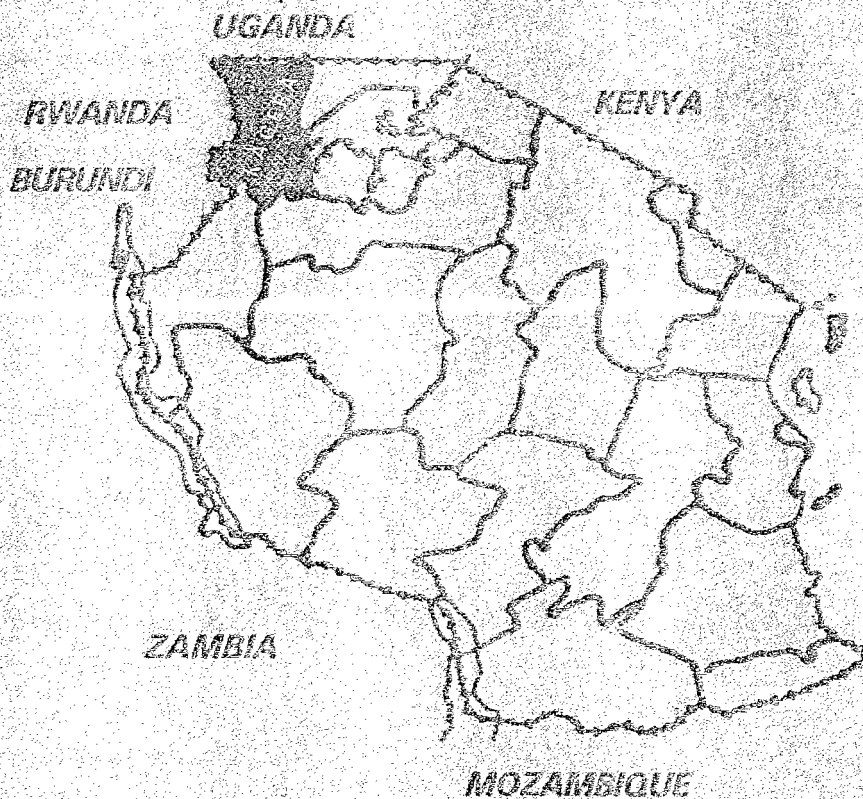


THE UNITED REPUBLIC OF TANZANIA

KAGERA REGION SOCIO-ECONOMIC PROFILE



Joint Publication by:
THE PLANNING COMMISSION
DAR ES SALAAM
and
REGIONAL COMMISSIONER'S OFFICE
KAGERA

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FOREWORD

1. *As we approach the 21st Century the problems facing rural areas in developing countries like Tanzania are numerous and formidable. Social and Economic services are deteriorating and proving to be unsustainable; school enrollment rates are declining; food situation is precarious; infant and maternal mortality rates continue to be high; unemployment is on the rise triggering off mass migration of youth from the rural areas into already overcrowded urban centres; in Kagera Region, for example, land pressure is escalating and deforestation is going on at an alarming rate.*
2. *This situation has arisen because of many factors including ill - prepared rural development programmes and weak monitoring and supervision of the implementation of development programmes and sectoral strategies. The observed shortcomings in the policy formulation, project identification, design, and implementation in the developing countries is in turn attributed to lack of reliable and adequate data and information on the rural development process.*
3. *The publication of Regional Socio-economic Profiles series by the Planning Commission in collaboration with Regional Commissioner's offices should be viewed as a fruitful attempt towards finding solutions to the existing problem of data and information gap.*
4. *The Regional Profile series cover a wide range of data and information on geography, population, social economic parameters, social services, economic infrastructure and*

productive sectors. The publications so far have proved to be of high demand and a vital source of information to many policy makers, planners, researchers, donors and functional managers.

The Planning Commission has found it a worthwhile effort to extend the exercise to cover even more regions. Readers are invited to make suggestions and constructive criticisms which can assist in improving the quality and effectiveness of future Profiles.

5. *I would like to take this opportunity to acknowledge with thanks once again the financial support of the Royal Norwegian Embassy which facilitated the preparation of the Kagera Region Socio-Economic Profile. I would also like to thank both the Planning Commission and Kagera Regional Planning Staff who put a lot of effort into ensuring the successful completion of this task.*

A handwritten signature in black ink, appearing to read 'Nassoro W. Malocho', with a large, stylized initial 'N'.

Nassoro W. Malocho (MP)

MINISTER OF STATE

PLANNING AND PARASTATAL SECTOR REFORM

May, 1998

SECTION I

1.0 LAND, PEOPLE AND CLIMATE

1.1 GEOGRAPHIC LOCATION

Kagera region is located in the extreme north-western corner of Tanzania. It lies just below the equator between 1°00' and 2°45' south latitudes. Longitudinally it lies between 30°25' and 32°40' east of Greenwich. This includes a large part of the waters of Lake Victoria. The land mass lies between 30°25' and 31°48' longitudes east. The region has a common border with Uganda to the north, Rwanda and Burundi to the west, Shinyanga and Kigoma to the south. To the east of the region lies Lake Victoria waters of Mwanza and Mara regions.

1.2 LAND AREA AND ADMINISTRATIVE UNITS

Kagera region covers 40,838 sq. km. of which 28,953 sq. km. is land and 11,885 sq. km. is covered by water bodies of Lake Victoria, Ikimba and Burigi Lakes, Kagera and Ngono rivers. The land area of Kagera is the 14th largest in the country and is approximately 3.2% of the total 883,527 sq. km. land area of Tanzania mainland.

The region is divided into six districts namely Biharamulo, Ngara, Muleba, Karagwe, Bukoba Rural and Bukoba Urban. The districts are further sub-divided into Divisions Wards and Villages as shown in Table I-1 and Map I.

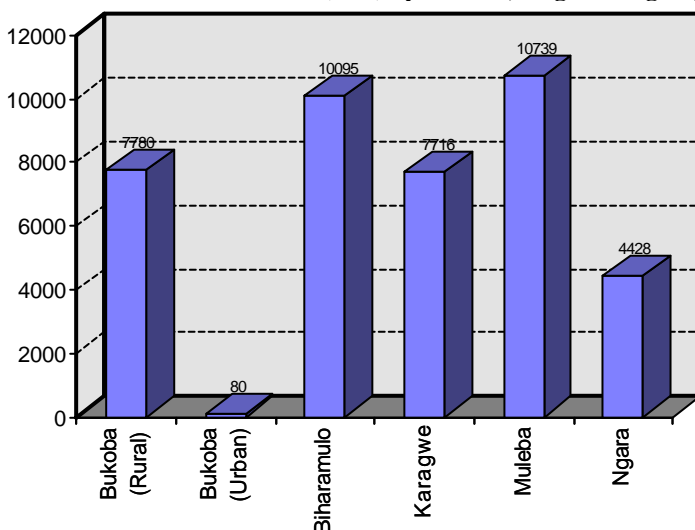
MAP I: ADMINISTRATIVE MAP OF KAGERA REGION

TABLE I-1: TOTAL AREA AND ADMINISTRATIVE UNITS OF KAGERA REGION, 1997:

District	Area Km ²	Divisions	Wards	Villages
Bukoba (Rural)	7,780	6	41	161
Bukoba (Urban)	80	1	13	8
Biharamulo	10,095	5	21	84
Karagwe	7,716	4	27	101
Muleba	10,739	5	31	116
Ngara	4,428	4	17	70
Total	40,838	25	150	540

Source: 1. Kagera Regional Commissioner's Office Bukoba, 1997.
2. FSR Diagnostic Survey working paper, 1995.

Fig. 1: Distribution of Land Area (km²) by District, Kagera Region, 1997:



Muleba is the largest district being 27.4 per cent of the total regional area. Bukoba Rural has the largest number of wards (27.3%) and villages (29.8%). Land wise Biharamulo district is the largest. See Table I-5.

1.3 Ethnicity:

The people of Kagera are relatively homogenous in that they are all of Bantu origin with few exception with the Wahaya forming the largest tribe. Districtwise, Bukoba urban and Rural districts are overwhelmingly Wahaya. So is Muleba district. Karagwe is predominantly Wanyambo. In Biharamulo the Wasubi make up 60% of all indigenous people. The rest comprises of Wasukuma, Wazinza and Warongo. Ngara is the home of Wahangaza supplemented by some Wasubi and Waha.

1.4 Population size, Growth and Density:

Kagera region had a population of 1,313,643 in 1988 (Population census 1988), with an average annual growth rate of 2.7 percent.

This regional population represented about 5.9 per cent of the total Tanzania mainland population of 22,533,758 (Population Census 1988 National Profile-Analytical report). The region's population share of the National population makes Kagera region one of the moderately populated region. The regional population had increased by 869,787 people in terms of absolute numbers or approximately by 190% from 456,396 people in 1948 to 1,313,643 in 1988. Table I-2 shows the region's population development from 1948-1988.

TABLE I-2: KAGERA REGION POPULATION DEVELOPMENT 1948-1988

Year	Population	Average Annual Growth Rate	Population Increase %
1948	456,396	-	-
1957	514,431	1.4	12.7
1967	658,712	2.5	28.0
1978	1,009,379	4.0	53.2
1988	1,313,643	2.7	31.4

Source: Report on Planning Data Base for Kagera Region, UNDP, August 1990.

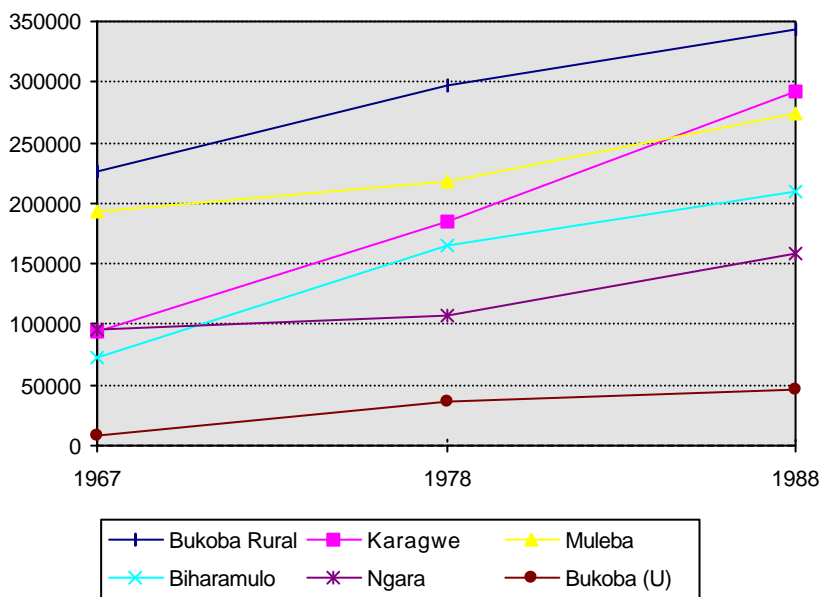
Breakdown by district of the 1988 region's population compared with the two previous census is highlighted in table 1-3.

TABLE 1-3: POPULATION DISTRIBUTION BY DISTRICTS, KAGERA REGION 1967, 1978 AND 1988.

District	Census			Percent of the total regional population of 1988
	1967	1978	1988	
Bukoba Rural	225,620	296,462	340,802	26.0
Karagwe	94,407	185,013	284,135	22.6
Muleba	192,921	217,493	273,344	20.8
Biharamulo	73,301	165,580	209,308	15.9
Ngara	96,322	107,917	159,545	12.2
Bukoba (U)	8,141	36,914	46,509	3.5
Total	690,712	1,009,379	1,313,643	100.0

Source: Population Census 1967, 1978 and 1988

**Fig. 2: Population Distribution by District, 1967, 1978 and 1988
Population Censuses, Kagera Region**



Based on the 1978/1988 regional annual average population growth rate of 2.76 per cent, the region's population is estimated to reach 1,849,965 people in the year 2000 (Table 1-4). Population projections by districts to the years 1988 and 2000 are further computed and indicated in the table just mentioned.

TABLE 1-4: POPULATION 1978, 1988 AND POPULATION PROJECTIONS BASED ON 1978/1988 AVERAGE GROWTH RATES BY DISTRICTS, 1998 AND 2000 KAGERA REGION.

District	Census		Percent Annual Growth Rates	Population projections	
	1978	1988		1998	2000
Bukoba (R)	296,462	340,802	1.50	399,620	411,790
Karagwe	185,013	284,135	4.20	445,309	484,331
Muleba	217,493	273,344	2.30	345,419	361,679
Biharamulo	165,580	209,308	2.30	263,707	276,121
Ngara	107,917	159,545	3.90	234,335	253,345
Bukoba (U)	36,914	46,509	2.40	59,760	62,699
Total	1,009,379	1,313,643	2.76	1,748,150	1,849,965

Source: Computed from Population Census of 1978 and 1988.

Fig. 3 (a): Percent Annual Growth Rates 1978/88 by District, Kagera Region

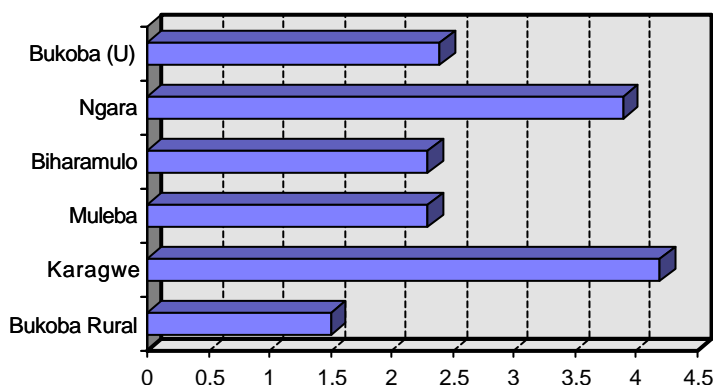


Fig. 3 (b): Population Projections 1998 and 2000 by District, Kagera Region

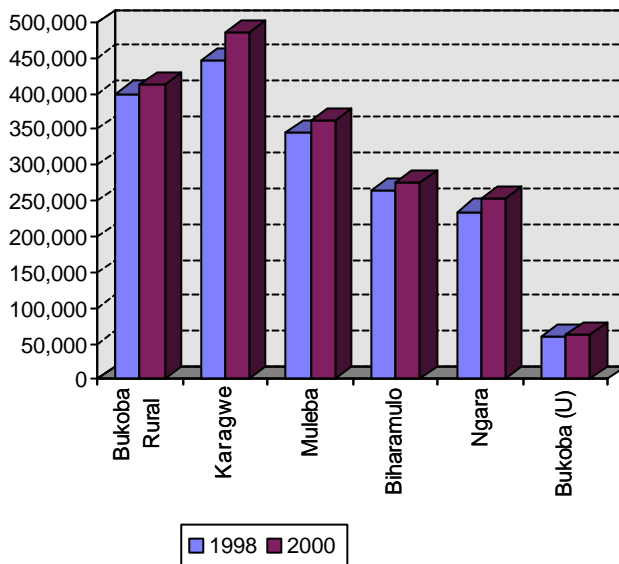


Table 1-5 highlights population distribution among the region's districts during 1988, population projections to the year 2000 and population densities. The data on 1988 population census show that there is disparity in population distribution among districts. Bukoba rural district is more heavily populated with 340,802 people, followed by Karagwe district with 284,135. Ngara district among the rural districts is the least populated with 159,545 people. Bukoba urban district is considered the least populated among all the region's districts.

