wanzagi (Mrs)
Temeke		N. Masikini (Miss)
08 <u>LINDI</u>	R.Z. Kombania	
Lindi Rural		M.A.Nassoro
Nachingwea		G. Kaume
Liwale		D.Kazikubom
Lindi Urban		G. Mwasemel
Kilwa		T.Nyamahung
09 <u>MTWARA</u>	M.K.S. Moses	
Mtwara Rural		M. Mgwaliima
Newala		M. Nsekela
Masasi		S. Manyangu
Mtwara Urban		
10 <u>RUVUMA</u>	E.A. Mwasyeba	
Tundura		B. Kapinga
Songea Rural		Y.C. Mbalale
Mbinga		T.P. Nyasasi
Songea Urban		J. I. Nyawelega
11 <u>IRINGA</u>	M.W. Mwaikambo	
Iringa Rural		J.M. Mwasakifwa
Mufindi		
Makete		
Njombe		
Ludewa		
Iringa Urban		
12 <u>MBEYA</u>	M.B. Mwandumbya	
Chunya		M.M. Mahenge
Mbeya Rural		R.E. Mbise
Kyela		L.F. Komba
Rungwe		G.J. Mwaipyana
Ileje		A.K. Mwakipesile
Mbozi		Y.A. Matumbo
Mbeya urban		Anosisye Mobeli

REGION OR DISTRICT	REGIONAL CENSUS OFFICER	DISTRICT CENSUS OFFICER
13 <u>SINGIDA</u> Iramba Singida Rural Manyoni Singida Urban	A.S. Msham	A. Mageta Mees M. Lula A. Upemba E.D. Silinde
14 <u>TABORA</u> Nzega Igunga Tabora Rural Urambo Tabora Urban	Y.E. C. Masatu	E. Kasawara D.S.M. Mganaza A.F. Juma M.S. Sondobi P.M.M. Jingu
15 <u>RUKWA</u> Mpanda Sumbawanga Rural Nkasi Sumbawanga Urban	N.A. Mwingira	C.S. Mkunda E. Sangalala E. Kalmalwendo Moshi
16 <u>KIGOMA</u> Kibondo Kasulu Kigoma Rural Kigoma/Ujiji	D. Mutaboyerwa	S.S. Lukosi D.M. Mukilla C. Nkwezi E.M. Tonji
17 <u>SHINYANGA</u> Bariadi Maswa Shinyanga Rural Kahana Shinyanga Urban Meatu	C.K. Chamu	W.P.N. Saidi A.A. Mnkondya P.S. Ndeki Mtaule Monica P. Kwiluhya Lushiku
18 <u>KAGERA</u> Karagwe Bukaba Rural Muleba Biharamulo Ngara Bukoba Urban	W.E. Lukambuzi	D.R. Rwesalula J. Bamanyisa Karabagwa N. Shigela J.K. H. Sebishau D. Rweshabura
19 <u>MWANZA</u> Ukerewe Magu Mwanza Kwimba Sengerema Geita	T.A. Kyamba	Muhikwa V. Musiba Henry M. Mzinu Mganyizi Kazaura H.R. Magambo Jacob I. Ndekeyeko Zephania Baguma
20 <u>MARA</u> Tarime Serengeti Musoma Rural Bunda Musoma Urban	J.A. Zedckiah	Z.M. Kibihire Marara MJ N.M. Zacharia M. Sayayi H.K. Isowe

Their job descriptions were as listed hereunder:

(1) The Regional Census Officer

- a) Liason between the Bureau of Statistics and the region
- b) Recruit a geographical supervisor, draughtsmen and field reviewers for the region
- c) Control and supervise the planning and conduct of the Census in the districts particularly that related to the mapping work, enumeration, collection of Census document and equipment.
- d) Checking for correctness and compilation of Census results for the region.
- e) Take charge of census expenditure in the region.

(2) The District Census Officer

- a) Liason between the District and the region
- b) Control and supervise the planning and conduct of the census mapping in the district
- c) Supervise the field staff doing the mapping work in the district
- d) Control and supervise the census enumeration, collection of census documents and equipment in the district.
- e) Checking for correctness and compilation m of Census results for the district.

B: Each region should form Census Committees at both regional and district levels and one of their most important duties should be to work on publicity in order to facilitate a smooth fieldwork by the field reviewers.

C: Each region should recruit Census field staff - field reviewers, geographical supervisors and draughtsmen as recommended by Central Census Office D'Salaam.

The duties of each group are as listed below:

Field Reviewers Tasks

- (1) To become thoroughly familiar with all aspects of the preparatory geographical work.
- (2) To carry out the preparatory geographical work in all areas determined by the Central Census Office of Bureau of Statistics and this involves:
 - a) The field reviewers should obtain familiarity with the administrative area to which they are assigned.
 - b) They should be familiar with the maps of the administrative area.
 - c) Prepare lists of wards, villages and the leaders in such areas.
 - d) Locate the boundaries of the district, the wards and villages both on the ground and on the maps.
 - e) Obtain estimates of the number of households in each part of the area and estimates of the population and group the households into enumeration areas (EAs) such that all parts of the district are covered by an EA and then number the EAs systematically for reference purposes.
 - f) Locate the boundaries of EAs on base maps, adding sufficient additional information on the map so that the EA can be relocated easily.
 - g) Describe in words the location and the boundary of the EA as an aid to relocating the EA, so that its extent is known.
 - h) Record the number of households in each EA so formed, and list sufficient details of the households so that the EA will be easily relocated and no household will be counted twice or omitted from the enumeration.
 - i) Discover and record the means and difficulties of movement in the area, and the route to each village, as an aid to the planning of enumeration.

- j) Prepare neat, accurate and legible EA sketch maps and lists of Balozis and householders on EA2 forms as required for control record and enumeration purposes.
- k) Prepare lists of EAs, their EA numbers, the estimated number of households and such other information that will be useful for the control of the enumeration by the Central Census Office - Bureau of Statistics Dar es Salaam and the local Census Office.

(3) To perform all other duties designed to ensure the success of the 1988 Population Census.

Supervisor's Tasks

(1) To become thoroughly familiar with all aspects of the geographical preparatory work.

- a) To supervise and participate in all aspects of the work of the field reviewers.
- b) To check the results (maps, descriptions and lists) of the work of the field reviewers.
- c) To supervise and participate in the numbering of EAs, the filling of all records (including maps and EA forms), the creation of Enumeration/Supervisors Area maps, the listing of EAs and the supervisors' Areas in readiness for the enumeration.

(2) To perform all other duties designed to ensure the success of the 1988 Population Census.

Draughtsmen's Tasks

(1) To acquaint themselves with all aspects of the geographical preparatory work such that they understand the content of EA and SA maps necessary to ensure effective work by the enumerators and supervisors at the time of enumeration.

- a) To prepare fair drawings from the field records (maps, sketches, descriptions etc) and from map sources of the EA maps and the SA (Supervisors Area) maps.
- b) To make multiple copies of these maps, as required, and to file them in readiness for use during the enumeration.

(2) To perform all other duties assigned to them by the Regional Census Officer to ensure the success of the 1988 Population Census.

D: Each region/district should have a Census Office for safe keeping of all census documents and for use by all staff involved in the census work.

3.4 Recruitment and Training of Field Staff

The number and qualification of field reviewers, supervisors and draughtsmen to be recruited by each region were determined by the Central Census Office in D'Salaam. Directives sent to Regional Census Officers for recruitment were as listed hereunder:-

- 1) Field reviewers must have completed form IV Secondary education with passes in mathematics and geography or either one of them
- 2) Geographical Supervisors - must have completed form VI Secondary education with passes in mathematics or geography or both. Or a qualified draughtsman (from surveys and mapping department) also fits to be a geographical supervisor.
- 3) Draughtsmen - to be recruited on secondment from Surveys and Mapping department or if from outside he/she must possess the required qualifications.

Depending on the size of the region and estimated enumeration areas to be created, the Central Census Office in D'Salaam worked out the required number of field reviewers, geographical supervisors and draughtsmen for each region as indicated in the appendix three below.

Appendix 3: STAFF ON CENSUS PROJECT IN THE REGIONS
DURING 1986/88

Reg.	RCO	DCO	Draughts- men	Geo/ Sup	F/Rs	Driv.	Typst	Total
Dod.	1	4	4	1	12	1	2	25
Arus.	1	8	3	1	12	1	2	28
K/nja.	1	6	3	1	12	1	2	26
Tanga	1	6	4	1	14	1	2	29
Moro	1	5	3	1	13	1	2	26
Coast	1	5	2	1	6	1	1	17
DSM	1	3	9	3	27	3	2	48
Lindi	1	5	2	1	6	1	1	17
Mtwr.	1	4	3	1	8	1	2	20
Ruvm.	1	4	2	1	7	1	1	17
Iringa	1	6	4	1	12	1	2	27
Mbeya	1	7	4	1	12	1	2	28
Sing.	1	4	3	1	6	1	1	17
Tbr.	1	5	3	1	12	1	2	25
Rukw	1	4	2	1	10	1	1	20
Kigom	1	4	2	1	8	1	1	18
Shy.	1	5	5	1	17	1	2	32
Kagr.	1	6	4	1	12	1	2	27
Mwz	1	6	5	1	19	1	2	35
Mara	1	5	3	1	9	1	2	21
Tzania								
Bara	20	102	70	22	234	22	33	499
Z'bar	2	5	3	2	20	2	2	36
TZ	22	107	73	24	254	24	35	539

The training programme for the field work was also prepared by the Central Census Office - D'Salaam. Details of topics covered in the programme are elaborated in appendix four below.