Kagera region's land area is relatively small compared to many other regions of Tanzania Mainland. The population of 1,313,643 leads to some land pressure in some districts. Muleba district with its relatively small area of 2499 sq km with a population of 273,344 people created a land problem. The district was ranked the most densely populated rural district in the region for 1988.

It's density was 109.4 people per sq km. By 1998 its population density stands at about 138.2 and it will be 144.7 by the year 2000. Bukoba Rural district ranks second with a density of 62.5 in 1988 and by the year 2000 it will reach 75.6 people per sq km.

Biharamulo district is the most scarcely populated with a density of 23.4 people/ sq km in 1988. It is estimated that this will slightly rise to 30.9 people/ sq km in the year 2000. The district's large land area of 8,938 sq km greatly contributed to this low density. Biharamulo has enough land to absorb large in-migrations. The urban district of Bukoba Urban is of course the most densely populated district overall by its urban nature.

TABLE I-5: POPULATION DENSITY AND DISTRIBUTION BY DISTRICT, KAGERA REGION 1988:

District	Land Area Km ²	1988 Population	Population Density 1988	Population Projection 1998	Population Density 1998	Population Projection 2000	Population Density 2000
Bukoba (Rural)	5,450	340,802	62.5	399,620	73.3	411,790	75.6
Karagwe	7,558	284,135	37.6	445,309	58.9	484,331	64.1
Muleba	2,499	273,344	109.4	345,419	138.2	361,679	144.7
Biharamulo	8,938	209,308	23.4	263,707	29.5	276,121	30.9
Ngara	4,428	159,545	36.0	234,335	52.9	253,345	57.2
Bukoba (Urban)	80	46,509	581.4	59,760	747.0	62,699	783.7
Total	28,953	1,313,643	45.4	1,748,150	60.4	1,849,965	63.9

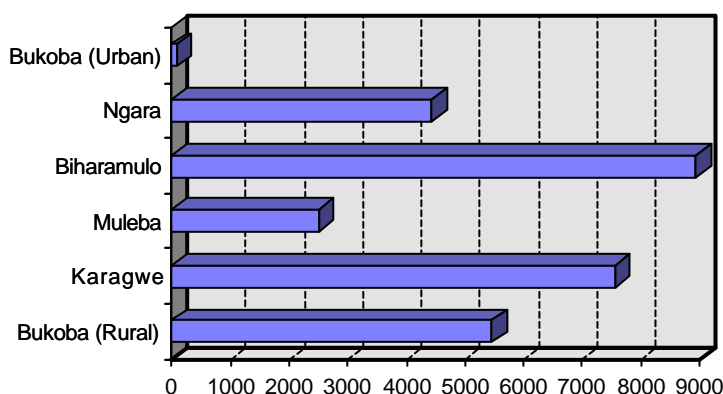
Source: 1. Population Census 1988 National Profile, The Analytical Report.

* 2. FSR Diagnostic Survey working paper, October 1995.

Compared to its neighbouring regions, Kagera is the second most densely populated region after Mwanza. Mwanza's density is 93.5 people per sq. km., Kagera 45.4, Mara 43.7, Shinyanga 34.9 and Kigoma is last at 23.1 people per sq. km.

Table I-6 shows the regional population distribution by district, sex and age groups. The region's female population in 1988 in many age groups exceeded that of the males. Table I-7 indicates that children aged 0-14 years constituted 47.3 percent of the total population. This compares badly with the national average of 45.7 percent (National Population Census, National Profile - The Analytical Report). While the economically most active age groups 15-44 years constituted 37.6 percent. The working group aged 15-64 years made 47.2 percent of the total population. Dependants made up 52.6%. The dependency ratio was 111 i.e. 111 dependants for every 100 workers. The national dependency ratio for 1988 was 100. In 1978 the region's ratio was better at 106. This implies that 689,571 persons of 0-14 and those of 65 or above years were being fed and looked after by only 620,353 people in 1988.

Fig. 4: Distribution of Land Area (km²) by District, Kagera Region



**TABLE I-6: POPULATION DISTRIBUTION BY SEX AND AGE GROUPS
DISTRICTWISE KAGERA REGION 1988:**

District	Sex	Age Groups (Years)					Total
		0-14	15-44	45-64	65+	Not Stated	
Bukoba Rural	Male	79,082	57,415	16,809	10,027	132	163,465
	Female	77,460	66,926	19,781	12,663	507	177,337
	Total	156,542	124,341	36,590	22,690	639	340,802
Karagwe	Male	70,879	51,385	12,050	5,703	231	140,248
	Female	70,313	55,863	11,921	5,301	489	143,887
	Total	141,192	107,248	23,971	11,004	720	284,135
Muleba	Male	63,713	46,829	14,064	8,621	115	133,342
	Female	62,117	51,915	15,193	10,511	266	140,002
	Total	125,830	98,744	29,257	19,132	381	273,344
Biharamulo	Male	50,997	38,901	9,743	3,909	164	103,714
	Female	51,621	42,519	8,074	3,024	356	105,594
	Total	102,618	81,420	17,817	6,933	520	209,308
Ngara	Male	38,206	27,082	6,247	3,993	90	75,618
	Female	38,748	32,833	8,121	4,155	70	83,927
	Total	76,954	59,915	14,368	8,148	160	159,545
Bukoba (Urban)	Male	8,649	11,376	2,219	782	30	23,056
	Female	9,050	11,028	2,059	1,258	58	23,453
	Total	17,699	22,404	4,278	2,040	88	46,509
Total Kagera Region	Male	311,526	232,988	61,132	33,035	762	639,443
	Female	309,309	261,084	65,149	36,912	1,746	674,200
	Total	620,835	494,072	126,281	69,947	2508	1,313,643

Source: Population Census 1988, Kagera Regional Profile.

TABLE I-7: POPULATION DISTRIBUTION BY BROAD AGE GROUPS, KAGERA REGION 1988:

Age Group	Population	%
0 - 14 years	620,835	47.3
15 - 44 years	494,072	37.6
45 - 64 years	126,281	9.6
65+ years	69,947	5.3
Not Stated	2,508	0.2
Total	1,313,643	100.0

Source: Population Census 1988 Kagera Regional Profile.

Fig. 5: Population Distribution by Broad Age Groups, Kagera Region, 1988

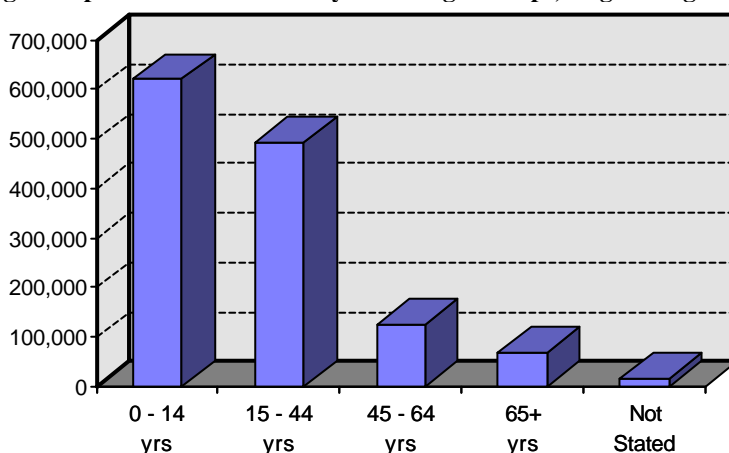


Table I-8 shows the region's population distribution by district ,sex and Urban/Rural orientation. There were more residents in rural areas accounting for 94.7 percent of the region's population.

Also there were more women than men in rural area when the 1988 population census was taken. In urban areas females exceeded males by a small margin. The sex ratio for rural areas was 95 and in urban areas it was 97.

TABLE I-8: POPULATION OF KAGERA REGION BY DISTRICT, SEX AND URBAN/RURAL 1988:

District	Rural			Urban			Grand Total
	Male	Female	Total	Male	Female	Total	
Bukoba (Urban)	8,848	9,325	18,173	14,204	14,126	28,330	46,503
Karagwe	137,235	140,943	278,178	3,010	2,949	5,959	284,137
Muleba	127,382	133,383	260,765	5,952	6,612	12,564	273,329
Biharamulo	96,630	98,179	194,809	7,072	7,398	14,470	209,279
Ngara	71,612	79,821	151,433	4,011	4,102	8,113	159,546
Bukoba (Rural)	163,462	177,338	340,800	-	-	-	340,800
Total	605,169	638,989	1,244,158	34,249	35,187	69,436	1,313,594

Source: 1988 Population Census, Kagera Region Profile.

Table I-9 shows that there were total of 269,643 households in Kagera region in 1988. Districtwise household distribution indicates that Bukoba Rural district had the highest number of households at 75,772 followed by Muleba and Karagwe with 56,259 and 56,162 households respectively. Bukoba Urban had the least number at 10,147. There is little difference in household size among the region's districts. This ranges between 4.5 and 4.9 with the exception of Karagwe and Biharamulo districts which had 5.1 and 5.8 average number of persons per household. It is not known with certainty why Karagwe and Biharamulo had such big of households.

TABLE 1-9: POPULATION BY SEX , DISTRICT, NUMBER OF HOUSEHOLDS AND AVERAGE HOUSEHOLD SIZE, KAGERA REGION 1988

District	Population			Number of Households	Average Household size	Sex Ratio
	Male	Female	Total			
Bukoba Rural	163,462	177,338	340,800	75,772	4.5	92
Karagwe	140,245	143,892	284,137	56,162	5.1	97
Muleba	133,334	139,995	273,329	56,259	4.9	95
Biharamulo	103,702	105,577	209,279	35,928	5.8	98
Ngara	75,623	83,923	159,546	35,375	4.5	90
Bukoba Urban	23,052	23,451	46,503	10,147	4.6	98
Total	639,418	674,176	1,313,594	269,643	4.9	95

Source: 1988 Population Census

Fig. 6 (a): Population Distribution by District and Sex, Kagera Region, 1998

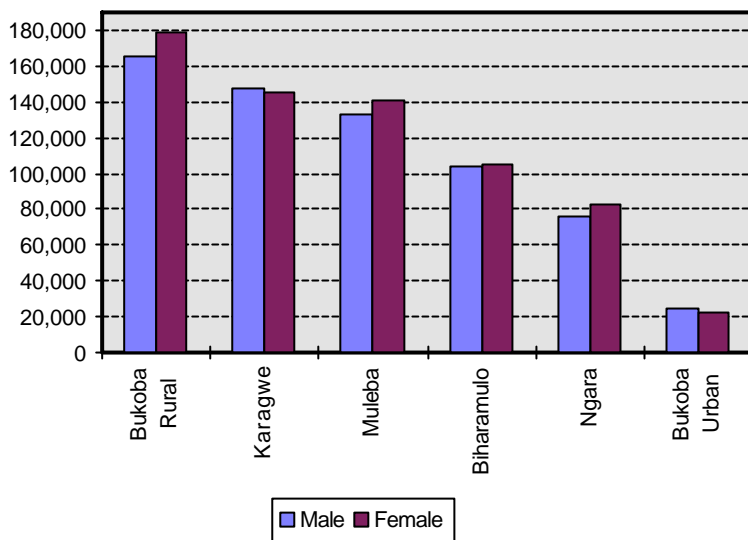


Fig. 6(b): Average Household Size by District, Kagera Region, 1988

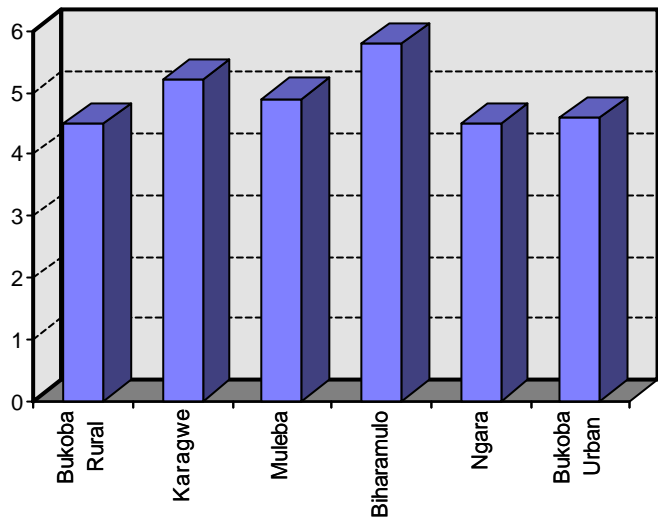
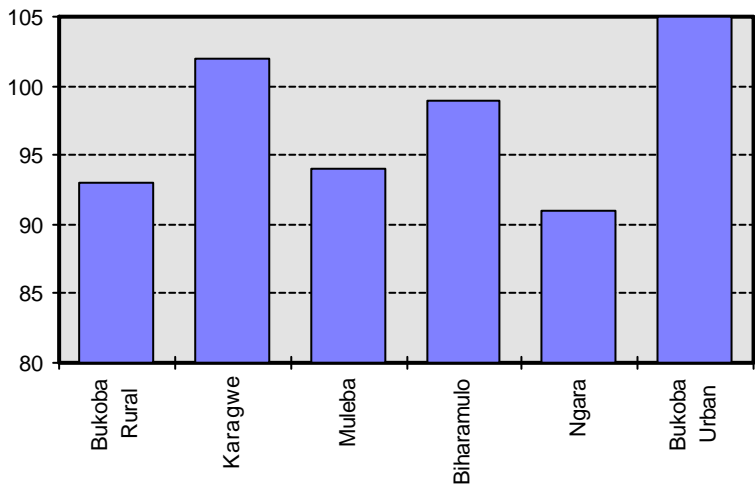


Fig. 6 (c): Distribution of Sex Ratio by District, Kagera Region, 1998



With respect to the sex ratio in the 1988 population, the average for the region is 95 i.e.. There are 95 males for every 100 females. However, there is considerable differences between districts. There are more males then females in all districts.

1.5 Migration:

Population migration is another factor which affects both population growth and density. Births and deaths are natural factors which influence population growth. Migration of a population could be triggered by various reasons some of the reasons being search for new farming land, better pasture and water for livestock and the search for a better life through better employment opportunities elsewhere. There has been significant movements of the region's population in both directions. Table I-10 shows that the number of people moving into the region is outnumbered by those moving out. The lifetime in migration was 103,713 while lifetime out-migration was 109,693 (1988 Population Census). The most likely cause for the negative Net lifetime migration of - 5,980 for Kagera region could lie in the agricultural sector. Agriculture in the region has failed to satisfy economically, the rural population and particularly so, the young generation. Low productivity of both food and cash crops in the region has necessitated a sufficiently big number of the rural population to seek for better opportunities elsewhere outside the region. Lack of industrial development in the region and poor performance of the fishing industry have also contributed to this net outflow.

TABLE I-10: LIFETIME MIGRATION BY REGION, TANZANIA:

Region	Lifetime In-migration	Lifetime Out-migration	Net Lifetime Migration	Gross Migration
Kagera	103,713	109,693	-5,980	213,406
Dodoma	89,900	190,985	-101,085	280,885
Arusha	218,427	76,703	141,724	295,130
Kilimanjaro	93,040	217,423	-124,383	310,463
Tanga	98,747	150,915	-52,168	249,662
Morogoro	172,393	141,956	30,437	314,349
Coast	103,804	207,716	-103,912	311,520
Dar-es-Salaam	651,246	150,625	500,621	801,871
Lindi	95,200	145,031	-49,831	240,231
Mtwara	46,299	144,988	-98,689	191,287
Ruvuma	66,442	81,661	-15,219	148,103
Iringa	49,282	169,480	-120,198	218,762
Mbeya	160,377	113,378	46,999	273,755
Singida	86,651	150,531	-63,880	237,182
Tabora	241,729	175,359	66,370	417,088
Rukwa	87,599	49,294	38,305	136,893
Kigoma	26,795	129,718	-102,923	156,513
Shinyanga	288,210	281,447	6,763	569,657
Mwanza	270,142	303,646	-33,504	573,788
Mara	75,987	115,865	-39,878	191,852
Total Mainland	3,025,983	3,106,414	-80,431	6,132,397

Source: Population Census 1988, National Profile, Analytical report.

1.6 Employment:

Available data from 1978 and 1988 population censuses provide the main occupational structure of the region's adult population. Table I-II(a) and I-II(b) show very close similarities in the proportion of the region's adult population engagement in the agricultural sector. Information reflected from the tables is that out of the total 47.8 percent of the regional employed population in 1978, 42.3 percent were engaged in agricultural activities. In other words, agricultural activities constituted 88.2% of the employed population. Comparatively in 1988 the total employed force made up 70.7% of the total employable population. The 70.21% included 64.25% contributed by agriculture related employment. Thus in 1988 90.9% of all workers were engaged in agriculture or agriculture related employment.

The contribution of fishing and livestock sub-sectors remained low. But given some concerted efforts, these two sub-sectors could absorb a large work force and so contribute more towards employment in the region.

TABLE I-II(a): KAGERA REGION POPULATION BY MAIN USUAL OCCUPATION 1978:

Main Occupation	Percent of the region's Population
Agricultural Activities	42.13
Livestock rearing	0.17
Fishing	0.84
Professional and Semi-Professionals	2.22
Non Agricultural labourers	1.39

Students	16.19
Other workers	0.88
Unemployed	36.05
Non-Specific workers	0.13
	100.00

Source: Report on Planning Data Base for Kagera Region, UNDP Report, August, 1990.

TABLE I-II(b): KAGERA REGION POPULATION 10 YEARS AND OVER BY MAIN USUAL OCCUPATION 1988:

Main Occupation	Percent of the region's adult population
Cultivators	58.40
Mixed Farming	5.64
Agricultural Workers	0.21
Craftsmen, Machine Operators	0.73
Small Scale traders and labourers	1.86
Legislators, Administrators, Managers	0.20
Professionals, Technicians and Teachers	1.54
Clerks	0.33
Service and Shop Sales	1.10
Other workers	0.37
Not employed	29.29
Non-Specific workers	0.33
	100.00

Source: Population Census 1988 Kagera Regional Profile.

1.7 Climate and Soils:

Kagera region experiences a bi-modal rainfall pattern, March - May and October - November, with average annual rainfall of 500 - 2000 mms. Rainfall is higher along the shores of Lake Victoria and decreases inland away from the lake and also with altitude, varying from 2000 mms a year near Bukoba to 500 mms in the west. Temperatures range between 20°C - 28°C. Annual

mean rainfall and temperature by district is highlighted in Table I-12.

TABLE I-12: ANNUAL MEAN RAINFALL AND TEMPERATURES BY DISTRICT, KAGERA REGION:

District	Rainfall (mm)	Temperature (°C)
Bukoba (R & U)	800-2000	20
Muleba	850-1100	20
Biharamulo	700-1050	26
Ngara	760-1000	20
Karagwe	500-1000	28

Source: Kagera Regional Agricultural development office, Bukoba, 1988.

The region consists of a series of hilly ridges running North-South and parallel to the lake shore. The banana, coffee growing areas are mostly on the tops of hill ridges. These soils have high iron and clay contents. However, the soils are low in phosphorus and acidity. The nitrogen content of these soils is usually low but to some extent are artificially maintained by intercropping with legumes, including and to a less extent by manuring. Due to high rainfall regimes in areas along and near the lake shores coupled with bad soil management, soil erosion is a serious problem.

1.8 Agro-economic Zones:

Work done on classifying Kagera region according to agro-economic zones is hard to come by. But generally speaking the region can be divided into three broad zones as follows:

Zone 1: Lake Shore and Islands:

This zone enjoys the highest rainfall in the region with annual precipitation ranging from 1400 mms to 2,000 mms on the average. This area has an altitude of 1,300 to 1,400 meters

above sea level. Crops grown are mainly bananas, beans, coffee and tea. The zone covers Bukoba Urban and most of Muleba and Bukoba Rural district. The eastern parts of Biharamulo district are included.

Zone 2: Plateau Area:

The altitude of this area is 1,400 and above. It is another high rainfall zone with annual rainfall reaching 1000 mms to 1400 mms on average. Crops grown are bananas, maize, beans, coffee and cassava. Areas covered are parts of Bukoba Rural, Muleba and Ngara's Bugufi highlands. Almost the whole of Karagwe district is in this zone.

Zone 3: Lowlands:

This are lands below 1,300 metres away from Lake Victoria. It covers small parts of Muleba and Bukoba Rural, most parts of Biharamulo and Bushubi in Ngara district below the Rubuvu river.

Crops grown are maize, beans, cassava and cotton. Annual rainfall averages 500 mms to 1,000 mms, mono-modal.

SECTION II

2.0 REGIONAL ECONOMY:

2.1 INTRODUCTION:

The major economic activity carried out by the region's population is agriculture, mainly subsistence. Important food crops being bananas and beans. Coffee, cotton and tea are the main cash crops grown at this subsistence level. Sugar cane growing on a commercial scale is carried out by the Kagera Sugar Company. Because of adverse soil conditions due to declining soil fertility coupled with little utilization of both organic and inorganic fertilizers the can only feed itself with some difficulty. Bananas the main food crop in Bukoba Urban and Rural districts, Muleba and Karagwe district, is doing pretty badly in most parts of the region except in Karagwe. Surplus production from Karagwe usually fails to bridge the region's banana food gap. Maize, cassava and sorghum are not very popular food crops in most districts of the region.

Agriculture contributes most of the region's income mainly from coffee, sugar, cotton and tea.

The sector's contribution to the region's GDP is estimated at 50 percent. Production from this vital sector has been steadily declining over the last few years.

Fishing in the past years had contributed very little to the region's economy. It is only in recent years (1995) that with the introduction of a fish fillet semi-processing plant in Bukoba, fishing has become an important sector in cash earning and employment.

The livestock sector is very insignificant in terms of economic contribution to the region's economy. However, some positive moves are being undertaken by the region in expanding the sector through introduction of dairy cattle at household level.

2.2 GDP:

Kagera region recorded a GDP of T.shs. 1,712 million at current prices in 1980. The region's economy grew up steadily from that base year to 1986 when a GDP of T.shs. 6,477 million was realised. For some reason the region's GDP in 1987 dropped by 15.4 percent from that of 1986 (Table II-1). From there on it grew positively at various rates. Kagera region though not well endowed with industrial development apart from a few agro-based industries namely the coffee, sugar and cotton processing industries, still has managed to contribute significantly to the Nation's economy. In the first half of the eighties Kagera region had a share contribution of 5 percent of the National GDP when this was followed by a drop in share contribution to a low level of 3 percent. From 1990 to 1994 the region's economic situation has changed positively again to the level of 5 percent. The region compares medially in GDP contribution to other region's in Tanzania Mainland (Table II-2).

A look at the Per Capita GDP shows a similar trend of growth to that of the Regional GDP, from T.shs. 1,607 in 1980 to 5,183 in 1986. The following year per capita income dropped and rose up again in 1988 and thereafter grew up at various rates to a level of T.shs. 50,105 Per Capita GDP at current prices in 1994. However, during the same period (1980 - 1994) the value of the Tanzania shilling was undergoing drastic drops in exchange to the U.S.A. dollar from an exchange rate of T.Shs. 8.22 per Dollar in

1980 to T.shs. 553.00 per dollar in 1994. For this reason the man in Kagera region has experienced decreasing purchasing power. The best moment in this respect was in 1982 when the region's annual per capita income was equivalent to USA Dollars 268 and the worst situation was experienced in 1987 when annual per capita earning was equivalent to U.S.A. \$ 51 (Table II-1). In other words the general public in the region has become poorer especially from 1986 to 1994. In terms of per capita income Kagera region ranks 12th with an average of T.shs. 50,105 in 1994 compared to other Mainland regions (Table II-3).

TABLE II-1: GDP AND PER CAPITA GDP OF KAGERA REGION AT CURRENT PRICES AND PERCENTAGE CHANGE 1980 - 1994:

Year	GDP at Current Prices in (T.Shs. Millions)	% Change	Per capita GDP at Current Prices (T.shs. and in U.S.A. Dollars)			% Change	Average % Contribution to National GDP
			T.Shs.	Exchange Rate T.shs/Dollar	U.S.A. Dollars		
1980	1,712	-	1,607	8.22	195	-	5
1981	2,200	28.5	2,012	8.35	241	23.6	5
1982	2,872	30.5	2,556	9.52	268	11.2	5
1983	3,192	11.1	2,767	12.44	222	17.2	5
1984	3,658	14.6	3,087	18.16	170	-23.4	5
1985	4,805	31.4	3,949	16.50	239	40.6	5
1986	6,477	34.8	5,183	51.70	100	-58.2	5
1987	5,479	-15.4	4,269	83.70	51	-49.0	3
1988	10,376	89.4	7,636	125.00	61	19.6	3
1989	16,493	59.0	11,803	192.00	61	-	3
1990	30,325	83.9	21,103	197.00	107	75.4	5
1991	38,715	27.7	26,197	234.00	112	4.7	5
1992	49,101	26.8	32,307	335.00	96	-14.3	5

1993	63,336	29.0	40,523	480.00	84	-12.5	5
1994	80,537	27.2	50,105	553.00	91	8.3	5
Average	21,285. 2		14,340.3		140		4.6

Source: National Accounts of Tanzania 1976 - 1994 11th Edition, August, 1995.

Fig. 7: Per Capita GDP at Current Prices in USA Dollars, 1980 - 1994, Kagera Region

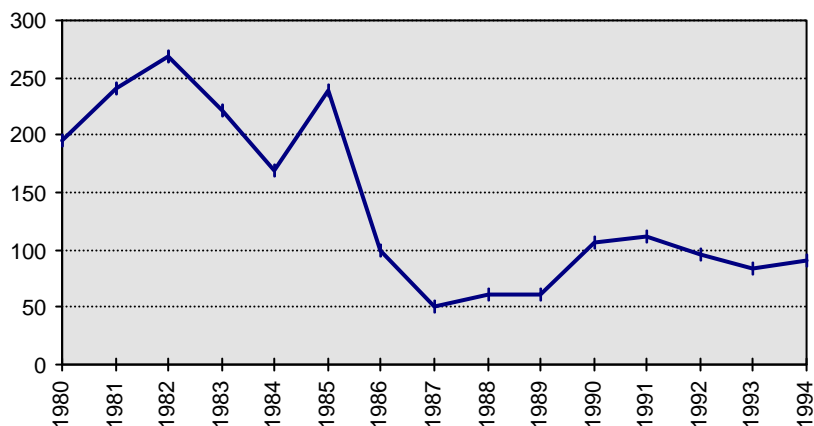


TABLE II-2: REGIONAL GDP AND CONTRIBUTION RANKING, 1980 - 1994, TANZANIA MAINLAND:

Region	Average % Annual GDP Contribution	GDP Contribution Ranking
Kagera	4.60	9
Dar-es-Salaam	20.33	1
Arusha	7.80	2
Mwanza	7.67	3
Mbeya	6.00	4
Shinyanga	5.80	5
Iringa	5.53	6
Tanga	5.52	7
Morogoro	4.67	8
Kilimanjaro	3.67	10
Mara	3.47	11
Tabora	3.40	12
Ruvuma	3.33	13
Mtwara	3.27	14
Rukwa	3.13	15
Dodoma	3.07	16
Singida	2.87	17
Kigoma	2.53	18
Lindi	2.00	19
Coast	1.00	20
Total	100.00	

Source: Planning Commission Analysis: Based on National Accounts of Tanzania 1976 - 1994 11th Edition August, 1995.

TABLE II-3: COMPARISON OF PER CAPITA INCOMES FOR TANZANIA MAINLAND REGIONS 1994:

Rank Number	Region	Per Capita Income T.shs.
12	Kagera	50,105
1	Dar-es-Salaam	197,107
2	Arusha	91,024
3	Rukwa	80,669
4	Iringa	64,502
5	Tanga	60,021
6	Mtwara	59,533
7	Morogoro	59,370
8	Kilimanjaro	55,716
9	Singida	55,644
10	Shinyanga	52,746
11	Ruvuma	52,537
13	Mbeya	48,737
14	Mwanza	48,508
15	Tabora	44,984
16	Mara	43,748
17	Dodoma	39,604
18	Lindi	38,340
19	Kigoma	30,103
20	Coast	22,624

Source: National Accounts of Tanzania 1976 - 1994 11th Edition, August, 1995.