Appendix 4.

OUTLINE TRAINING PROGRAMME NOVEMBER/DEC.,86

DAY	A.M	P.M
ONE	1. Opening 2. Introduction 3. Participants, 4. Manual, Training Programme, Overview 5. Field Exercise	6. Maps of Tanzania 7. Practical work on Maps and Administrative work groups, equipment
TWO	1. Population & Settlement 2. Practical work 3. Getting to know the Region & District	4. Practical work 5. Practical work(cont.) 6. EAs: What are they?
THREE	1. The creation of EAs - general 2. Field exercise 3. EAs in different circumstances - introduction	4. Estimating the number of households and population 5. Field exercise 6. Procedures for different categories of conditions 7. Listing Special Category EAs.
FOUR	1. Urban field review - introduction 2. Field exercise	
FIVE	1. Field review in the rural areas-introd. 2. Field review task preparation 3. How to use survey maps 4. Practical	5. How to make sketch maps 6. Practical work 7. Familiarity with the Training Ward
SIX	FIELD REVIEW IN A RURAL WARD & IN AN URBAN WARD	
SEVEN	FIELD REVIEW IN A RURAL WARD & IN AN URBAN WARD	
EIGHT	1. Progress and problems - reports and discussions. 2. Preparation of EA Forms (a.m - p.m)	3. Checking EA Forms 4. Checking EA Forms 5. Completion of Field Review Task
NINE	1. Completing the work in the Ward 2. Filling materials 3. Making progress reports	4. Preparing EA summary sheets 5. Preparing Ward lists of EAs 6. Completing the work in the District
TEN	1. Drawing EA maps in 2. Formation of SAs Areas	3. Despatch of the Regional Offices materials to DSM 4. How to draw up a work
ELEVEN	1. Completion of Training	2. Preparation for departure.

The geographical work training programme was conducted at seven different zones in Tanzania during the November/December 1986 period. The zonal centres were Songea, Mbeya, Tabora, Dodoma, Moshi, Mwanza, D'Salaam and Zanzibar. The regions and number of participants forming the different zones are shown in appendix 5 on the next page.

Appendix 5:

**PARTICIPANTS TO THE ZONAL CENSUS GEOGRAPHICAL WORK TRAINING
NOVEMBER/DECEMBER 1986**

ZONE	REGION	RCO	DCO	FR	Geo.Sup.	Draughtsmen
Songea	Ruvuma	1	4	6	1	2
	Lindi	1	5	6	1	2
	Mtwara	1	4	8	1	2
Sub -Total		3	13	20	3	6
G-Total =	45					
	==					
Mbeya	Mbeya	1	7	10	1	4
	Iringa	1	6	10	1	3
	Rukwa	1	4	6	1	2
Sub-Total		3	17	26	3	9
G-Total=	58					
	==					
Moshi	Kilimanjaro	1	6	8	1	3
	Tanga	1	6	12	1	4
	Arusha	1	8	10	1	3
Sub -Total		3	20	30	3	10
G-Total=	66					
	==					
Mwanza	Mwanza	1	6	10	1	5
	Tanga	1	6	12	1	4
	Arusha	1	8	10	1	3
Sub-Total		3	17	28	3	12
G-Total=	63					
	==					
Tabora	Tabora	1	5	10	1	3
	Kigoma	1	4	6	1	2
	Shinyanga	1	5	12	1	5
Sub-Total		3	14	28	3	10
G-Total =	58					
	==					
Dodoma	Dodoma	1	4	9	1	4
	Singida	1	4	6	1	2
	Morogoro	1	5	10	1	3
Sub-Total		3	13	25	3	9
G-Total =	53					
	==					

3.5 Time table for the Field Work.

The census geographical work for the 1988 population census was arranged to be completed within twelve months (January - December 1987) for all regions in Tanzania, except for D'Salaam and Coast regions where the field work had to last for thirteen months (December 1986 to December 1987)

Due to various problems (to be explained later on) the monthly production of EAs in almost all regions at the beginning of the field work was not satisfactory, and it was feared that the target date to finish the mapping work could not be fulfilled.

With that fear in mind the Central Census Office then set out a new time table in August 1987 which showed targets to be reached by 30th September 1987, 31st December 1987 and 31st March 1988 by each region. Here it can be seen that the previous target date of finishing the work by 31st December 1987 was then pushed to 31st March 1988. These targets were elaborated in circular letter sent to all Regional/District Census Officers in late August 1987.

The output targets for each region at different intervals of time are shown (in appendix 6) in a circular letter sent to all Regional and District Census Officers.

Appendix 6:

MALENGO YA KAZI YA KILA MKOA (SEPTEMBER 1987- MACHI 1988)

Mkoa	Makisio ya Idadi ya EA's	Malengo ya kazi (EAs)		
		30 Sept. 1987 40%	31 Dec. 1987 75%	31 Machi, 1988 100%
Arusha	1787	715	1340	1787
K/njaro	1529	612	1147	1529
Tanga	1919	768	1439	1919
Morogoro	1946	778	1460	1946
Pwani	908	363	681	908
D'Salaam	3780	1512	2835	3780
Lindi	954	382	716	954
Mtwara	1418	567	064	1418
Ruvuma	1148	459	861	1148
Iringa	1723	689	1292	1723
Mbeya	2173	869	1630	2173
Singida	1208	483	906	1208
cabora	1913	765	1435	1913
Rukwa	1039	416	779	1039
Kigoma	1212	485	909	1212
Shinyanga	2453	981	1840	2453
Kagera	1923	769	1442	1923
Mwanza	2769	1108	2078	2769
Mara	1298	519	974	1298
Zanzibar	1072	429	804	1072

Kutokana na melengo yaliyoonyeshwa katika jedwali kila RCO/DCO anaweza kupima utendaji wa kazi ya kugawa maeneo kati ya kipindi na kipindi - k.m. hadi Desemba 1987 na Januari hadi Machi 1988.

Kipindi cha mwisho ni kigumu zaidi kwa sababu ni majira ya mvua katika sehemu nyingi Tanzania.

Mwisho, Ofisi Kuu ya Sensa inapenda kuagiza mikoa/wilaya kwamba kila mwisho wa mwezi idadi ya EAs zilizotengwa iwakalishwe katika ofisi hii, ili kupima maendeleo ya kazi kwa nchi nzima.

L. KOMBA
k.n.y: MTAKWIMU MKUU WA SERIKALI

3.6 Supplies of Field Materials and Equipment.

Various types of materials and equipment for the fieldwork were required and supplied to the regions by the Central Census Office before the start of the geographical work and during the mapping work period.

The materials included:-

- a) Materials/equipment for the Field Reviewrs included field maps, Forms EA 1x2, compasses, ballpens, pencils, rulers and so on.
- b) Materials/equipment for the Draughtsmen included tracing paper rolls, Amonia paper rolls, drawing sets, drawing ink and so on.

The distribution of these items to the are shown in appendix 7 below.

Appendix 7: List of Drawing Materials Supplie to Regional Census Drawing Office, Central Census Office DSM and Zanzibar Census Drawing m Office.

REGION	TRACING PAPER ROLI.S (90/95)	AMMONIA (DIAZO) PAPER	AMMONIA SOLUTION BOTTLES	DRAWING INK (BLACK)
Dodoma	21	80	10	4
Arusha	21	80	10	4
Kilimanjaro	19	80	80	3
Tanga	22	85	10	4
Morogoro	23	85	12	4
Coast	9	30	6	2
Dar es Salaam	43	210	25	8
Lindi	12	40	7	2
Mtwara	16	65	10	3
Ruvuma	14	60	9	2
Iringa	20	70	10	4
Mbeya	25	85	12	5
Singida	14	60	8	3
Tabora	22	85	12	4
Rukwa	12	40	9	2
Shinyanga	28	90	14	5
Kagera	22	85	10	4
Mwanza	31	95	15	6
Mara	15	50	10	5
CCO, D'Salaam	60	180	30	20
Zanzibar	13	45	8	.3
Tanzania	476	1760	257	100

CHAPTER IV: THE FIELD WORK

4.1 Introduction:

The magnitude of the geographical work for the 1988 census can be given in a few introductory figures. In all there were about five hundred and thirty nine (initially) persons involved in the geographical work at different levels during the time period from December 1986 to March 1988 as can be seen in appendix number three in chapter three. This excludes the CCO staff.

The overall outcome of their efforts was the production of enumeration area maps, lists of heads of households and lists of balozis for the whole country of Tanzania.

These documents were available for every enumeration area in the country. The total number of enumeration areas was 30559. Out of these enumeration areas, some 7033 supervisory areas were formed in order to have a smooth execution of the enumeration during the Census time. In addition, for some areas dyline EA/SA maps were produced for the enumeration exercise.

4.2 Field reviewers and Supervisors

The tasks of the field reviewers and supervisors have been explained in Chapter three of this report, as well as in the field reviewers manual.

Maps used for the geographical work were of two types - 1:50,000 map series for rural areas of Tanzania and 1:2,500, 1:5000 and 1:10,000 for urban areas of Tanzania (Townships and urban centres).

However for Zanzibar and Pemba Islands latest 1:10,000 map series were used.

The maps formed the basis for the demarcation of enumeration areas throughout Tanzania.

However in order to effectively succeed in the creation of EAs, other important informations were necessary. These records were, the list of heads of households as well as list of balozis for each enumeration areas.

The enumerations area size for Tanzania Mainland rural areas in the 1988 census was recommended to be 800 ± 100 people where as for an urban enumeration area the size was 400 ± 100 people. A supervisory area for the 1988 census was composed of 5 ± 1 EAs depending on locations of EAs and ease of reach. For remote areas it was possible to form a supervisory area of one, two or even three enumeration areas.

In Zanzibar and Pemba the EA size was 400 people throughout.

The field reviewers were given specific instructions to follow in the process of demarcating enumeration areas. These instructions are explained at length in the field reviewers manual but here only a brief summary of steps to be taken are listed as follows:-

1: General Procedure

- a) To divide the area of each ward into EAs delimiting territorial units containing approximately 800 people for rural areas and 400 people for urban areas.
- b) To mark the boundaries of these EAs on available maps
- c) To number sequentially the EAs so formed.
- d) To describe the boundary of each EA on form EA I
- e) To draw a map of the EA on Form EAI
- f) To list the names of the balozi and heads of households living in each EA.

2: Steps in the creation, mapping and description of EAs in Rural areas:

- a) Mark the ward boundary on the 1:50,000 map.
- b) Check the location of the ward boundary with ward officials and make any necessary corrections.
- c) Check the list of villages in the ward and record the estimated population for each village. Check the name of the village chairman
- d) Record (in pencil) the location of every village and its name on the 1:50,000 map.
- e) Check the village list of householders and find out if every household in the ward belongs to a village. If some householders do not belong to any village then, they should be noted and included into the nearest village.
- f) Demarcate (in pencil) on the 1:50,000 map, boundaries to separate one village from the other in the ward.
- g) Visit each village in the ward in a systematic manner so that no area is omitted and when the EAs are numbered, the numbers are in an orderly sequence.
- h) Obtain the name of village chairman and demarcate (using household lists) areas of the village with approximately 800 people and number these as EAs.
- i) Record the names of balozis and household heads in each EA on the Form EA 2 and record the estimate of the population.
- j) If there are householders living outside the village and are few in number -(less than 200 people,) then include them as members of this village. But if there are 200 or more householders, they should form their own EA.
- k) Finally, complete Form EA I by drawing a map to show the boundary of the EA and prominent features of the area which will help the enumerator to complete his/her work effectively and quickly; complete the description of the boundary, and also note the location of the village and how it may be reached (the route and the means of communication).

For the purposes of the 1988 Census a household is defined as follows:-

A household is group a of persons who live together and share their living expenses. Usually this will be the husband, wife and children.

Other relatives, visitors and servants should be included as members of the household if they normally live together with the family.

Persons living alone are considered to be a separate household.

Collective households comprise groups of persons living together in camps, schools, colleges, hospitals, hotels and similar institutions.

3: Steps in the creation, mapping and description of EAs in Urban areas:

- a) Mark the urban ward boundaries on the largest scale urban map available, that is 1:2,500 1:5,000 or 1:10,000 maps.
- b) Check the location of the ward boundary with the ward officials and make any necessary corrections with the help of ward officials.
- c) Obtain an estimate of the population of the ward and a list of the balozi for the ward, and for each balozi obtain the number of households in the cell.
- d) Familiarise yourself with the features of the ward.
- e) Demarcate areas of the ward containing approximately 400 people.
- f) Record the names of balozi and household heads in the EA on Form EA 2, and record the estimated population.
- g) Map the boundary of the EA on your Field Map, and assign the EA number.
- h) Complete Form EA I, by describing the boundary of the EA, and by drawing a map of the EA to show the boundary and features in the EA which will help the enumerator to work efficiently.

Contrary to the 1978 Census Mapping procedure whereby field reviewers were stationed in each district and thus rendering difficulties in monitoring work progress and quality, the field reviewers during 1988 mapping work formed one regional team and performed their work together in one district until they finished mapping and then moved to the next district.

The team of field reviewers was always under the supervision of the geographical supervisor and the District Census Officer at all times the work was going on in the district. The Regional Census Officer also paid ad hoc visits to the district to see the performance of the field reviewers and tackle some administrative problems if any.

In this way, it is believed that the 1988 census mapping was better organised and of better quality than that of 1978, whereby the field reviewers lacked close supervision and the result was a substandard mapping work.

4.3 The Draughtsmen

The draughtsmen's tasks have been explained at length in the preceding chapter. However some important functions of the draughtsmen were:-

- a) To keep all field copy maps neatly so that when the Census was over, they could be sent to D'Salaam for further post-Census cartographic work.
- b) To produce dyeline copies of EAs and SAs for the enumeration and post advance copies of them to the Central Office before the Census Count.
- c) To return all master traces of EAs and SAs to Central Census Office after the population count. A sample of copies of EA and SA maps produced by the draughtsmen can be seen in appendix 8.1 and 8.2

4.4 The Geographical Codes

The geographical codes (geo coding system) are very important instruments in a population census taking. The geographical codes if properly used provide unique identification for each region, district, ward, village and an EA in the country. The codes for the regions and districts appear in annex 1 of this report.

The geographical codes also help to classify the population living in various areas into categories for which variable procedures are adopted during the enumeration. The codes used for areas of different categories of populations during the 1988 census were as shown below:-

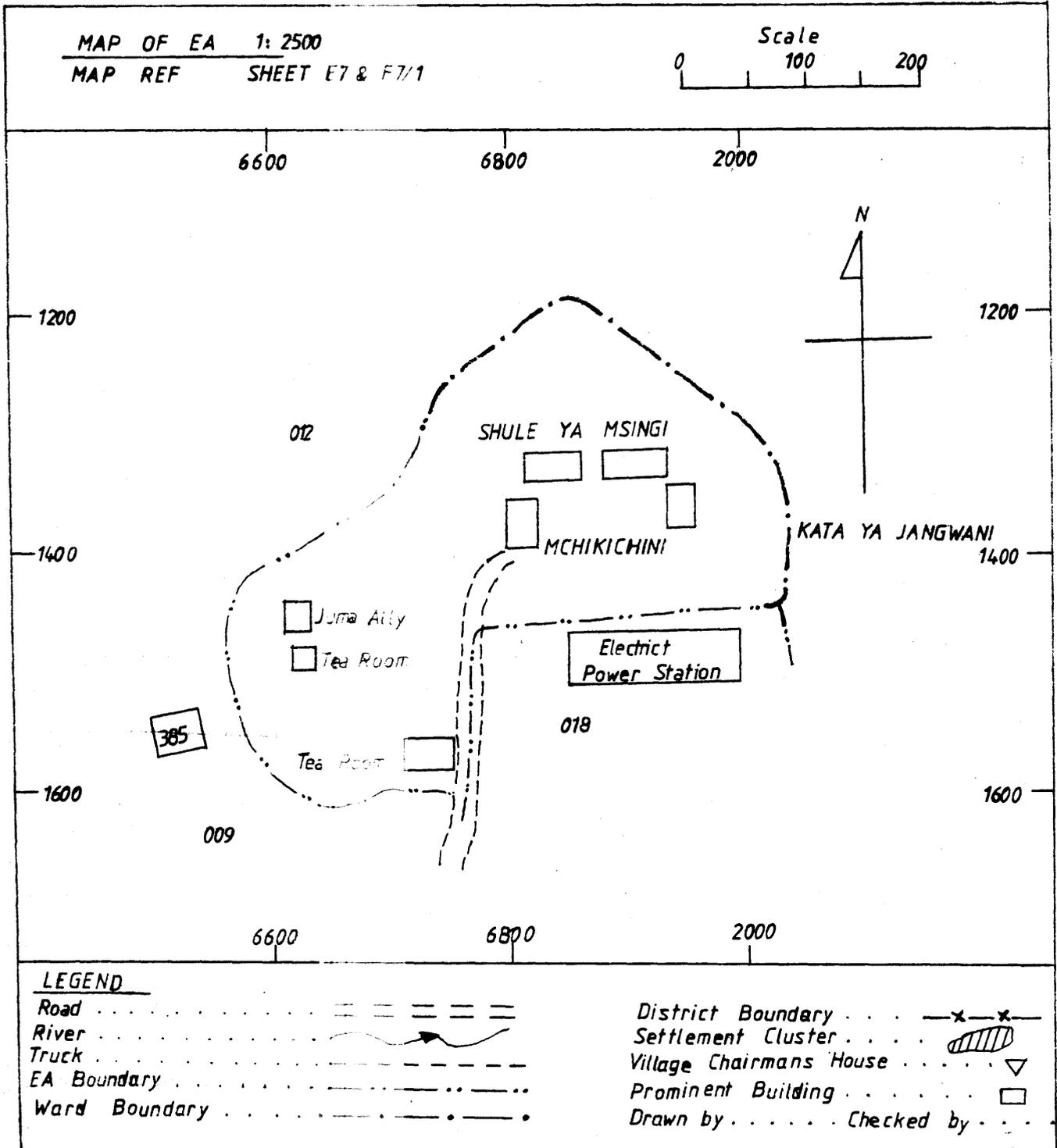
Category 1: This was a population which lived in villages. The codes for these were ranging between 011 and 299.

Category 2: The population in this categories covered the Urban areas. EAs in purely urban wards were given codes 001 - 299 and codes 301 - 499 were used for the urban part of a mixed ward.

Category 3: This category covered the population that lived in scattered areas, usually outside the boundaries of villages. EAs in these areas were given codes 501 - 799.