2.3 PRODUCTIVE SECTORS:

2.3.1 AGRICULTURE:

2.3.1.1 Introduction:

Agriculture is the mainstay of the people of Kagera. It engages about 90 percent of the regional population in the production of food and cash crops. Important food crops are banana, beans, maize, cassava and sorghum. There are three important cash crops in the region grown at subsistence level, these are coffee, cotton and tea. Sugar cane is grown on commercial scale at the Kagera Sugar Estate.

F.A.O. in 1995 estimated that there were 440,393 ha. under cultivation in the region. So about 15.5% of Kagera's land area is under cultivation. This proportion varies from 3.1% in Biharamulo to 28.7% in Karagwe. Even taking forest reserves, game reserves and game controlled areas into account, Kagera has a lot of land that has yet to be put the plough. See Table II-4 for details.

TABLE II-4: ESTIMATED AREA UNDER CULTIVATION, BY DISTRICT:

District	**Land Area Ha.	Land Area* (Ha.) under cultivation	% under cultivation
Bukoba (Rural and Urban)	553,000	79,600	14.4
Muleba	249,900	60,393	24.2
Biharamulo	893,800	27,400	3.1
Karagwe	699,300	201,000	28.7
Ngara	442,800	72,000	16.3
Total	2,838,800	440,393	15.5

Source: ** 1988 Population Census, National Profile, The Analytical Report.
* F.A.O., 1995.

According to the Regional Agricultural Development Office there were 442,023 ha. under cultivation in 1995/96 357,455 of which were under food crops and 84,568 under cash crops.

Secondary data from "Basic Data Agriculture and Livestock Sector 1986/87 - 1991/92" highlights some information on Kagera region's share of national total production of both cash and food crops. See Table II-5. Kagera region takes a lead nationally in coffee production with a share contribution of 25.0 percent and 38.3 percent in 1985/86 and 1991/92 respectively. Though cotton and tea are also important cash crops to the region, however, compared to national production, the region contributed very little. Cotton from Kagera contributed 2.7 and 2.8 percent in 1985/86 and 1991/92 respectively. Tea from Kagera contributed to the national total 1.6 and 2.0 percent in 1985/86 and 1991/92 respectively. Sugar cane production in the region contributed only 4.5 percent to the national total sugar production in 1991/92.

Kagera's total food crop production is significant for bananas and beans but contributes very little of other food crops. Food crops grown in Kagera region indicating their contributions to national total production are shown in Table II-5.

TABLE II-5: KAGERA REGIONAL CASH AND FOOD CROPS PRODUCTION IN PROPORTION TO NATIONAL TOTAL PRODUCTION, 1985/86 AND 1991/92:

Crop	Percent of National Total Production		
	1985/86	1991/92	1995/96
Cash Crops:			
Coffee	25.0	38.3	21.2
Cotton	2.7	2.8	2.9
Sugar Cane	3.8	4.5	7.8
Tea	1.6	2.0	2.8
Food Crops:			
Bananas	43.4	45.9	22.6
Pulses	15.2	9.1	12.3
Cassava	5.8	3.7	n.a
Sorghum	0.3	2.7	3.5
Maize	1.5	1.8	3.6

Source: Basic Data Agriculture and Livestock Sector 1986/87 - 1991/92.

Kagera region justifiably can boast of having the lead nationally not only in coffee production but also in bananas and pulses (beans) production. Further improvement in production of these key crops is constrained by a serious decline in soil fertility and very low level of investment in the farms. This situation is more so in Bukoba Rural and Bukoba Urban districts. Karagwe district is still producing optimally in these and other crops.

TABLE II-6: ESTIMATED AREA UNDER FOOD PRODUCTION (HA) BY DISTRICT, KAGERA REGION, 1995/96:

Crop	Bukoba (R & U)	Muleba	Karagwe	Biharamulo	Ngara	Total
Bananas	36,850 (30.4%)	30,294 (25%)	35,680 (29.5%)	1,735 (1.4%)	16,526 (13.7%)	121,085 (100%)
Beans	20,800 (23.6%)	16,295 (18.5%)	28,000 (31.8%)	12,730 (14.5%)	10,190 (11.6%)	88,015 (100%)
Maize	11,500 (19.5%)	6020 (10.2%)	17,500 (29.7%)	17,150 (29.1%)	6,700 (11.4%)	58,870 (100%)
Sorghum	N.A	N.A	3,600 (22.9%)	6,416 (40.8%)	5,700 (36.3%)	15,716 (100%)
Cassava	16,500 (22.4%)	11,969 (16.2%)	26,000 (35.3%)	15,000 (20.3%)	4,300 (5.8%)	73,769 (100%)
Total	85,650 (24%)	64,578 (18.1%)	110,780 (31%)	53,031 (14.8%)	43,416 (12.1%)	357,455 (100%)

Source: Compiled from data supplied by the Regional Agricultural Development office, 1998

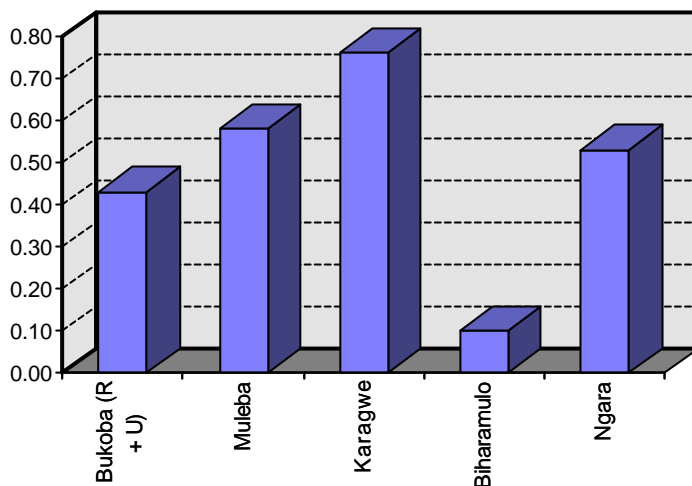
NB: Coffee yields in dry chery, cotton yields in send cotton and sugar yieds in crystal sugar.

TABLE II-7: ESTIMATED AREA (HA.) UNDER CASH CROPS BY DISTRICT KAGERA REGION, 1995/96:

Crop	District					
	Bukob a (R + U)	Muleba	Karagwe	Bihara mulo	Ngara	Total
Coffee						
Ha	31,386	18, 950	15,640	601	753	67,330
Per Ha.	0.43	0.58	0.76	0.10	0.53	0.55
Cotton						
Ha	-	76	-	12,400	13	12,476
Per Ha.	-	0.46	-	0.65	NA	0.64
Tea						
Ha	1,629	133	-	-		1,762
Per Ha.	0.50	1.00	-	-		0.54
Sugar						
Ha	3,000	-	-	-	-	3,000
Per Ha.	1.53	-	-	-	-	1.53
Total Ha.	36,015	19,159	15,640	13,001	766	84,581

N.B. Coffee yields in dry cherry, cotton yields in seed cotton and sugar yields in crystal sugar
Source: Compiled from data supplied by Regional Agricultural Development Office, Bukoba
1998

Fig. 8: Production of Coffee Yields (Tons per Ha.) by District, 1995/96, Kagera Region.



Bananas:

Bananas are permanent food crops raised in Kagera region normally inter planted with coffee, maize and beans. The crop is grown in all the six districts. The major districts being Karagwe, Muleba and Bukoba in that descending order. Bananas are of minor importance in Biharamulo and Ngara districts. Often this crop serves as a cash crop in these latter districts. As estimated area of 121,085 hectares to bananas of a range of varieties and uses (food and brewing) was under the crop in 1995/96 Table II-6. About 343,650 tons of bananas were harvested in that year (Table II-8). Further more Bukoba district (Urban and Rural) had the lead in number of hectares under bananas, followed by Karagwe and Muleba each accounting for 30.4% 29.5% and 25% respectively. However, Karagwe district had the highest production over the highest production over the period of six years (1990/91 - 1995/96 at an average of 126,746 tons/year.

karagwe district has also the highest productivity per unit area. It proves further the existence of the low level of soil fertility in Bukoba Rural and urban districts. Karagwe district accounts for 35.3% of the crop's regional annual production total. General production trends show a continuous decline to the lowest level in 1994/95 of 322,096 tons. A slight increase was noted in 1995/96.

Major constraints to banana production in the region are poor soil fertility insect pests (banana weevils) and Panama disease.

Banana has a great potential commercially through export to neighbouring regions and towns like Mwanza and Shinyanga in these areas demand for banana is very high for food consumption.

In order to meet this demand a lot of other things need to be considered and implemented. Among these are: accelerated farmers' investment in the crop coupled with improved crop husbandry. Easy accessibility to production areas and organised local markets for the crop are essential prerequisites.

TABLE II-8: ESTIMATED PRODUCTION OF BANANAS (TONS) BY DISTRICT KAGERA REGION, 1990/91 - 1995/96:

District	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	Total	Yearly Average	Yearly % of Regional Total
Bukoba Rural & Urban	132,994	118,210	74,458	51,726	50,000	65,540	492,928	82,155	22.9
Muleba	95,770	97,770	105,300	100,300	98,200	100,520	597,860	99,643	27.8
Karagwe	121,497	125,142	127,714	126,920	128,480	130,720	760,473	126,746	35.3
Biharamulo	4.1	4,300	4,443	4,545	4,800	4,950	27138	4,523	1.3
Ngara	47,730	47,950	48,829	48,214	40,616	41,920	275,259	45,877	12.7
Total	402,091	393,372	360,744	331,705	322,096	343,650	2,153,658	358,943	100

Source: Kagera Regional Agricultural Development Office, Bukoba 1988.

2.3.3 Pulses (Beans):

Beans is the most popular leguminous or pulse crop grown in Kagera region. The crop is grown in all the six districts and it ranks third in importance after bananas and coffee. Estimated regional hectareage under the crop has been put at 88,015 Ha in 1995/96 with a total production of 86,542 tons. Table II-6 and II-9 provide data for hectareage under the crop and production trends in the region from 1990/91-1995/96. The bulk of the crop is interplanted randomly with bananas and coffee. In areas where land is not a scarce resource, beans are grown in pure stands or in mixture with maize. Beans are grown for both home consumption and sale. Leading districts in beans production are Karagwe and Bukoba Rural and Bukoba Urban districts. Karagwe accounts for 31.8 percent and the Bukoba districts 23.6 percent of total hectare under beans. The remaining districts contribute in different proportions, Ngara being the least.

Kagera region averages annually an output of about 50,000 tons of beans with 37 percent of which coming from Karagwe (Table II-9). There is no adequate explanation why bean production was that low in 1990/91 - 1991/92. Highest production was recorded in 1995/96, otherwise the in between years have shown little fluctuation in total production. In most cases yields obtained regionwise do not exceed 650 kg/ha. There is no formal market for beans selling of the crop is through local markets and private traders who buy and export them to Urban centres of Bukoba, Mwanza, Shinyanga, and beyond. Major problems hampering beans production are low soil fertility and storage.

**TABLE II-9: ESTIMATED PRODUCTION OF BEANS (TONS) BY DISTRICT
KAGERA REGION 1990/91 - 1995/96:**

District	1990 /91	1991 /92	1992 /93	1993 /94	1994 /95	1995 /96	Total	Yearly Average	% of Regional Total
Bukoba (R & U)	4,133	4,148	9,500	24,890	10,869	26,353	79,893	13,315.5	26.3
Muleba	2,709	2,719	7,504	8,320	10,554	9,824	41,630	6,933.3	13.7
Karagwe	1,662	1,296	13,968	25,400	32,400	38,000	112,726	18,787.7	37.0
Biharamulo	4,650	4,667	5,670	8,710	7,710	5,850	37,257	6,209.5	12.2
Ngara	4,553	4,576	4,960	4,895	7,307	6,515	32,806	5,467.7	10.8
Total	17,707	17,406	41,602	72,215	68,840	86,542	304,312	50,718.7	100.0

Source: Kagera Regional Agricultural Development Office Bukoba 1998.

2.3.1.4 Maize:

Maize is a staple food in Biharamulo and Ngara districts but is a secondary food source in the principal banana growing districts. Table II-6 shows Karagwe commanding the lead in terms of hectareage under maize, followed by Biharamulo. This inspite the fact that maize is not a staple in Karagwe. The district accounted for 29.7 percent and Biharamulo 29.1 percent of the whole area under maize in 1995/96. The region on the average produces 48,666 tons of maize a year. Interplanting maize with beans is a common practice, though pure stands and mixtures with other crops are common.

The use of chemical fertilizers and improved maize seeds is rarely practised among farmers. Maize yields vary from 0.4 tons to 2.0

tons per Ha. according to variations in soil fertility and plant population density.

Table II-10 compares annual maize outputs among Kagera districts over six seasons. Karagwe leads with the production share of 36.6% of total regional production. Biharamulo comes second at 35.7%. Muleba and Bukoba districts produced the least at 8.0% and 8.9% respectively. General production trends shows yearly increases with the 1994/95 growing season being the highest.

TABLE II-10: ESTIMATED MAIZE PRODUCTION (TONS) BY DISTRICT, KAGERA REGION 1990/91 - 1995/96:

District	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	Total	Yearly Average	Average Yield bags/Ha.	% of Regional Total
Bukoba (R & U)	3,160	5,316	1,005	6,565	4,585	5,432	26,063	4,344	4	8.9
Muleba	1,146	2,928	2,963	1,404	8,990	5,827	23,258	3,876	7	8.0
Karagwe	7,283	12,255	14,606	21,600	24,600	26,600	106,944	17,824	11	36.6
Biharamulo	9,476	15,987	15,261	22,000	30,000	11,560	104,284	17,381	11	35.7
Ngara	2,873	3,258	2,829	11,952	6,415	4,119	31,446	5,241	8	10.8
Total	23,938	39,744	36,664	63,521	74,590	53,538	291,995	48,666		100.0

Source: Kagera Regional Agricultural Development Officer, Bukoba 1998

2.3.1.5 Cassava

Cassava is one of the major food crops in Kagera region grown mainly in pure stands for home consumption. Some cassava is interplanted with bananas. In banana growing districts the crop is

grown to serve as a food security crop. The potential for cassava production in the region is very great. Major producing districts are Bukoba (R & U) districts accounting for 26.8 per cent share of regional total production. Biharamulo and Muleba districts rank second, each contributing 22.2 per cent of regional average total of 107,926 tons (Table II-11). The region's production of cassava is generally on the rise inspite of low production tonnage in 1992/93 and 1993/94.