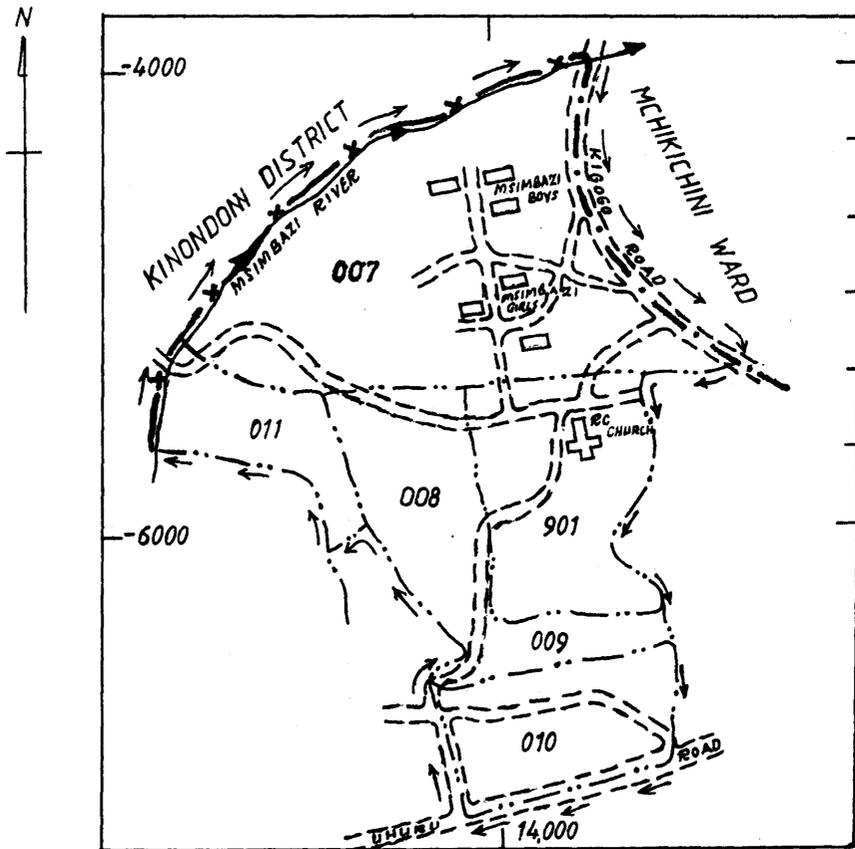
APPENDIX B-1

NAME		CODE No	EA No					
REGION	DAR ES SALAAM	<table border="1"><tr><td>0</td><td>7</td></tr></table>	0	7	<table border="1"><tr><td>0</td><td>1</td><td>7</td></tr></table>	0	1	7
0	7							
0	1	7						
DISTRICT	ILALA	<table border="1"><tr><td>2</td></tr></table>	2	Estd EA Pop <table border="1"><tr><td>450</td></tr></table>	450			
2								
450								
WARD	MCHIKICHINI	<table border="1"><tr><td>0</td><td>7</td><td>2</td></tr></table>	0	7	2	No <table border="1"><tr><td> </td><td> </td></tr></table>		
0	7	2						
VILLAGE / BRANCH	ILALA QUARTER							



APPENDIX 8.2

Name	SUPERVISOR'S AREA	NO OF EAs
DAR-ES-SALAAM	MAP	007,011,008,901,009,010.
Map Reference	Ward:- ILALA 062	
Sheet E7 1:5000		



LEGEND

District Boundary	— x — x — + — x —
Ward Boundary	-----
S.A Boundary	→ → → → →
E.A Boundary
River	~~~~~>
Road	====

Category 4: The nomadic and semi-nomadic populations were grouped in this category. Codes for EAs in this category were 801 - 899.

Category 5: This category covered populations living in groups such as hotels, hospitals, working camps, schools and so on. EAs in these areas were given codes 901 - 999.

Details on how the codes were applied and examples showing the procedures are given in Field Reviewers Manual. In short, for identification purposes a nine-digit code system was used starting with the region (with 2 digits allowance), the district (with one digit) the ward (with two digits) the type of ward - rural, mixed or urban (with one digit) and the EA having three digits.

For a rural EA the first two digits are for village number while the last (third) digit is the EA number. For an urban EA a three digit code from 001 up to 299 was used within an urban ward. A diagram showing the geo-coding system is shown in Appendix 9.

The cartographic Unit in the Bureau of Statistics, shall undertake to publicize the codes of all regions, districts, wards and villages so that, the codes used during 1988 population census are permanently used during the coming censuses and surveys in order to make it possible to have time series data of social and economic nature for various areas (levels of administrative structures) in Tanzania over a number of years.

4.5 Measures for Continuous follow up of the fieldwork.

It was stressed during the geographical work training for field reviewers that each District Census Officer should prepare a general workplan of the field demarcation work in his/her district to be used as a general guide of work performance by field reviewers during the period they are in his/her district.

Except for D'Salaam and Coast regions (January 1986 and December 1987) time span to do the creation of the EAs in the region was between January and December 1987. So depending on the number of districts in the region, the District Census Officers in the region had to share the twelve months period for field work proportionately. That means work in one district could last anything between one to three months.

The general workplan was then backed up by the monthly workplan, also prepared by the District Census Officer once the field work had begun in his/her district.

This ensured that the targets set to finish the work in the district were adhered to.

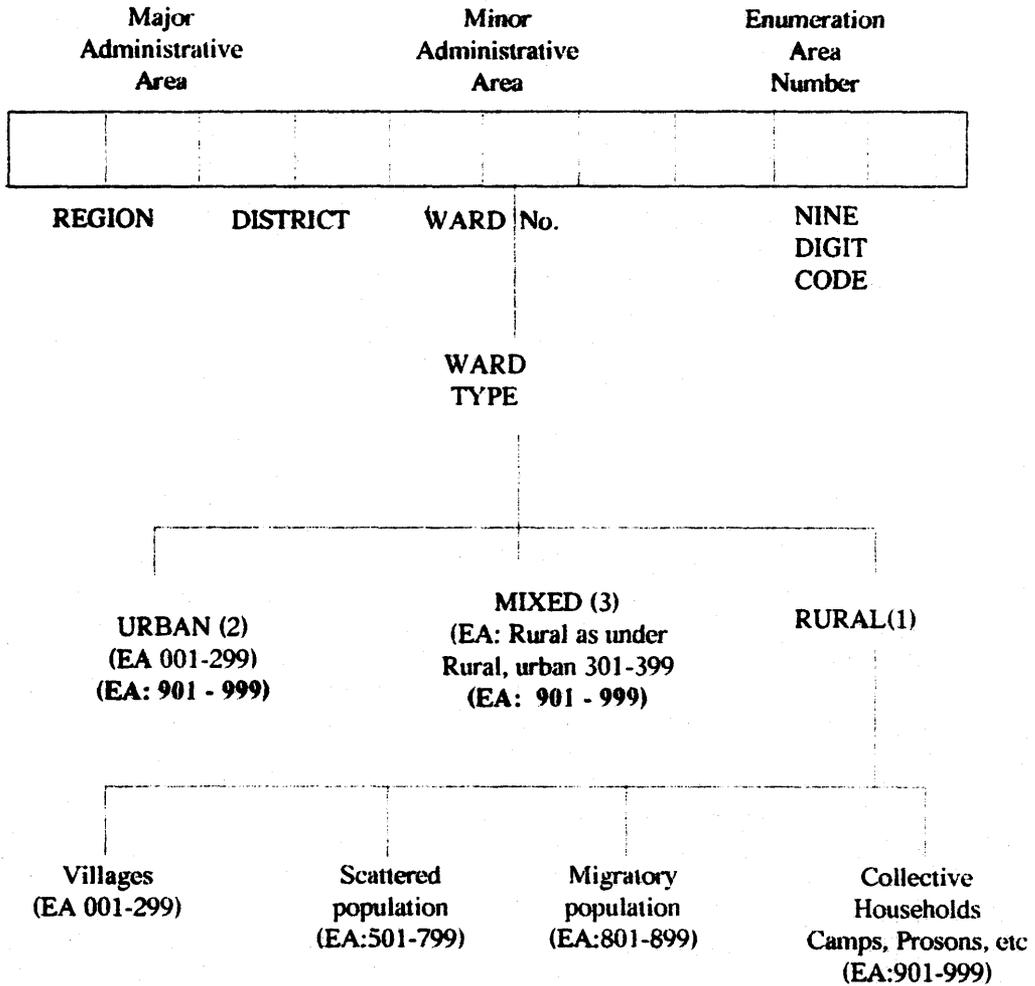
Finally, while work was going on in the district, the District Census Officer was supposed to prepare at the end of each month, a monthly progress report based on the work done. This progress report had to be sent to the Central Census Office D'Salaam at the end of every month.

It should be noted that the general and monthly workplans were to be dispatched to the Central Census Office by the District Census Officers well in advance, before the field work started in the districts.

To supplement the monitoring of the fieldwork progress in the regions, the Central Census Office arranged regular visits to the regions in the order to check on:

- a) Work targets (showing original work targets for regions) and work progress reported by DCOs and RCOs as shown in Appendix 10.
- b) Quality of mapping work
- c) Provide help in problem solving

1988 POPULATION CENSUS OF TANZANIA
GEOGRAPHICAL CODES



It became necessary to make these inspection trips because in many cases, there was very poor communication between the regions and the Central Census Office D'Salaam and so it was difficult to know what was going on in the regions in relation to the fieldwork. However, a few DCOs were active and managed to enlighten the Central Census Office on what was going on in their districts on a very regular basis.

4.6 Delay in Fieldwork

The initial deadline set to finish the mapping work was December 1987. However due to various problems listed in chapter five of this report it was not possible to achieve it.

So, the Central Census Office changed the December 1987 deadline to March 1988.

In order to overcome the delay, the Central Census Office took the following measures:

- a) Posted staff from Bureau of Statistics to regions lagging behind. It was feared that despite the change of deadline, about six regions could not finish the mapping work. These regions were listed and so, the Central Census Office in September 1987, sent out six officers, one to each region, so that they were present in the regions and personally supervised the mapping work. They were supposed to speed up the work in the regions which were lagging behind as far as the mapping work was concerned.
- b) The Central Census Office revised the monthly work output of EAs for each region, and allowed the Regional Census Officers to recruit additional field staff if necessary.
- c) As the mapping work was going on towards the end of the target date, (31 st March 1988) it was found that two or three regions could not beat the extended deadline of March 1988. However by January 1988 some regions had completed the mapping work. Then the Central Census Office decided to move field teams from those regions to regions lagging behind to help in the field mapping work as follows:-

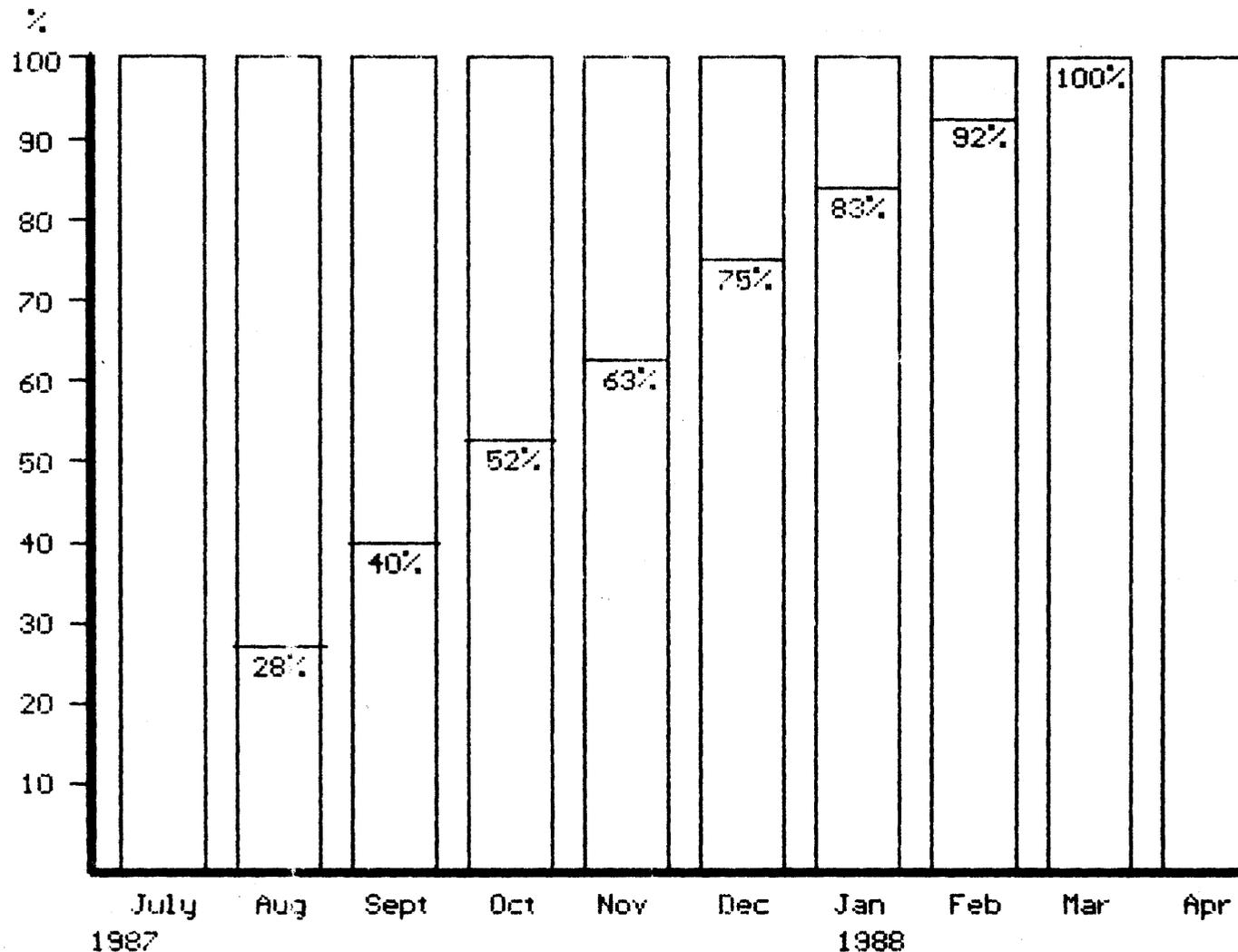
Kigoma team moved to Shinyanga region
Lindi/Mtwara teams moved to Morogoro region and
Kilimanjaro team moved to Arusha region.

With these steps taken, the mapping work in these three regions was over by April/May 1988. It was quite an unpleasant experience by the Central Census Office.

As the EAs were being created in the districts, SAs were also determined by the field teams as per instructions given by Central Census Office dated 30th September 1987.

TANZANIA: 1988 POPULATION CENSUS.

NATIONAL & REGIONAL TARGETS FOR E.A. CREATION
(Figures on columns are minimum target cumulative percentages of total estimated enumeration areas)



40% by 30/9/87
75% by 31/12/87
100% by 31/3/88
ENUMERATION DATE:
28/8/88.

END OF MONTH CUMULATIVE TARGET PERCENTAGE COMPLETION

If...by end July, monthly total is
If.... by 31/7/87, monthly target to 31/12/87 must be...

Monthly target minimum of....
To complete field mapping by 31/3/88.

4.7 Result of the fieldwork

A table with final output of EAs and SAs as on 15th June 1988 is shown in appendix 11. However, there are some variations between the initial estimates of EAs per region and the final output of EAs. These variances differ in sizes, as some are big and others are small. The overall output of EAs during 1988 Census is somewhat two times that of 1978 Census because the size of rural EA on mainland Tanzania during 1988 census was half of that of 1978 census.

Appendix 11: List of Enumeration Areas and Supervisors Areas in the Regions during the 1988 Population Census.

No.	REGION	EAs	SAs
1.	Dodoma	1525	289
2.	Arusha	1868	441
3.	Kilimanjaro	1469	298
4.	Tanga	1560	367
5.	Morogoro	1491	349
6.	Coast	725	154
7.	Dar es Salaam	3224	643
8.	Lindi	807	202
9.	Mtwara	1257	559
10.	Ruvuma	930	245
11.	Iringa	1485	256
12.	Mbeya	1779	356
13.	Singida	964	208
14.	Tabora	1188	276
15.	Rukwa	822	356
16.	Kigoma	1029	217
17.	Shinyanga	1915	476
18.	Kagera	1682	338
19.	Mwanza	2213	436
20.	Mara	1061	187
51.	Zanzibar North	251	57
52.	Zanzibar South	172	59
53.	Zanzibar West	439	96
54.	Pemba North	351	82
55.	Pemba West	325	86

4.8 Evaluation of the fieldwork

From a small study conducted on cases where big differences were observed between the fieldwork population estimates and the enumerated population, it can be said that in most cases the estimated populations given during the demarcation work were lower than those found during the enumeration time.

The main reason for this is that during the fieldwork, estimates of population sizes were based upon the records given by the local officials (village officials/ten cell leaders) who only provided the list of households per cell leader. With that information, then the field reviewers multiplied the total number of households in the particular defined EA by the average household size of a particular region (given by Central Census Office) to get the estimated population for an individual enumeration area.

However during the enumeration time, the enumerator visited each household and enumerated every household member in the household. So, in many cases, the number given during enumeration period appeared to be higher (in most cases more precise) than that given during the mapping work.

From a small sample study of notebooks used by the enumerators to record problems and other issues, it has been established that some households were left out unrecorded during the mapping work and when the enumerators went to enumerate people they found some new households.

However that is exactly what was expected and in Form EA2, a provision is there for listing new households found at enumeration time and as well as for striking off households that have left for other areas.

In all cases, household lists stand a firm base for ensuring a good census taking.

4.9 Post-enumeration Cartographic work

The Central Census Office took a great care in ensuring that all census geographical (mapping) documents were returned by Regional/District Census Officers some before and others after the enumeration. Contrary to the other censuses of 1978 and 1967 there was a very close supervision of the returns and this enabled the Central Census Office to procure almost all needed documents of the geographical work.

A few documents however either got lost on their way to D'Salaam or it is possible that the Regional/District Census Officers did not bother to send them to Central Census Office D'Salaam.

Valid efforts are in progress to get the missing documents in order to fill the gaps observed by the Cartographic staff. In appendix no. 12 the type of mapping documents received by the Cartographic Unit are clearly shown.

The bulk of the materials received by the cartographic unit have been dealt with so far as regards sorting, filing and corrections/redrawing of incorrect, wornout or missing documents.

The geo-coding documentation has also been established and continues to be maintained.

In order to facilitate easy census mapping work during the population census period several recommendations have been pronounced by the UNECA with regard to having post-census activities of mapping work on a continuous basis. The result of this is to have easy tasks of census mapping at the time close to next census enumeration.

Hence, the establishment of a permanent cartographic unit seems necessary in the Bureau of Statistics. Statistics Sweden has also put forth similar recommendations.

A: ECA recommendations:

- 1) At the outset of the Census Planning a well defined cartographic programme should be prepared based on clear, short (pre-enumeration), medium (post-enumeration and possibly long-term (intercensal) objectives. Such a programme should take into account the human, material and financial resources available and indicate an approximate methodology, system of organization and calendar.
- 2) In order to reduce the cost of cartographic work for subsequent Censuses, due attention should be paid to the preservation and continuous up-dating of the cartographic documents.