**TABLE II-11: ESTIMATED CASSAVA PRODUCTION (TONS) BY DISTRICT
KAGERA REGION 1990/91-1995/96:**

District	1990/ 91	1991/ 92	1992/ 93	1993/ 94	1994/ 95	1995/ 96	Total	Yearly Average	% of Regi onal Total
Bukoba (R & U)	21,316	16,625	11,687	20,560	51,715	52,000	173,903	28,984	26.8
Muleba	20,273	15,810	12,500	19,658	35,000	40,235	143,476	23,912	22.2
Karagwe	22,231	22,199	16,500	20,680	20,680	22,450	124,740	20,790	19.3
Biharamulo	28,028	12,116	14,075	30,075	30,075	30,000	144,369	24,062	22.3
Ngara	9,250	7,215	5,623	12,990	12,990	13,000	61,068	10,178	9.4
Total	101,098	73,965	60,385	103,963	150,460	157,685	647,556	107,926	100.0

Source: Data Compiled from: Kagera Regional Agricultural Development Office, 1998;
Kagera Regional Development Programme (URT/89/018), 1990.

2.3.1.6 Sorghum:

Production of Sorghum is mainly in Biharamulo, Ngara and Karagwe. Some limited production is found in Muleba and Bukoba districts. Apart from being consumed as food, sorghum is also commonly used to make local brews. The distribution of

hectareage among these three districts is shown in Table II-6. Data for Bukoba and Muleba districts are not available. Anyway, it is well known that sorghum is an insignificant crop in these two districts.

Annual sorghum production in the region averages 7,606 tons (Table II-12), about 45 percent of which is produced in Ngara district, followed in importance by Biharamulo and Karagwe districts. Between 1990/91 and 1995/96 sorghum production has remained stagnant.

**TABLE II-12: ESTIMATED SORGHUM PRODUCTION (TONS) BY DISTRICT
KAGERA REGION 1990/91-1995/96:**

District	1990/ 91	1991/ 92	1992/ 93	1993/ 94	1994/ 95	1995 /96	Total	Yearly Average	% of Region al Total
Bukoba (R & U)	13	83	121	125	N.A	N.A	342	57	0.7
Muleba	45	295	234	100	349	404	1,427	238	3.1
Karagwe	121	1,535	1,535	2,500	1,800	3,60 0	11,091	1,849	24.3
Biharamul o	522	1,829	1,829	2,500	3,000	2,40 0	12,080	2,013	26.5
Ngara	44	4,633	4,633	3,750	6,516	1,12 0	20,696	3,449	45.4
Total	745	8,375	8,352	8,975	11,665	7,52 4	45,636	7,606	100.0

Source: Kagera Regional Agricultural Development Office, Bukoba, 1998.

2.3.1.7 Coffee:

There are two types of coffee grown commercially in Tanzania: Arabica and Robusta. The crop is grown principally by small holders to the tune of about 93 to 95 percent of national production. Coffee under estate production amounts to about 5-7

percent only. (Table II-13a). Coffee is the most important cash crop in Kagera region. Based on coffee purchases by type (Table II-13d) 86 percent is Robusta Coffee; the rest being Arabica. There is no estate coffee farming in the region, it is the domain of small holders. This coffee is normally interplanted with bananas. Main coffee growing districts in the region are Karagwe, Muleba and Bukoba Rural and Urban districts. Ngara and Biharamulo districts are of minor importance. Table II-6 shows estimated hectares under coffee in the region by district in 1995/96. In terms of production Karagwe district ranks first by a large margin.

TABLE II-13A: TANZANIA COFFEE CULTIVATION (000 HA)

Year	SMALL HOLDER			ESTATE	TOTAL	Percent	Percent
	Mild Arabic	Hard Arabica and Robusta	Total	Mild Arabica	Small holder and Estate	Small Holder to Total	Estate to Total
1973/74	85.7	76.0	161.7	12.2	173.9	93.0	7.0
1994/75	82.5	79.3	161.8	12.2	174.0	93.0	7.0
1975/76	82.5	79.3	161.8	12.2	174.0	93.0	7.0
1976/77	106.7	52.6	159.3	12.2	171.5	92.9	7.1
1977/78	103.7	51.1	154.8	12.2	167.0	92.7	7.3
1978/79	101.6	52.4	154.0	12.2	166.2	92.7	7.3
1979/80	113.3	63.8	177.1	12.2	189.3	93.6	6.4
1980/81	115.2	70.6	185.8	12.2	198.0	93.8	6.2
1981/82	121.4	77.6	199.0	12.2	211.2	94.2	5.8
1982/83	118.5	82.4	200.9	12.2	213.1	94.3	5.7
1983/84	123.7	86.0	209.7	12.2	221.9	94.5	5.5
1984/85	144.3	71.1	215.4	12.2	227.6	94.6	5.4
1985/86	142.5	73.4	215.9	12.2	228.1	94.7	5.3
1986/87	142.5	74.6	217.1	12.2	229.3	94.7	5.3
1987/88	144.8	84.6	220.4	12.2	241.6	95.0	5.0
1988/89	139.7	89.2	228.9	12.2	241.1	94.9	5.1
1989/90	142.6	91.2	233.8	12.2	246.0	95.0	5.0

1990/91	147.9	92.7	240. 6	12.2	252.8	95.2	4.8
1991/92*	152.0	94.3	246. 3	12.2	258.5	95.3	4.7
1992/93*	150.6	96.3	246. 9	12.2	259.1	95.3	4.7
1993/94*	150.6	96.3	246. 9	12.2	259.1	95.3	4.7
1994/95	150.6	96.3	246. 9	12.2	259.1	95.3	4.7
1995/96*	150.6	96.3	246. 9	12.2	259.1	95.3	4.7
1996/97*	150.6	96.3	246. 9	12.2	259.1	95.3	4.7

* Estimates

Source: Coffee Board of Tanzania 1997

TABLE II-13b PRODUCTION OF COFFEE (TONS) OF CHERRY BY DISTRICT KAGERA REGION 1990/91 -1995/96

District	1990/ 91	1991/ 92	1992/ 93	1993/ 94	1994/ 95	1995/ 96	1996 /97	Total	Yearly average	% of Regional total
Bukoba Urban	3,123	1,972	3,150	4,441	2,815	4,489		19,990	3332	11.9
Bukoba Rural	6,246	3,945	6,302	8,882	5,631	8,978		39,984	6664	23.8
Muleba	6,362	4,015	9,166	9,033	8,428	10,940		47,944	7990	28.5
Karagwe	9,343	8,904	11,823	7,450	8,716	11,850		58,086	9681	34.5
Biharamulo	96	30	30	92	98	59		405	68	0.2
Ngara	310	184	329	280	280	400		1,783	297	1.1
Total	25,480	19,050	30,800	30,178	25,968	36,716		168,192	28032	100.0

Source: Kagera Regional Agricultural office, Bukoba 1998.

Fig. 9 (a): Production of Coffee (Tons) of Cherry, 1990/91 - 1995/96, Bukoba Urban

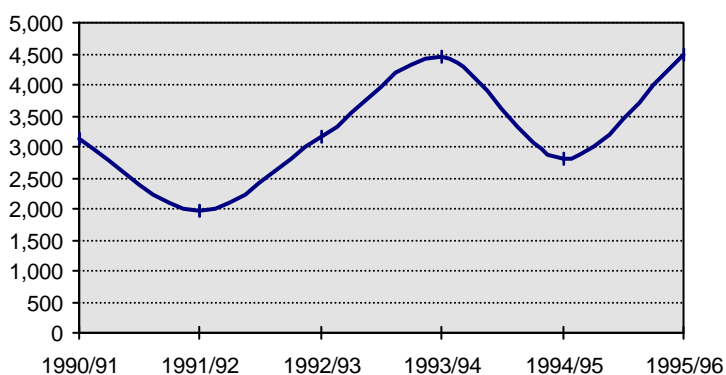


Fig. 9 (b): Production of Coffee (Tons) of Cherry, 1990/91 - 1995/96, Bukoba Rural

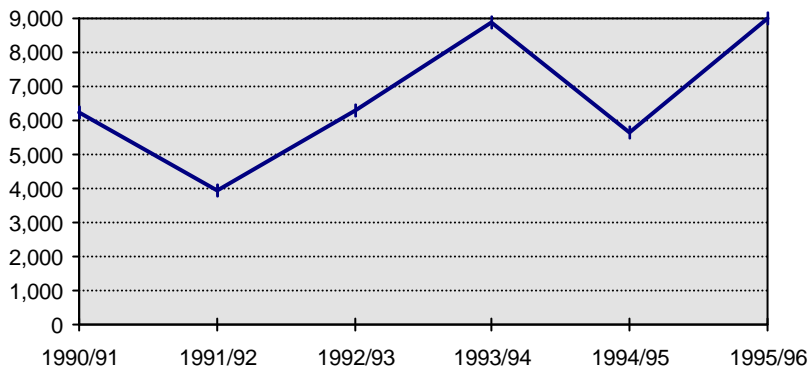


Fig. 9 (c): Production of Coffee (Tons) of Cherry, 1990/91 - 1995/96, Muleba District

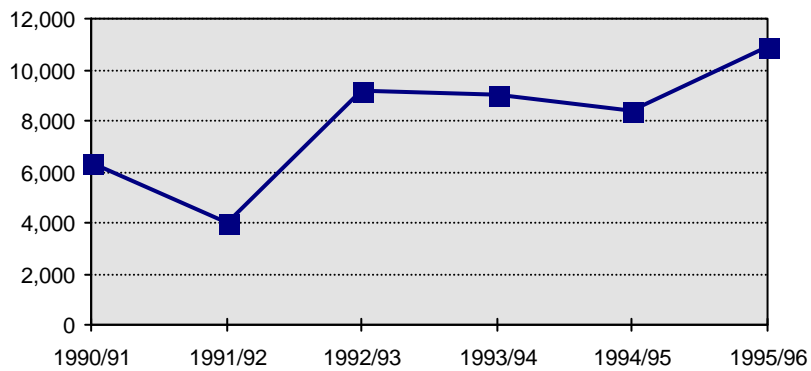


Fig. 9 (d): Production of Coffee (Tons) of Cherry, 1990/91 - 1995/96, Karagwe District

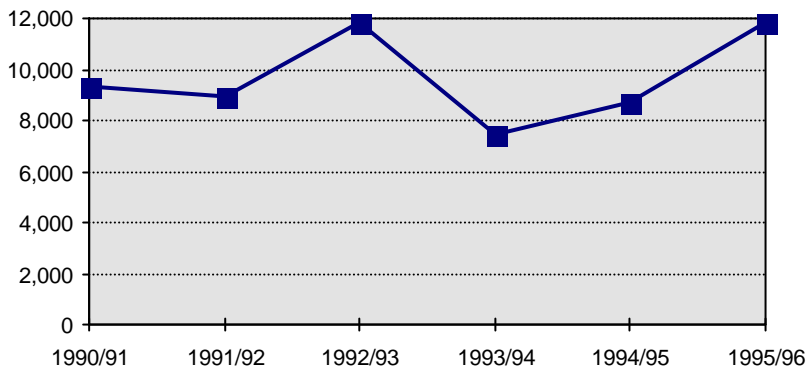


Fig. 9 (e): Production of Coffee (Tons) of Cherry, 1990/91 - 1995/96, Biharamulo District

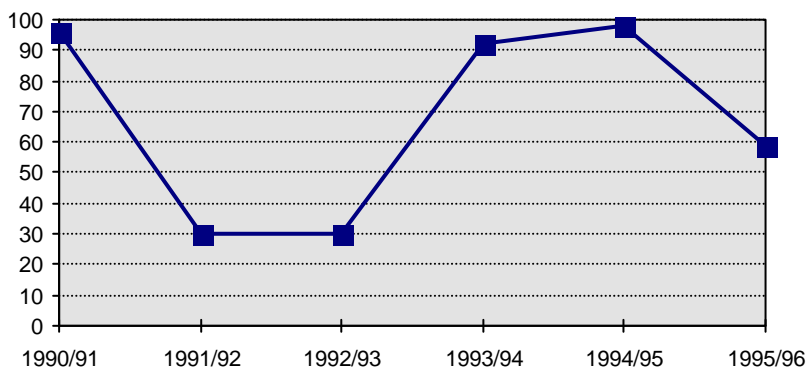


Fig. 9 (f): Production of Coffee (Tons) of Cherry, 1990/91 - 1995/96, Ngara District

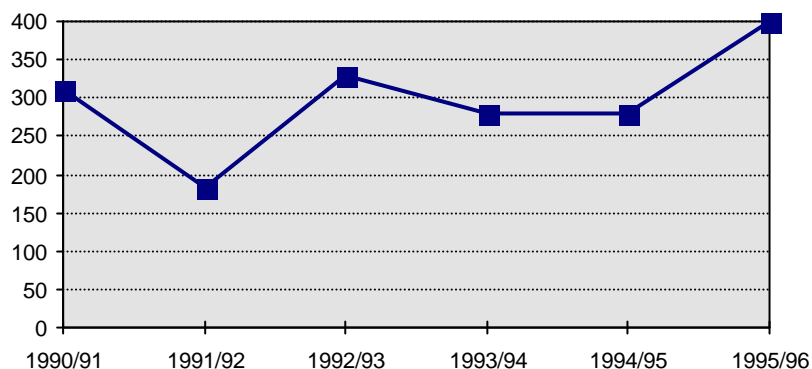


TABLE II-13C: HECTARES UNDER COFFEE AND AVERAGE TONS CLEAN COFFEE PER HA. AMONG MAJOR COFFEE PRODUCING REGIONS TANZANIA MAINLAND

Region	Hectare 1977-88	Hectare 1990-95	Av. Yield 1977-88	Av. Yield 1990-95	Yield change %
Kilimanjaro	60,393	70,326	262	153	-42
Arusha	11,777	19,078	282	176	-38
Kagera	45,012	59,012	232	184	-26
Mbeya	25,481	48,746	155	186	+20
Ruvuma	15,382	36,633	290	254	-12
Iringa	2,444	6,838	320	300	-7
Others	5,725	18,500	215	180	-16
National Av.	166,214	259,133	251	203	-19

Source: MDB Reports, 1997

Table II-13b highlights coffee production by district over a period of six years (1990-1991/91-1995/96). Although most soils in the region are poor in nutrients, few farmers use fertilizers or manure. The use of fungicides is regarded, as too expensive, so very little is used. Pruning and desuckering of coffee trees are not adequately done and in many cases never at all.

Reasons given for this situation are:

- lack of pruning tools
- high costs of pruning and yield reduction immediately after pruning.
- lack of an effective coffee extension service.

Due to poor crop husbandry and very low levels of fertilizer/manure application, the average production is low. In 1995/96 the Bukoba districts and Muleba averaged 0.43 and 0.58 tons dry cherry per hectare respectively. Karagwe district attained higher yields which were 0.76 tons per hectare. Ngara yields are similar to Muleba, Biharamulo's are marginal. See Table II.7 The average for the region stood at 0.55 tons.