- 3) In the area of cartography evaluation, a preliminary exercise should be carried out after the processing of the completed questionnaire prepared especially for that purpose. A most detailed evaluation could be obtained by calculating the Population variances and household variances of the various administrative areas.
- 4) Countries should consider making use of the current facilities offered by computer processing in the area of thematic cartography. There are integraters that could be used to shift from one software package to another for instance WINDOWS can be used on a micro- computer, to shift from tables to graphs.

There are also input devices which converted analogue graphic data into digital data suitable for IBM micro- computers or IBM Compatible micro-computers. They thus make it possible to draw maps, sketches, trace photos and pictures and select items on a menu (using for example, the graphic tablet summa sketch).

- 5) On the role of cartography in the post-enumeration phase of the census, it is stressed that various activities can be covered under the post-enumeration census cartographic programme.

The need for preparing a comprehensive workplan covering all such activities as contemplated to be carried out during the post-censal phase is also underlined (see Appendix 14).

- 6) The indexing and storage of various maps procured/prepared by the Cartographic Unit during the pre-enumeration phase is of paramount significance in order to ensure the availability of the maps for use in other post-censal cartographic activities as well as the preparatory activities of the next census.
- 7) The need of the return of field copies of various maps, including the EA and SA maps after their use and up-dating by the respective census staff during census enumeration is of great importance.

These field copies would serve as valuable documents in up-dating/correcting the corresponding master drawings and up-dating the census base maps.

- 8) With regard to publication of maps, emphasis is put on their importance in understanding and analysing the census data and the need of supplementing the census tables with these maps in an adequate manner. The possibility of producing census atlases containing these maps should also be explored since they would enable the census data users and all other interested agencies/individuals to have the Census maps in one single volume.
- 9) ECA emphasizes the need of setting up a permanent and effectively functional cartographic unit in the census office.
- 10) The ECA emphasizes the importance of the training of Cartographic staff, uses of the latest base maps and remote sensing materials and the proper planning of cartographic activities in order to ensure their successful timely completion.

- B:** Recommendations made by Statistics Sweden are in principle similar to those of the ECA recommendations. However they are also listed here-under for the general knowledge of "to whom it may concern."

Organization

- i) The Bureau of Statistics should strengthen the cartographic section and give it a more independent role oriented towards the whole of Takwimu.
- ii) Strengthen the analytical competence within the cartographic unit.
- iii) Divide the competence within the Cartographic section in two directions, one dealing with cartographic and one with geographical analysis.
- iv) Work for a fruitful cooperation between the cartographic section and the Planning Commission.

Storage

- i) Strive to get the remaining EA material back to the Census office
- ii) Improve the storage and retrieval system by:
 - complementing the storage facilities with some more filing cabinets
 - ensure accuracy in the labelling system.
 - Build up a catalogue, starting with field maps and the not yet filed EA material.

Completion of maps

- i) Redraw all EA missing maps.
- ii) To complete the field maps so that the coverage of Tanzania is as complete as possible.

EA maps in the Intercensal period

The Cartographic section should:-

- i) Make an overview of the current and potential users of EA maps
- ii) Actively work for marketing the inter-censal use of EA maps.

Geo - codes:

It is recommended that:-

- i) Bureau of Statistics and the Cartographic section actively inform relevant bodies about the geo-codes.
- ii) Cartographic Unit should present an index over the geo-codes and their respective names.
- iii) Present maps over administrative subdivisions down to villages (which means that villages are given priority over EAs).
- iv) Produce an Administrative Atlas.

Inter-censal activities

It is recommended by Statistics Sweden that;

- i) The geographical report from the 1988 census should have a critical and constructive profile.
- ii) Cartographic section should strive for an improvement of the methods for the geographical demarcation work in the next census by constantly updating methods techniques and so on.

Population Maps

- i) The cartographic section should cooperate with others namely geographical and demographic experts as well users when deciding what kind of population maps to produce.
- ii) The Cartographic Section, should strive towards presenting a geographical analysis of the Census data.
- iii) The Cartographic section should finally present all population maps with comments (from the Census) under one cover.

Computerized Maps

It is recommended that:

- i) The Cartographic section successively computerize map production.
- ii) The training in the methodology of digitizing maps should be finished by July 1st 1990.
- iii) The training in software for computerized maps should be finished by January 1st 1990.
- iv) A plan for population maps from the Census should be finished by January 1st 1991
- v) A list is produced with the graphic and map possibilities that the new software can produce. The list should be presented to potential users of the software.

Management

It is recommended that:

- i) A list of post-census activities is made giving different priorities and target dates
- ii) Work-plans for quarterly and yearly period are prepared

It is recommended by the Consultancy mission that Statistics Sweden will primarily assist the Bureau of Statistics in the establishment of a permanent Cartographic Section by:-

- i) Funding some material and software
- ii) Assist with short-term consultants in computing, computer maps and geographical analysis
- iii) Provide training in digitizing maps and software for production of maps.

Both ECA and Statistics Sweden recommendations are to be treated as guidelines in the proper path towards the establishment of the Cartographic Section in the Bureau of Statistics. These recommendations may be altered to suit the environments prevailing in the Bureau of Statistics from both economic situation and manpower availability at any given time.

CHAPTER FIVE: PROBLEMS FACED DURING THE FIELDWORK PERIOD

5.1 Organization

a) ADEQUATE TRANSPORT:

It is obvious that transport is a major key towards a successful census mapping. At the time of the start of the demarcation work there was no reliable transport (vehicles) available for use by the field reviewers and geographical supervisors in the regions.

While a few regions had acquired old and unreliable Landrovers for the mapping work, the majority of regions had none. And so work was stagnant at the beginning of the demarcation work (January 1987). This problem lasted for seven months, that is up to July 1987 when the government supplied twenty seven Land rovers for the Census project and so each region of Tanzania mainland got one Landrover except D'Salaam region which got three Landrovers due to its complications in mapping work. Zanzibar and Pemba got one Landrover each.

Later on in October 1987, the UNFPA supplied ten Toyota Landrover cruiser saloons in order to speed the mapping work as well as the inspectorate efficiency. Of these vehicles nine remained on the mainland of Tanzania and one was sent to Zanzibar.

This was the end of the transport problem. However the delay to acquire them had caused a tremendous loss in mapping progress scheduled to be finished by December 1987. It became obvious that the demarcation work would never get finished by December 1987 as scheduled.

The field reviewers cum supervisors could not be mobile without motor vehicles and that is why in the absence of these vehicles the field reviewers/supervisors were confined to work in townships only, and when they had finished demarcating the urban areas, they stayed idle until Landrovers were supplied to the regions.

The delay to provide regions with transport also contributed to poor quality of work in mapping, since time left to complete the work was short and hence forcing the field teams to do their work in a hurry in order to beat the dead line.

However as the target date to end the work by December 1987 was so near (in all the regions) it became necessary to adjust this date in order to allow more time for field work. The Central Census Office finally extended the deadline date to March 1988.

b) PUBLICITY:

Publicity at the beginning of the Census operation was zero. This made it difficult both for the field teams and the Central Census Office to perform the activities with ease.

The general public as well as leaders at various levels of authority were not aware of what was going on in the republic.

Hence very little or no assistance at all was made available to the field reviewers/supervisors by local authorities while the mapping work was taking places in the districts. However after several efforts were made by the Central Census Office a Publicity Officer was recruited in August 1987 while the Political Commissars, one for Tanzania mainland and the other for Zanzibar and Pemba were made available for the project in February 1988. They did wonders as their publicity campaigns contributed a lot towards the success of both the mapping work and the enumeration itself. The masses were made aware of the project and the cooperation from them (public and leaders at all levels) made the census preparations easy.

c) CENSUS COMMITTEES:

Another important organ necessary for the Census to succeed was the forming of the Census Committees at national, regional and district levels. The delay to form them had their own side effects. The Census committee at any level was an authority with powers to guide, decide and direct on all issues related to the Census. Since these committee were formed of personalities with high ranking portfolios in their respective areas it became certain that anything they decide, guide and direct must be implemented by those executing the census project in their areas.

Somehow these committees were not formed early enough as agreed upon at the Dodoma Seminar in October 1986 between the Regional Planning Officers and the Bureau of Statistics. The consequence of delay to form these committees was little support to field reviewers/supervisors while doing the demarcation work; and thus making the work more difficult for them.

Having noted this limping problem the Bureau of Statistics approached the Prime Minister's Office for help. Positively, the office of the Prime Minister issued a strong circular letter to all Regional Commissioners and District Commissioners urging them to form census committees immediately. These committees were formed lately but thereafter the census operation became more effective.

d) FIELD INSPECTION

It was originally planned that there should be regular field inspections conducted by the appointed field inspectors (cartographers and senior staff from Central census office) in order to check on both the output and quality of work in the regions. The few field inspection visits made by the Central Census Office staff were due to funds limitations made available for this purpose. Hence some lucky regions were visited more than the others.

5.2 FUNDS

a) FLOW OF FUNDS

In order to have a continuous workflow and work output records, funds were a key towards the achievements of the mapping work. Funds were used for:

- (1) Payment of salaries and allowances to field staff
- (2) Fuel and maintainance of vehicles for field work
- (3) Buying of Stationery/equipment and so on

Funds were issued by the Central Census Office to Regional Census Officers whenever requests were made by them with explanations of the expenditures on the previous warrants of funds.

However, there were complaints lodged by some Regional Census Officers on the delay by Central Census Office to supply them with funds on time.

The delays caused some problems on the operation of the field work as:

- (1) Salaries were not paid on time at the end of the month.
- (2) Subsistence allowances were also not paid promptly
- (3) Vehicle bills were not cleared quickly and so resulting into their retention by garage owners until they were paid.

The problems faced by the field reviewers and supervisors have been noted in many reports of field inspection by the Central Census Office staff.

b) INCENTIVES

The census fieldwork was a hard job which forced the field staff to work in the open hot climate and woody surroundings. In order to stimulate the field staff to work harder it was therefore decided to give some incentives in terms of night allowances and an overtime lunch allowances.

However the decision to give the incentives came late, sometime in August 1987, when almost seven months had passed from the start of field work. The delay to give incentives was one among other problems that contributed to poor work performance during the first seven months period.

5.3 FIELD WORK

a) HOUSEHOLD LISTING

The original plan of household listing was that the field reviewers were to do the job. However, it was later on discovered that this work was too time consuming and difficult for field reviewers and the end result was delay in the mapping work. Therefore the Central Census Office issued a circular letter (see appendix....) to all Regional and District Census Officers urging them to contact wards and villages officials and request them to make arrangements in their localities so that those lists were prepared by ten cell leaders and kept at the village offices ready for use by the field staff once they had arrived. The work load then became lighter for the field staff and more EAs were created in a day than those in the past.

b) SOME CENSUS OFFICERS WORKING ON PART-TIME BASIS

From the very beginning of the Census project the Central Census Office gave instructions that RCOs and DCOs should work full time on the Census project.

Some regions ignored these instructions and the result was that in most regions where these officials worked on part-time basis, the census project preparations lagged behind. However, the Central Census Office then approached the Prime Minister's office for help, and a directive was then sent to all regional/district authorities telling them not to engage the census officers on other duties except the census work. Moreover, the Census officers should not be transferred until after the enumeration exercise is over.

c) OTHER PROBLEMS

Due to dragging behind in demarcation in some regions the consequences that followed were:-

- 1) Heavy work load towards the target date (March 1988) in some regions
- 2) Because of the rush, it was not possible to inspect all the work done during this crucial moment, to ascertain the quality of work. As said in previous chapter the field inspection trips were to some extent restricted because of budget limitations.
- 3) Another serious issue was that sampling of the EAs for the long questionnaire had to be done at the last minute before the enumeration training started.

CHAPTER SIX: RECOMMENDATIONS FOR FUTURE CENSUS MAPPING

6.1 ORGANIZATION

a) ESTABLISHMENT OF A PERMANENT CARTOGRAPHY SECTION

Cartography plays an important role in ensuring the success of census taking and other social/economic surveys. Because of its importance, the need to have a cartography section on a permanent basis established, has become more and more necessary over a number of years.

Further recommendations advocating the establishment of a permanent cartography section have been advanced by the ECA. Working Group on Recommendations for the 1990 Round of Population and Housing censuses in Africa (Addis Ababa), 18-22 May 1987) and by Statistics Sweden mission reports the authors of whom were here as consultants. Moreover, Statistics Sweden has already shown interest in backing up the introduction of this section in the Bureau of Statistics.

This section once introduced (in July 1990) should have the status similar to other sections of Bureau of Statistics.

It should be moulded to operate independently but offering its services to all sections in the Bureau of Statistics and other external institutions or agencies.

It is recommended that this new section should have its own item of expenditure both in the current and in the development budgets of the ministry.

b) SMOOTHER FLOW OF FUNDS

In the coming census preparations, care should be taken that the flow of Funds to regions is smoother than was the case during the 1988 census preparations. The Central Census Office should devise a model budget for each region (depending upon the number of census staff engaged on the project and other expenses) so that funds are forwarded to the regions at equal intervals without waiting for the regional/district census officers to cry for the funds.

Any unforeseen expenditure should have a separate funds allocation and such funds must be forwarded to regions under the express service system.

c) CENSUS COMMITTEES PUBLICITY

The Central Census Office (Bureau of Statistics) must tackle the problem of formation of Census committees and publicity well in advance so that the census mapping work and the enumeration get support of the public.

d) TRANSPORT

Never should the transport problem be left to injure the project. Enough vehicles must be made available prior to the start of the field work. The 1987/88 experience (fieldwork without transport) should never be repeated. The injuries made due to lack of transport (during the start of fieldwork and thereafter) are very serious and must be avoided next time.

6.2 FUNDS

a) DIRECTIVE ON USE OF FUNDS

Directions on how to spend the funds sent to regions must be made clear and regional/district census officers should be instructed to stick to them.

During the 1988 census preparations, instructions on the uses of the funds were inadequate. The result was that the census officers did not know how much to spend on different items like night allowances, petrol, maintenance etc. Each census officer spent the funds according to his/her way of taste.

It is therefore recommended in future, that detailed directives should be sent to regions right from the start of the census preparations in order to have the proper use of funds.

b) INCENTIVE ALLOWANCES

As explained in the previous chapter incentives to field staff is necessary. It is therefore recommended that the incentive allowances should be worked out well before the start of the field work.

6.3 FIELDWORK

a) REPORTING SYSTEM

Although there was some improvement in the reporting system on work progress by RCOs/DCOs this time as compared to 1978 census, it is stressed that more efforts should be made by the Central Census Office to ensure that the system is more efficient next time.

b) RCO/DCOs TO WORK FULL TIME ON THE PROJECT

The habit of some RCOs/DCOs to work on part time basis during the census preparations should be discouraged completely. These Officers must work fulltime on the project so as to ensure total supervision of field staff performance and their daily monthly outputs. They should also send the monthly progress reports to Central Census Office D'Salaam at the end of every month.

c) MORE FIELD INSPECTION VISITS

Contrary to 1988, the CCO staff should make more field inspection visits to the regions in order to check on the work quality. If the regions are left unchecked for long periods there is no way of knowing on what is going on and the quality status of work in various of the country.

d) POSTING OF CENTRAL CENSUS OFFICE STAFF TO REGIONAL CENSUS OFFICES

From the very start of the fieldwork one officer from Bureau of Statistics (not the RSOs) should be attached to RDD's office to act as a close link man between the Central Census Office and the Regional Census Office. The officer's duties shall be to monitor on the progress and problems of the respective region and also to push and maintain the speed of the census mapping work.

e) LOCAL EXPERTS

The use of local experts in the Census field mapping in Tanzania is becoming more and more encouraging. Judging from the 1986/88 experience it is evident that local experts are more suitable for the census mapping work than foreign experts. During the 1986/88 census field mapping only Tanzanians managed the project.

However, in the course of executing the project two foreign experts, one from the ECA and the other from ODA visited the Central Census Office and the field and checked on the quality of the mapping work. The ECA expert came three times during the census field work while the ODA expert came once. The Central Census Office depended on local experts from the Surveys and Mapping Division of the Ministry of Lands Urban Development and Tourism as well as on some experts from the University of D'Salaam, Geography Department and elsewhere.

The advantages of using local experts are:-

- 1) They know more about the environments prevailing in the localities than foreigners,
- 2) Communication with local leaders is easy.
- 3) Local experts can reach any parts of Tanzania without having problems with conditions of life.
- 4) They know more about the geography of Tanzania than foreigners.

f) As said before during 1986//88 census field work the Central Census Office got the services of foreign experts as consultants in the mapping work. Such experts are necessary for mainly two reasons:

- 1) They are needed in order to ascertain and control the standards of work.
- 2) With the presence of such experts it becomes possible to secure external supports needed for purchases of supplies of materials/equipment which are not available locally.

CHAPTER SEVEN: SUMMARY

- 7.1 In conclusion this report can be outlined briefly that the census mapping prior to enumeration plays an important part in clearing the way for a successful census taking.

It should be emphasized that the preparations for the census field work must be executed with utmost care so that nothing is left to hamper the mapping work when it is in progress. Failure of any step not taken care of during the preparatory stage, shall surely distort both the quality and the speed of the mapping work.

- 7.2 While the field work is in progress it is important that the Central Census Office is kept well informed of the mapping work in the regions/districts through regular receipt of monthly progress reports by Regional and District Census Officers.

Also the Central Census Office staff should make as many field visits as possible to the regions in order to check on whether instructions and directives for census mapping given by the Central Census Office are adhered to by the RCOs/DCOs and the field teams.

The net advantage gained through the inspection visits is to have a proper control of the quality in the mapping work and check on the work targets set for each region.

In case any problem is sighted in the regions during the inspection visits, then the Central Census Office or the Central Census Office inspection officer should be able to solve them at once.

Hence, the problems that were faced during the 1986/88 census field work should be avoided completely in the coming censuses.

- 7.3 The Cartographic Section must be well organised right from now so that its activities are carried out according to work programme during the intercensal period (1988 - 1998). The birth of the Cartographic section should be provided with necessary tools like:

- a) The training of its staff to professional levels in cartography. The number of staff needed and the recruitment of one or two geographers should be worked out soon.
 - b) Modern computer for the cartographic census mapping work.
 - c) Separate budget for the cartographic work activities
 - d) Materials/equipment acquired for the cartographic work
 - e) Reliable transport for regular field work and up dating of data related to census mapping.
- f) Enough office accommodation for the storage of materials/equipment and space for staff of the cartographic section.
- g) Availability of foreign experts who should come and access the setting up process of the Cartographic section and its activities during the intercensal periods (1988/1998). The prime aim of having such experts is to obtain a recognition of an international standard through their expert advices.