Table II-13c compares calculated average coffee yields/ha. among principal coffee producing regions in the country. Kagera region shows a downward trend in yields per hectare. A yield change of - 26 percent is noted. However, Kilimanjaro and Arusha regions show worse yield changes of - 42 and - 38 percent respectively.

Kagera farmers market all their coffee as unhulled hard coffee (dry cherry) to the Kagera Cooperative Union. Table II-13d shows the quantity of clean hard coffee purchased by the Tanzania Coffee Board from the Kagera Cooperative Union.

Coffee producer prices are highlighted in Table II-13e. Based on 1991/92 producer price, farmers in the mid seventies to the early years of the eighties got better prices than during the later years. This price situation got even worse from 1989/90 to the present marketing season.

**TABLE II-13d: COFFEE PURCHASES BY THE TANZANIA COFFEE BOARD
BY TYPE - HARD COFFEE (TONNES CLEAN COFFEE)
KAGERA REGION, 1991/92 - 1996/97:**

Year	Hard Arabica	Robusta	Total Hard Coffee
1990/91	1,630	15,830	17,460
1991/92	1,470	9,023	10,493
1992/93	1,594	11,375	12,969
1993/94	1,468	6,545	8,013
1994/95	1,637	12,388	14,025
1995/96	1,892	9,405	11,297
1996/97	1,100	10,613	11,713

Source: Tanzania Coffee Board, 1997.

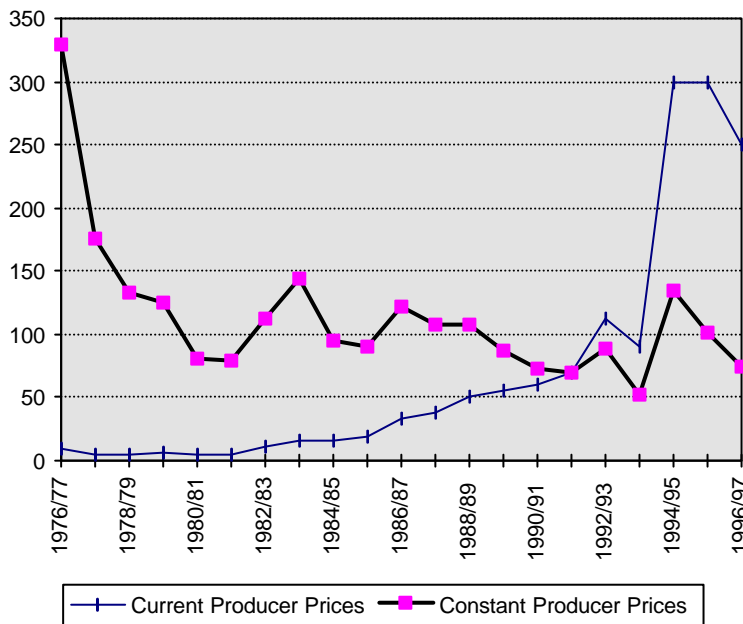
**TABLE II-13e: COFFEE PRODUCER PRICES TANZANIA, MAINLAND
1976/77 - 1996/97:**

Year	Current Producer Prices Robusta Dry Cherry Shs/Kg.	Constant Producer Prices Robusta Cherry (1991/92 Shs/Kg)
1976/77	8.85	329.97
1977/78	5.27	176.10
1978/79	4.64	133.62
1979/80	5.55	125.21
1980/81	4.50	80.50
1981/82	5.53	79.30
1982/83	10.55	112.80
1983/84	16.38	144.42
1984/85	15.07	95.66
1985/86	18.30	90.53
1986/87	32.50	121.43
1987/88**	37.70	107.78
1988/89**	51.00	107.02
1989/90**	55.00	87.44
1990/91**	60.50	72.32
1991/92**	70.00	70.00
1992/93**	113.00	89.10
1993/94	90.00	52.48
1994/95	300.00	134.56
1995/96	300.00	101.65

1996/97	250.00	74.37
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Notes: ** Information related to Interim and Final payments is not available.
Source: Tanzania Coffee Board, 1997.

Fig. 10: Current Producer Prices and Constant Producer Prices , Tanzania Mainland, 1976/77 - 1996/97:



2.3.1.8 Cotton:

Cotton is one of the major cash crops grown by peasant farmers in Kagera region principally in Biharamulo district. Over 99 percent of total cotton hectareage in the region is in that district (Table II-6). Similarly, the same proportion of seed cotton production is to be found in Biharamulo district (Table II-14). Average seed cotton yield/ha is very low. It was 640 kg/ha in 1995/96. The use of agricultural inputs in production such as fertilizers and insecticides is still very low. It is only through the

use of these inputs and enhanced crop husbandry that production is going to improve. There is one cotton ginnery at Chato in Biharamulo district for seed cotton processing into lint and cotton seed. Annually the ginnery produces on the average 9,995 bales of lint (given that 550 kgs of seed cotton are required for the production of 1 bale of lint). Muleba district's production is also ginned in Biharamulo.

Cotton is the "only" cash crop for Biharamulo. Yet the production of seed cotton per capita even in 1995/96, the year of a bumper crop was only 32 kgs. In terms of hectares the average per household is 0.29 hectares under cotton. This is still low.

Yields per hectare for 1995/96 were averaged at 0.65 and 0.46 tons seed cotton for Biharamulo and Muleba respectively. This shows Biharamulo's natural advantage.

TABLE II-14: ESTIMATED SEED COTTON PRODUCTION (TONS) BY DISTRICT KAGERA REGION 1990/91 - 1995/96:

District	1990/ 91	1991/ 92	1992/ 93	1993/ 94	1994/ 95	1995/ 96	Total	Yearly Average	% of Regional Total
Muleba	26	31	30	40	32	35	194	32	0.6
Biharamulo	3,512	5,514	4,543	3,600	7,620	8,000	32,789	5,465	99.4
Total	3,538	5,545	4,573	3,640	7,652	8,035	32,983	5,497	100.0

Source: Kagera Regional Agricultural Development Office, Bukoba, 1998.

2.3.1.9 Tea:

Tea in Kagera region is grown mainly in Bukoba Rural which district accounts for 1,629 ha. This is 92.5 percent of 1,762 hectares, which is as the total area under tea in 1995/96. Muleba

district's share was 133 hectares (Table II-7). Generally, tea production has been on the decline for some years. It was reported by UNDP (1990) that in 1982/83 the region managed to harvest 4,685 tons of tea, the highest ever recorded (Table II-16).

Since then the crop has been on the decline. The lowest harvest of 213 tons in 1986/87 was reported by the same source.

Tea production since 1987/88 has been recovering steadily but very slowly. So that in 1995/96 production stood at 945 tons which is still low compared to 4,685 tons in 1982/83 but a great improvement over 213 tons in 1986/87. (See Table II-15). Productivity per hectare is just as low as production is low. Low producer prices, poor marketing arrangements and non-utilization of agricultural inputs have conspired to keep low both total production and yields per hectare. Yields per hectare in 1995/96 was 0.50 tons for Bukoba Rural and 1.00 tons for Muleba. Muleba looks better suited to tea production.

**TABLE II-15: ESTIMATED TEA PRODUCTION (TONS) BY DISTRICT
KAGERA REGION 1990/91 - 1995/96:**

District	1990/ 91	1991/ 92	1992/ 93	1993/ 94	1994/ 95	1995/ 96	Total	Yearly Average	% of Regional Total
Bukoba (Rural)	274	272	519	520	628	812	3,025	504	72.2
Muleba	187	186	220	220	220	133	1,166	194	27.8
Total	461	458	739	740	848	945	4,191	698	100.0

Source: Kagera Regional Agricultural Development Office, Bukoba, 1998.

TABLE II-16: KAGERA REGION TEA PRODUCTION TREND (TONS):

Year	Tons
1980/81	4,000
1981/82	4,400
1982/83	4,685
1983/84	N.A.
1984/85	N.A.
1985/86	1,535
1986/87	213
1987/88	409
1988/89	511
1989/90	470
1990/91	461
1991/92	458
1992/93	739
1993/94	740
1994/95	848
1995/96	945

Source: Kagera Regional Development Programme (URT/89/018) UNDP, 1990.

2.3.1.10 Sugar:

Sugar cane is an important cash crop in Kagera region. The crop is the domain of the Kagera Sugar Estate Company. Peasants are not involved. There were 3,000 hectares in 1996/97 under sugar cane on the estate, a figure which has remained more or less constant for the past few years (Table II-7 and Table II-17). Generally, there is a trend towards increased sugar production on the estate. A record high of 5,300 tons of sugar was reported for 1996/97 against 2,300 tonnes of sugar reported for 1992/93 when production was at its lowest. Sugar recovery from cane also went up from about 3% to 7%. Thus yields of sugar per hectare went up from 1.21 tons to 2.65 tons from 1991/92 to 1996/97.

TABLE II-17: SUGAR PRODUCTION (TONS) KAGERA REGION, 1990/91 to 1996/97:

Year	Total Area Under cane (Ha.)	Harvested Area (Ha.)	Cane Production (Tons)	Sugar Production (Tons)
1990/91	N.A.	N.A.	N.A.	3,440
1991/92	N.A.	N.A.	N.A.	5,020
1992/93	2,500	1,900	64,800	2,300
1993/94	3,000	2,400	57,000	3,100
1994/95	3,000	1,800	56,800	4,200
1995/96	3,000	1,900	64,900	4,600
1996/97	3,000	2,000	76,900	5,300

Source: Sugar Development Corporation (SUDECO), 1997.

2.3.1.11 Irrigation:

The region of Kagera has enormous potential for irrigation. The waters of Lake Victoria, Ikimba lake, Burigi lake and the rivers Kagera and Ngono are all enormous sources. This is in addition to another enormous groundwater potential.

Yet despite all these resources very little has been done to develop irrigation. It could be that people of Kagera region with such a good bi-modal rainfall see little advantage in an extra five to six months of water availability for their crops.

The little irrigation that has been carried out is at Kagera Sugar Estate. There also minor traditional irrigation practices which bring some water to banana and coffee plots.

At Kagera Sugar Estate, irrigation is carried out as a matter of course in the production of sugar cane. Apart from Kagera Sugar Estate, another 38,089 ha. scattered all over the region has been identified as potential areas for traditional irrigation and where a start has been made to exploit the potential.

The list of these areas is given below:-

District	Name of Area	Traditional Irrigation Potential (Ha.)
Biharamulo	1. Buzirayombo	200
	2. Chato	150
	3. Nyakato	120
	4. Masasi/Kibehe	450
	5. Musasa	70
	6. Makurugurusi	200
	7. Mwiruzi	Not known
	Sub Total	1,190
Bukoba (Rural and Urban)	1. Nkenge	1,300
	2. Kajunguti plains	1,300
	3. Kyakakera	1,500
	4. Kyamato	1,500
	5. Kanyigo	12,000
	6. Bugorora	3,000
	7. Busharago	2,000
	8. Kibirizi	200
	9. Kibirizi/Kajunje	100
	10. Kaja	3,000
	11. Busharankolo	Not known
	12. Nyamuheshera/Kyamugera	Not known
	Sub Total	25,900
Ngara	1. Rwinyana	40

	2.	Mpayuka	110
	3.	Bigombo	80
	4.	Mwiruzi	80
	5.	Mugozi	120
	6.	Mubuhenge	86
	7.	Magamba	88
	8.	Kabanga	Not known
	9.	Nyabihanga	Not known
	Sub Total		604
Karagwe	1.	Kishoju	1,000
	2.	Kyabayanda	50
	3.	Kandegesho	500
	4.	Kihanga	3,000
	5.	Maguge	25
	6.	Kabanda	2,500
	Sub Total		7,075
Muleba	1.	Kyamyorwa	1,500
	2.	Burigi	1,000
	3.	Mulelezi	700
	4.	Buyaga	120
	Sub Total		3,320
	GRAND TOTAL		38,089

2.3.2 LIVESTOCK:

2.3.2.1 Introduction:

Kagera region has favourable environmental conditions that permit the raising and keeping of traditional and exotic cattle. This is particularly some the Bukoba (Urban and Rural) and Karagwe districts. According to the 1984 livestock census, Kagera region

had a herd of 364,400 cattle, 344,300 goats, 53,800 sheep and 2,062 pigs (Table II-18). By estimation the region had 294,262 cattle in 1997. Out of this total number of cattle there were 10,507 dairy cattle distributed among all the districts (Table II-18a). In 1992 the region had the highest cattle population of 482,300 (Basic Data Agriculture and Livestock Sector 1986/87 - 1991/92). The departure of Rwanda refugees in 1996 who left with their cattle to Rwanda decreased the region's cattle population to the present (1997) estimated number of 294,262. This is a probable reason for the reduction in cattle numbers.

Distribution of livestock in the region as per 1984 data is shown in Table II-18. Karagwe district had the highest number of cattle while Muleba and Ngara districts had low cattle populations. In terms of cattle density Muleba leads at 204 cattle per sq km followed by Karagwe and Bukoba (R&U). Ngara has the least density at 4.1 cattle per sq. km.

2.3.2.2 Dairy Cattle Development

Livestock development especially dairy farming has largely been funded by the Dutch Government since 1982. The effort is also supported by EU and the World Food Programme. Livestock support activities are carried out under the "Kagera Livestock Development Programme (KALIDEP)." The programme has to date proved to be very successful in developing the dairy cattle industry. The dairy cattle population has increased dramatically by more than three times since 1988 (Table II-19). Bukoba Rural and Urban districts have the highest number of dairy cattle. Extension services through the programme are also made available to the dairy farmers through training, advice and field visits.

**TABLE II-18: LIVESTOCK DISTRIBUTION BY DISTRICT KAGERA REGION
1984 LIVESTOCK CENSUS**

District	Cattle	Goats	Sheep	Pigs	Cattle density (per sq km)
Biharamulo	76,440	78,337	9283	102	8.6
Bukoba Rural and Urban	90,640	63,750	9944	503	16.4
Karagwe	127,970	58,895	17667	554	16.9
Muleba	51,056	52,951	10443	154	20.4
Ngara	18,294	90,367	6463	749	4.1
Total	364,400	344,300	53800	2062	12.6

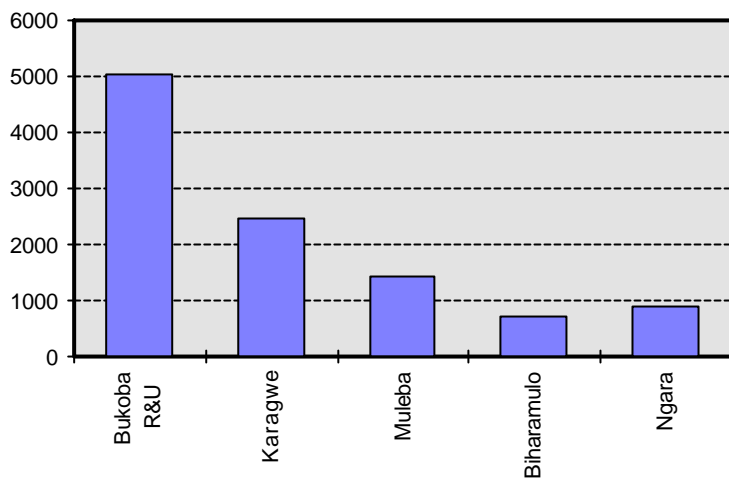
Source: Basic Data Agriculture and Livestock Sector, 1983/84 - 1987/88

**TABLE II-18A: ESTIMATED NUMBER OF CATTLE BY TYPE AND BY
DISTRICT KAGERA REGION 1997:**

District	Indigenous Cattle	Dairy Cattle	Total
Bukoba R&U	109,687	5031	114718
Karagwe	77543	2457	80,000
Muleba	31018	1438	32,456
Biharamulo	47464	699	48,163
Ngara	18043	882	18,925
Total	283,755	10507	294,262

Source: Kagera Regional Livestock Development Office, Bukoba 1998.

Fig. 11: Estimated Number of Dairy Cattle by District, Kagera Region, 1997



**TABLE II-19: DAIRY CATTLE POPULATION TREND BY DISTRICT
KAGERA REGION 1988, 1990 AND 1997:**

District	Dairy Cattle Population		
	1988*	1990*	1997**
Bukoba Urban	999	1371	-
Bukoba Rural	607	805	***5031
Muleba	433	529	1438
Karagwe	305	518	2457
Ngara	46	94	882
Biharamulo	28	88	699
Total	2,418	3405	10,507
% Change	-	40.8	208.6

Source: * Kagera Region Development programme
(URT/89/018) UNDP 1990

** Kagera Regional Livestock development Office, Bukoba 1998

*** Includes Bukoba Urban

2.3.2.3. **Livestock Markets**

Table II-20 reflects the number of marketed livestock. This includes cattle, sheep and goats for 1990/91, 1994 and 1996/97. Values of these sales unfortunately have not been made available.

However, it is clear that these sales are low in relation to the number of livestock in the region. It is likely that a number of livestock is sold informally and for this reason escape recording by officials.

2.3.2.4 **Livestock Infrastructure**

Kagera region has a total of 133 dips and 17 veterinary centres. These facilities are under the management of the respective district councils. A total of 117 dips are in order but a very high number of these dips are not in use (Table II-21). The region attributes this situation to poor management by the village authorities leading to the lack of funds for acaricide.

TABLE II-20 LIVESTOCK MARKETING KAGERA REGION 1990/91, 1994/95 AND 1996/97

Year	No
1990/91	360
1994/95	3547
1996/97	2257

Source: Kagera Regional Livestock Development Office, Bukoba, 1998.

TABLE II-21: DISTRIBUTION OF LIVESTOCK INFRASTRUCTURE BY DISTRICT, KAGERA REGION 1997

District	Total Dips	Dips In order	Dips Out of Order	Dips not being used	% of Dips being used	Vet Centres
Bukoba (R&U)	44	40	4	35	12.5	3
Muleba	27	25	2	17	32.0	4
Karagwe	29	20	9	18	10.0	5
Ngara	20	19	1	17	10.5	2
Biharamulo	13	13	-	13	0.0	3
Total	133	117	16	100	14.5	17

Source: Kagera Regional Livestock Development Office, Bukoba, 1998

2.3.2.5 Ranches

Commercial beef ranches exist in the region. The ranches are state owned and are located at Kitengule, Mabale, Kagoma, Kikurula, Missseny and Rusumo.. The latter two are owned by the Prison Department, while the rest belong to the National Ranching Company. A total number of 28,039 cattle was in stock in all the ranches as by June 1994 (RALDO) Bukoba). The ranches cover 170,557 hectares with a total livestock unit capacity of 44,230.

2.3.2.6 Livestock Diseases

Livestock diseases are a serious problem in Kagera region giving rise to poor livestock health and deaths to affected animals (Table II-22). ECF and Trypanosomiasis have been the most serious diseases. Intestinal worms are also a problem, though they rarely lead to mortality, they affect greatly the proper development of animals particularly the young ones. Experience shows that tick borne diseases, ECF being one of them, are more serious problems which when untreated lead to the death of livestock. The provision of dipping services are critical in ensuring livestock survival. Prevention is the principle upon which livestock dipping is based.

TABLE II-22: INCIDENCES OF LIVESTOCK DISEASES, KAGERA REGION 1988, 1989 AND 1997

Disease	Total Number	1988	1989	1997
ECF	Infected	11,875	6,261	1,548
	Deaths	2,829	1,356	189
Trypanosomiasis	Infected	24,340	14,978	2,383
	Deaths	992	653	29

Helminthiasis (Intestinal Worms)	Infected	N.A	N.A	10,424
	Deaths	N.A	N.A	105

Source: Kagera Regional Livestock Development Office, Bukoba 1998

2.3.3 FORESTRY:

Kagera region is fairly well endowed with natural forests but these are continuously threatened by bushfires, shifting cultivation and over exploitation. The coming of refugees in the region aggravated the situation particularly in an around refugee camps in Karagwe, Ngara, Biharamulo and Muleba. To illustrate the seriousness of this problem the Benaco refugee camp alone degraded about 690 sq kms of land. Table II-23 shows areas covered by forests against total district land areas. It is evident from the cited table that Kagera region is adequately endowed with forests. 51.5 per cent of the region's total land area is under forest cover. Much of this is either dense forests, open forests or shrub bushes.

TABLE II-23: FOREST COVER BY DISTRICT KAGERA REGION 1997

District	Land Area sq km	Forest Area sq km	Percent Area under Forest
Biharamulo	8,938	6,340.00	70.9
Bukoba Rural	5,450	540.00	10.0
Muleba	2,499	1059.31	42.4
Ngara	4,428	2522.00	57.0
Karagwe	6,993	4156.00	59.4
Bukoba (U)	80	0.75	0.8
Total	28,388	14,618.06	51.5

Source: Kagera Regional Natural Resources Office, Bukoba 1998

Fig. 12(a): Forest Area (Sq Km) by District, Kagera Region, 1997

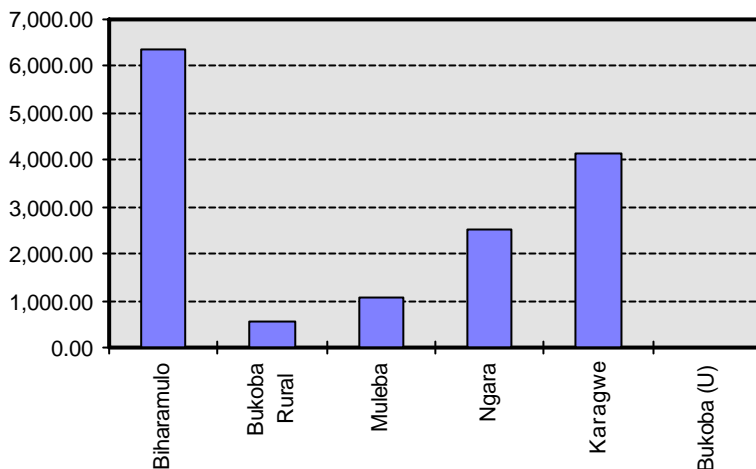
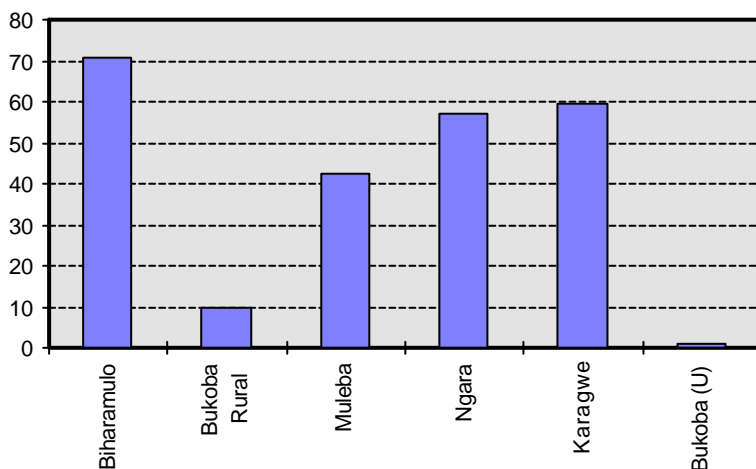


Fig. 12(b): Percent Area under Forest (Sq. Km) by District, Kagera Region, 1997



As it is common in many parts of Tanzania, forests in Kagera region are increasingly exploited for fuelwood, furniture, building and other construction. It is estimated that about 3.496 million cubic meters of fuelwood will be harvested for domestic energy

purpose alone in the region for 1998. This estimation is based on a 1998 population projection of 1,748,150 people and a per capita annual fuelwood consumption of 2 cubic meters (Kaale, B.K; Tanzania Five Year National Village Afforestation Plan 1982/83 - 1986/87, Ministry of Natural Resources and Tourism, Dar-es-Salaam, 1983).

The region, to prevent or at least reduce the speed of forest depletion, has managed to declare and gazetted 16 natural forests as reserves: 3 in Biharamulo, 11 in Bukoba (R) and 1 each in Muleba and Ngara. However, severe to moderate encroachment into these reserves is being experienced and consequently some 600 hectares show severe encroachment and some 1,000 ha. moderate encroachment.

Efforts at afforestation by various agencies to counter-act environmental degradation on public land are also being undertaken. District Councils and NGOs through village governments and schools have played a leading role in this aspect.

But information on exactly how much afforestation is being done is hard to come by except in the case of Bukoba district where an average of 415 ha. is estimated to be planted every year. However, the following projections were quoted by Kaale as the minimum required to counteract the depletion of Kagera forests due to mainly fuelwood demand.

TABLE II-24: ENVISAGED KAGERA REGION AFFORESTATION TARGETS, 1982/83 - 1986/87:

Year	Hectares per year
1981/82	684
1982/83	820
1983/84	984
1984/85	1,182
1985/86	1,418
1986/87	1,702

Source: Kagera Regional Development Programme, (URT/89/018), 1990.

These annual afforestation targets were assumed to increase at the rate of 20% per annum or the basis of previous years afforestation efforts, and 1981/82 as base year. But even given only a 3% increase in effort every year with 1981/82 as base year, the region is expected to be planting over 1,000 ha of forest in 1996/97 alone in order just to keep up with population increases.

The trend in revenue earnings to the government from forest product sales (mainly timber) is shown below.

Year	1991	1993	1997
T.shs.	1,338,470.80	4,427,016.80	3,663,363.40

Source: Kagera Regional Natural Resources Office, Bukoba, 1998.

2.3.4 FISHERIES:

The fishing industry is of major importance to the economy of Kagera region in terms of employment, income generation and also as a source of protein. With the introduction of a fish filleting semi-processing unit in Bukoba town in 1995, fishing has become an important activity. The plant has greatly enhanced the market for the Nile perch type of fish. Fishermen have greatly benefited financially from this arrangement since the plant depends upon supplies provided by fishermen.

Many fishermen in the region use traditional fishing gear and few use outboard engines. There has been an increasing number of persons and vessels involved in fisheries activities in 1996 compared 1993 (Table II-25).

TABLE II-25: STATISTICS OF FISHING ACTIVITIES IN KAGERA REGION 1993 AND 1996:

Fishery Data	Years	
	1993*	1996**
Number of Fishermen	1,700	5,297
Number of Vessels	797	1,642
Fish Catch (Tons)	20,636.41	23,946.3
Value of Catch (T.Shs. ('000)	2,330,178	4,094,817

Source: ** Kagera Regional Natural Resources Office, Bukoba, 1998.
* Annual Statistics Report 1994; Ministry of Natural Resources and Tourism, Dar-es-Salaam.

TABLE II-26: FISH INDUSTRY STATISTICS IN THE THREE LAKE ZONE REGIONS, 1993:

Fishery Data	Kagera	Mwanza	Mara
	1993	1993	1993
Number of Fishermen	1,700	13,172	5,192
Number of Fishing Vessels	797	2,332	1,056
Weight of Fish (Tons)	20,636.41	129,880.7	25,747
Value of Fish T.Shs. ('000)	2,330,178	14,011,839	2,989,561

Source: Annual Statistics Report 1994; Ministry of Natural Resources and Tourism, Dar-es-Salaam.

Table II-26 compares Lake Zone regions on fishing activities for 1993. According to the table referred above Kagera region contributed much less in the exploitation of the lake than its neighbouring regions, Mwanza and Mara. Statistical comparison of some fishery parameters of Kagera region against those of its neighbouring lake zone regions are highlighted further in table II-27.

TABLE II-27: REGIONAL COMPARISON OS SOME FISHERIES PARAMETERS OF LAKE ZONE REGIONS 1993

Fishery data	Total	Kagera	Mwanza	Mara
Number of Fishermen	20064	8.5%	65.6%	25.9%
Number of Fishing Vessels	4185	19.0%	55.7%	25.3%
Weight of Fish (Tons)	176,264	11.7%	73.7%	14.6%
Value of Fish Tshs(000)	19,331,578	12.0%	72.5%	15.5%

Source: Compiled from Table II-26

Kagera region performed least in all fisheries aspects studied and compared with Mwanza and Mara in 1993. Mwanza region performed best in all aspects. Kagera could improve greatly its share of Lake Victoria exploited resources. Table II-25 highlights some improvement in production from 1993 to 1996. But Table II-28 show declining fish catches per fishermen and per vessel. Percentage changes are higher for fishermen than for vessels. Kagera fishermen have individually experienced a fall in income in 1996. This was the 43.6% dramatic fall of income per fishermen in that year. Similarly there has been a decline income per vessel during the same period of 14.0%.