- 7.5 Finally, as said before many times in the report, the establishment of the Cartographic Section in the Bureau of Statistics shall be a unique success found in very few developing countries. It should therefore be looked at as a model worth being emulated by other countries that have not done so. At present, in the coming years and with modern advancement in cartography, a cartographic office appears to be of paramount significance in all censuses and statistical surveys/investigations.

7.6 A Vote of thanks goes to all those who participated actively in the census mapping work during the 1986/88 period. All the Central Census Office staff deserve a special acknowledgement for the good work done.

All personnel in the census organisational chart also deserve thanks for their wonderful contributions towards the success of the mapping work.

All foreign consultants in census mapping deserve special thanks and praise for the role they played to ensure work quality and work targets. These are the consultants from the ECA, ODA as well as Statistics Sweden.

The Bureau of Statistics remains assured that the 1986/88 census mapping work was a success mainly achieved through its local personnel for the first time.

= End =

**Annex 1: GEOGRAPHICAL CODES FOR THE REGIONS,
DISTRICTS AND SUB-DISTRICTS: 1988 CENSUS**

Region	Code	Rural District	Code	Urban district/ Sub-District	Code
Dodoma	01	Kondoa	001	Dodoma Urban	014
		Mpwapwa	012		
		Dodoma Rural	013		
Arusha	02	Monduli	021	Arusha Urban	023
		Arumeru	022		
		Kiteto	024		
		Babati	025		
		Hanang	026		
		Mbulu	027		
		Ngorongoro	028		
Kilimanjaro	03	Rombo	031	Moshi Sub-Urban	036
		Mwanga	032		
		Same	033		
		Moshi Rural	034		
		Hai	035		
Tanga	04	Lushoto	041	Tanga Urban	044
		Korogwe	042		
		Muheza	043		
		Pangani	045		
		Handeni	046		
Morogoro	05	Kilosa	051	Moro Sub-Urban	055
		Morogoro Rural	052		
		Kilombero	053		
		Ulanga/Mahenge	054		
Coast	06	Bagamoyo	061		
		Kibaha	062		
		Kisarawe	063		
		Rufiji	064		
		Mafia	065		
D'Salaam	07	Kinondoni	071		
		Ilala	072		
		Temeke	073		
Lindi	08	Kilwa	081	Lindi Sub-Urban	085
		Lindi	082		
		Nachingwea	083		
		Liwale	084		

Geographical Codes for the Regions, Districts and Sub-District: 1988 Census

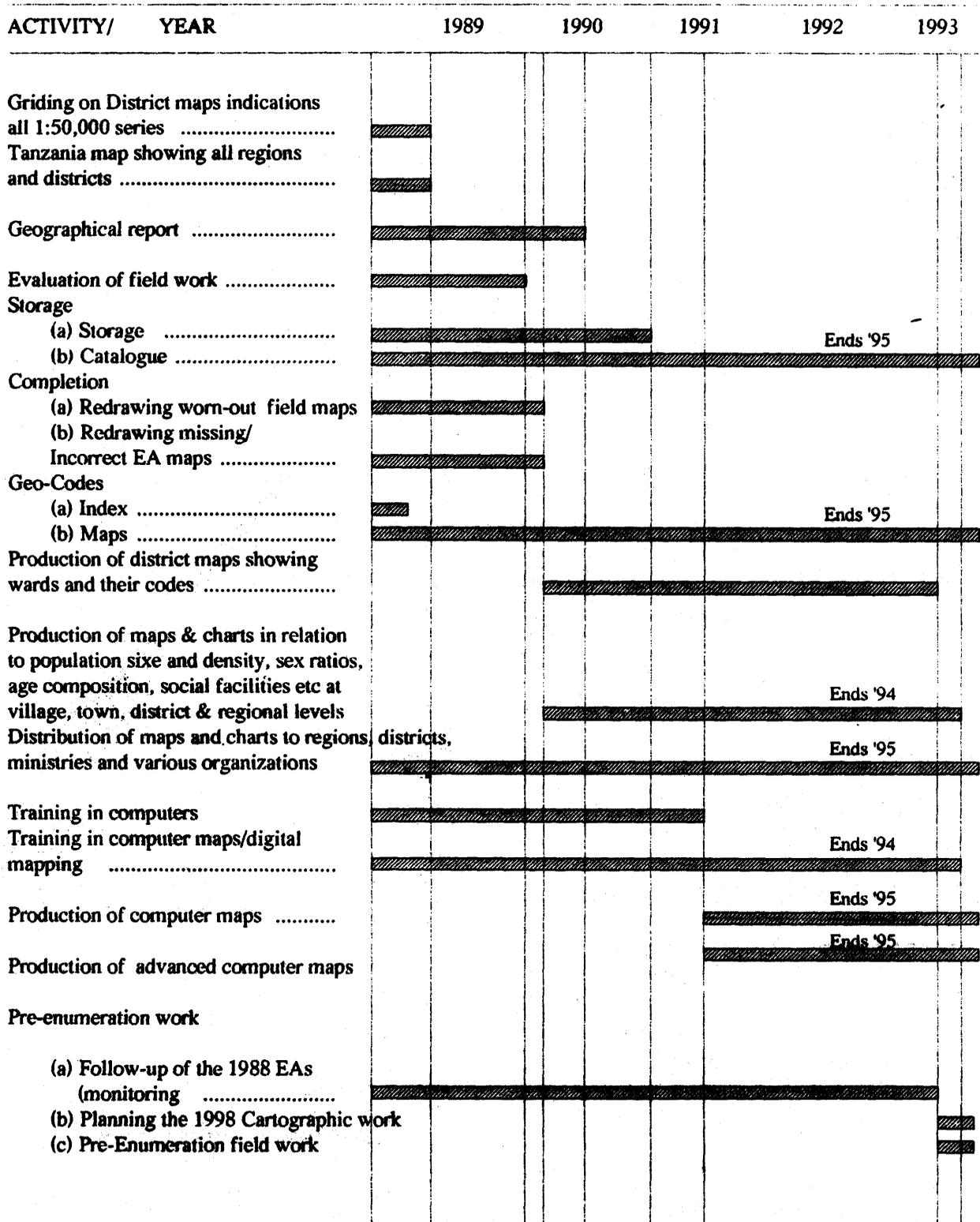
Region	Code	Rural District	Code	Urban district/ Sub-District	Code
Mtwara	09	Mtwara Rural	091		
		Newala	092		
		Masasi	093		
Ruvuma	10	Tunduru	101	Songea Sub-Urban	104
		Songea Rural	102		
		Mbinga	103		
Iringa	11	Iringa Rural	111	Iringa Sub-Urban	116
		Mufindi	112		
		Makete	113		
		Njombe	114		
		Ludewa	115		
Mbeya	12	Chunya	121	Mbeya Sub-Urban	127
		Mbeya Rural	122		
		Kyela	123		
		Rungwe	124		
		Ileje	125		
		Mbozi	126		
Singida	13	Iramba	131	Singida Sub-Urban	134
		Singida Rural	132		
		Manyoni	133		
Tabora	14	Nzega	141	Tabora Sub-Urban	145
		Igunga	142		
		Tabora Rural	143		
		Urambo	144		
Rukwa	15	Mpanda	151	Sumba'ga S/Urban	154
		Sumbawanga Rural	152		
		Nkasi	153		
Kigoma	16	Kibondo	161	Kigoma Sub-Urban	164
		Kasulu	162		
		Kigoma Rural	163		
Shinyanga	17	Bariadi	171	Shy- Sub -Urban	175
		Maswa	172		
		Shinyanga Rural	173		
		Kahama	174		
		Meatu	176		

Geographical Codes for the Regions, Districts and Sub-District: 1988 Census

Region	Code	Rural District	Code	Urban district/ Sub-District	Code
Kagera	18	Karagwe	181	Bukoba Sub-Urban	186
		Bukoba Rural	182		
		Muleba	183		
		Biharamulo	184		
		Ngara	185		
Mwanza	19	Ukerewe	191	Mwanza Urban	193
		Magu	192		
		Kwimba	194		
		Sengerema	195		
		Geita	196		
Mara	20	Tarime	201	Musoma Sub-Urban	205
		Sengereti	202		
		Musoma	203		
		Bunda	204		
North	51	North 'A'	511		
		North 'B'	512		
South	52	Central	521		
		South	522		
Town/West	53	West	531	Town	532
North Pemba	54	Wete	541		541
		Konde	542		
South Pemba	55	Chake Chake	551		
		Mkoani	552		

Annex 2:

A CARTOGRAPHIC WORK-PLAN DURING POST-ENUMERATION



FORM EA.1

	Region	District	Ward	
NAME:				EA.No. <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div>
				Est. EA Pop. <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div>
CODE:	<div style="border: 1px solid black; width: 60px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 60px; height: 20px; display: inline-block;"></div>	
VILLAGE NAME:				CENSUS VILL. No. <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div>

MAP OF EA	APPROX. SCALE:
MAP REFERENCE:	<div style="border: 1px solid black; width: 100%; height: 15px;"></div>
<p>KEY</p> <ul style="list-style-type: none"> Road River Track EA boundary 	<ul style="list-style-type: none"> Settlement cluster Scatter settlement Village Chairman's house

DESCRIPTIONS

1. LOCATION OF THE VILLAGE

.....

.....

2. BOUNDARY OF THE EA

.....

.....

(continue overleaf if necessary)

NAME OF VILLAGE CHAIRMAN:

date visited

Census Office Use:

Field Reviewer:

Checked by (Superv.)

date

Accepted (signature of 1Dist. Census Officer)

Return to DCO

(date)

UNIVERSITY OF ILLINOIS-URBANA



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