TABLE II-28: AVERAGE ANNUAL FISH CATCH AND VALUE OF CATCH, KAGERA REGION 1993 AND 1996

Year	Average Fish Catch (Kgs)		Average value of Catch (Tshs)	
	Per Fishermen	Per Vessel	Per Fishermen	Per Vessel
1993	12,140	25,890	1,370,693	2,923,686
1996	4,521	14,584	773,044	2,493,798
% change	-62.8	-43.7	-43.6	-14.7

Source: Compiled from Table II-25

2.3.5 BEEKEEPING:

Among the six districts of Kagera region, Biharamulo possesses the optional conditions for beekeeping given the presence of Miombo woodlands (*Brachystegia* spp). Traditional beekeeping is being undertaken in the district using traditional skills and beehives. There are more than 800 traditional beekeepers possessing around 3000 traditional hives which on average produce 5-10 liters of honey each. These beekeepers have no

reliable market for their honey and wax. For this reason much of these products find their way out of the country to neighbouring countries at prices set by smugglers. The Biharamulo beekeeper needs training, extension services and marketing support so as to produce more efficiently through the utilization of better hives and skills and to market his products more advantageously

2.3.6 WILDLIFE:

Kagera is rich in wildlife. From the water based hippo to the land based eland and topi. From the picturesque zebra to the ugly warthog. From the small dikdik to the large elephant. From the graceful giraffe, the grass grazing buffalo to the predator lion. There is a lot of variety scattered through 4,730 sq kms of game reserves and game controlled areas as per table II-29.

TABLE II-29 WILDLIFE CONSERVATION AREAS, KAGERA REGION 1990

Conservation Area	Area (Sq kms)
Burigi Game Reserve	2,200
Ibanda Game Reserve	200
Biharamulo Game Reserve	1,300
Rumanyika Orugundu Game Reserve	800
Masasi River Game Controlled Area	180
Nchwa Nkima Game Controlled Area	50
Total	4,730

These conservation areas are a good source of revenue to the Government of Tanzania as per table II-30

TABLE II-30 REVENUE COLLECTED FROM WILDLIFE CONSERVATION AREAS, 1985 TO 1996

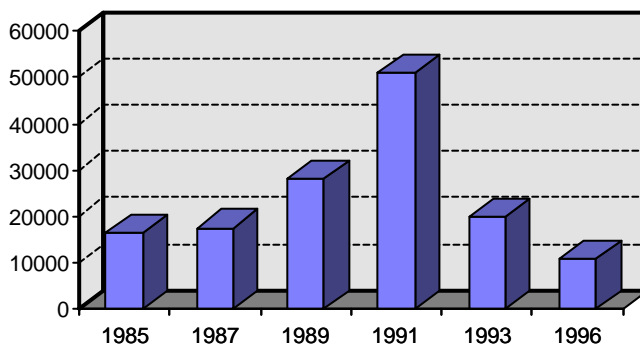
Year Revenue	1985	1987	1989	1991	1993	1996
Tourist Hunting	69,988.55	1,379,324.90	5,346,240.00	11,656,167.00	9,388,000.00	6,287,000.00
Local Hunting	24,181.00	72,950.00	N.A	230,483.00	65,900.00	102,400.00
Miscellaneous	175,780.00	12,467.00	15,583.00	35,180.00	36,400.00	410,000.00
Total Tshs	269,949.55	1,464,741.90	5,361,823.00	11,921,830.00	9,490,300.00	6,799,400.00
Equivalent US \$	16,360.59	17,499.90	27,926.16	50,947.99	19,771.46	10,792.70

* Average US \$ exchange rate for 1996 assumed at Tshs 630.00 to 1 US \$

Source: Compiled from data supplied by:-

1. Regional Game office, Bukoba 1998
2. Kagera Regional Development Programme, 1990
3. National Accountancy Tanzania 1976-1994 11th Edition.

Fig. 13: Revenue Collected from Wildlife Conservation Areas US \$, 1985 to 1996, Kagera Region



Miscellaneous revenue consist mainly of the sale of game meat and game trophies. The total revenue showed a remarkable rise between 1985 and 1991. Thereafter it dropped drastically. The drop could be attributed to low fees from tourist hunting. The 1996 total could also have been affected by heavy poaching by refugees. The drop in the value of revenue is even more telling when converted into US \$.

Between 1994 and December, 1996 the districts of Karagwe and Ngara were overwhelmed by a flood of refugees from neighbouring Rwanda and Burundi. One of the negative impacts of this refugee problem was extensive poaching of game reserves and game controlled areas in the region. Recently, of 382 poachers netted in the region, 334 were non-Tanzanian. Table II-31 below shows the dramatic increase in poachers between 1991 and 1996 which can only be attributed to refugees.

TABLE II-31: NUMBER OF POACHERS CAUGHT, KAGERA REGION 1991 1993 AND 1996

Year	Number of Poachers caught
1991	20
1993	53
1996	368

Source: Regional game office, Bukoba 1998

The damage by refugees in the Bonaco complex alone resulted in so heavy a poaching that it is estimated that Tshs 208.4 million was lost in wildlife meat alone. There was of course the loss in US \$ revenue from tourist hunting which this poaching effectively curtailed.

2.3.7 INDUSTRY:

The industrial base of Kagera region is still very small nevertheless important in that, it is this sector that is expected to lead regional GDP in the long term. The mix of industrial establishment is varied. They vary from small size to medium size. Small scale industries include:sawmills, carpentry workshops, motor vehicle

repair garages, printers, tailoring marts, black smitheries, brick making units, flour mills etc.

But the most visible ones are those of medium size and those engaged in the processing of cash crops shown below:-

TABLE II-32: LIST OF KEY INDUSTRIAL ESTABLISHMENTS, BY LOCATION AND BY ACTIVITY, KAGERA REGION 1997

Name of Establishment	Location by District	Activity	Size
Kagera Sugar Co Ltd	Bukoba Rural	Sugar manufacturing	Medium
West Lake Bottlers Co Ltd	Bukoba Urban	Manufacturing of Soft Drinks	Medium
BUCOP Ltd	Bukoba Urban	Coffee Processing	Medium
TANITA Ltd	Bukoba Urban	Manufacturing of Instant Coffee Prodct.	Medium
Azania Fresh Food Co Ltd	Bukoba Rural Ilemondo	Coffee processing	Medium
Azania Fresh Food Co Ltd	Karagwe	"	Small
Ika Investment Co Ltd	Bukoba Rural Ilemondo	"	Small
Biharamulo Cotton Co Ltd	Biharamulo	Cotton Ginnering	Medium
Maruku Tea Blenders Ltd	Bukoba Rural	Tea Blenders	Medium

Source: Regional Commerce and Industry office, Bukoba, 1998

In addition to the above industries in Table II-32 there exists one fish filleting factory which has been processing 3-5 tons of fish a day and employing directly some 100 people. Like other factories on Lake Victoria in East Africa, the over dependency of filleting factories on E.U markets has brought the factory to a halt.

2.3.8 MINING:

The mining sector has been of very little importance to the region in recent years. In the colonial past Karagwe district showed some activity around the tin, nickel and iron ores in that district. But the lack of hydro-electric power has frustrated efforts at exploitation. The hydro-power line in question is the Kikagati/Murongo-Kaisho-Kyerwa line.

Meanwhile considerable exploration is going on. Many foreign companies are involved in this exercise. But until results start coming in, mining will continue to be the poor sister among economic sectors of the region. The region's major prospector is Kagera Mining Company who are evaluating nickel deposits in Ngara district. Kyerwa tin mine may be reopened. The possibility also exists for the development of a glass factory in Kemondo Bay.

SECTION III

ECONOMIC INFRASTRUCTURE

3.1 INTRODUCTION:

Kagera region is the remotest part of the country from the Dar es Salaam industrial and administrative centre. This is even more so than the much talked about isolation of Mtwara and Lindi regions.

As the crow flies, Kagera is 1000 kms. Than Dar es Salaam as opposed to a mere 200 kms to the border with Lindi region and 400 kms to Mtwara town. The fact that the region is cut off to the east by Lake Victoria means that the region's access overland to the rest of Tanzania is restricted to the region's southern border. The region's isolation is enhanced by the lack of a railway link or for that matter an all weather road link. Even the lake transport link is under developed. The country's industrial centres are Dar es Salaam, Arusha and Morogoro. Industrial goods from these centres find their way into Kagera region with difficulty and at a huge transport cost. The same applies to imported goods from overseas which enter the country mainly through Dar es Salaam port.

The fact that fifty percent of the region's border is with foreign countries exposes the region (more than any other region in Tanzania) to security risks and foreign influences. The war with Iddi Amin and the insecurity in Rwanda and Burundi have all had a negative impact on the region. Therefore, the development of reliable transport links between the region and the rest of Tanzania is of paramount importance to both security and integrity of the nation. Karagwe district is particularly vulnerable.

**MAP II: KAGERA REGION ROAD NETWORK JUNE,
1996**

The 1994 influx of refugees into the region has meant an overload on the transport system especially roads in an attempt to bring in adequate supplies of food etc to refugees. The deterioration of roads in Ngara district and the neighbouring regions of Kigoma, Tabora and Shinyanga is to some extent because of this refugee host.

3.2 ROAD TRANSPORT

Kagera region has a total of 3951 kms of roads concentrated along the lake shore and the southern border as shown in Map II. Road development is least along the borders with Uganda and Rwanda.

These 3951 kms are subdivided into 605.5 kms trunk roads, 1,135.0kms regional roads, 1,176.9 kms district roads and 1,033.6 kms feeder roads. See Table III..1. Thus 44% of the road length is trunk and regional roads leaving only 56% of the length as district and feeder roads. This is top heavy. It means either the roads are over classified or there are not enough district/feeder roads for the social and economic needs of the region. In comparison the proportion of trunk and regional roads is 31/%. 21% and 29% for Coast, Mtwara and Mwanza regions respectively.

TABLE III-1: DISTRIBUTION OF ROADS BY CLASS AND BY DISTRICT, KAGERA REGION, 1997 (KMS):

District	Trunk Roads	Regional Road	District Roads	Feeder Roads	Total
Bukoba Urban	13.5	5.0	40.2	14.3	73.0
Bukoba Rural	95.0	347.0	288.3	207.7	938.0
Muleba	96.5	149.0	176.6	192.0	614.1
B'haramulo	313.5	87.5	202.0	530.0	833.0
Ngara	87.0	262.0	221.8	203.0	773.8
Karagwe	NIL	284.5	248.0	186.6	719.1

Total	605.5	1135.0	1176.9	1033.6	3951.0
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Source: Regional Engineer, Bukoba, 1998

The roads are further distinguished from each other by the type of road surface which determines durability and capacity to carry traffic. The 3,951 kms are made up of 212.2 kms tarmac, 1780.5 kms gravel and 1958.3 kms earth surface. Thus 50% of the total road length is earth surfaced. This compares very favourably with 86%, 97% and 81% of earth surface in Coast, Mtwara and Mwanza regions respectively, See Table III.2

TABLE III-2: DISTRIBUTION OF ROADS BY TYPE OF SURFACE, KAGERA REGION 1997, (KMS).

District	Tarmac	Gravel	Earth	Total
Bukoba Urban	5.5	67.5	NIL	73.0
Bukoba Rural	5.0	474.5	458.5	938.0
Muleba	NIL	278.5	335.6	614.1
Biharamulo	111.5	289.5	432.0	833.0
Ngara	90.2	262.0	421.6	773.8
Karagwe	NIL	408.5	310.6	719.1
Total	212.2	1780.5	1958.3	3,951.0
Percent	5.4	45.1	49.5	100.0

Source: Regional Engineer, Bukoba, 1998.

Road density in terms of land area show Bukoba Urban and Muleba as having the highest concentration of roads with Biharamulo and Karagwe having the thinnest spread. Viewed in terms of service to people; at 3.30 and 3.16 kms per 1000

people for Ngara and Biharamulo respectively these two districts are best served. Karagwe and Bukoba Urban at 1.61 and 1.22 kms per 1000 people respectively are the worst served. Thus with the first criteria. Bukoba Urban is the most favoured but with the second criteria Bukoba Urban is the least favoured.

TABLE III-3: DISTRIBUTION OF ROAD DENSITY BY DISTRICT, KAGERA REGION, 1997.

District	Land Area Sq. Kms	Populatio n 1998 (Est)	Road length Kms	Road Density kms/km ²	Road Density kms/1000 pop
Bukoba Urban	80	59,760	73.0	0.91	1.22
Bukoba Rural	5,450	399,620	938.0	0.17	2.35
Muleba	2,499	345,419	614.1	0.25	1.78
Biharamulo	8,938	263,707	833.0	0.09	3.16
Ngara	4,428	234,335	773.8	0.17	3.30
Karagwe	7,558	445,309	719.1	0.10	1.61
Total	28,388	1,748,150	3,951.0	0.14	2.26

Source: Compiled from data supplied by Regional Engineer, Bukoba, 1998.

Compared to the regions of Coast, Mtwara and Mwanza the road density of Kagera region at 0.14 kms per sq. km is low. The three regions have densities of 0.115, 0.335 and 0.315 kms per sq km of land area respectively.

In terms of kms of road per 1000 population the region has an average ratio of 2.26. The ratios for the regions of Coast, Mtwara

and Mwanza are 4.83, 5.57 and 2.56 respectively. Thus compared to the three regions, Kagera region has a low ratio.

The conclusion from all the data on road classification, road surface and road density is that Kagera region needs to increase the length of its feeder roads and earth roads to bring it in line with the rest of the country.

Table III.4 is a guide to the allocation of resources between the various roads. It also shows how many kilometers of existing length are in what shape. Given the 48 roads listed 94 kms are in very poor state, 360 kms poor and 716 kms in fair shape. The rest of the roads are either in good or very good state. The total length under priority roads as listed is 1,780 kms out of the total of 3,951 kms in the region. But what about new earth / feeder roads?

TABLE III-4: LIST OF ROADS IN PRIORITY ORDER IN KAGERA REGION, 1995

No.	Des	Road Name	Type	ADT				KILOMETERS					
				<5 tn	>5 tn	Total	Adjust	V.GOOD	GOOD	FAIR	POOR	V.POOR	Total
1	R03	Nyakanazi-Lusahunka	SD				888	-	16	-	-	-	16
2	T103	Kyaka-Bugene	SD	*312	*121	*433	887	-	10	17	25	3	55
3	T003	Shinyanga Brd-Nyakanazi	SD	119	177	296	688	15	9	3	1	-	28
4	T011	Kobero-Murugarama	SD	203	126	329	620	13	-	-	-	-	13
5	T004	Amushenye-Bukoba	SD				600	-	-	2	-	-	2
		Amushenye-Bukoba	GR				600	-	-	12	-	-	12
		Amushenye-Bukoba	EA				600	-	-	-	4	2	6
6	T004	Kyaka-Amushenye	GR	210	122	332	583	31.5	-	-	-	-	31.5
7	T009	Lusahunga-Biharamulo	GR	116	150	266	579	-	26	10	-	-	36
8	T004	Bukoba-Kyetema	GR				574	-	2	11	2	-	15

9	T004	Kyetema-Muhutwe	SD				503	-	4	3	3	-	10
			GR				503	-	2	6	-	-	8
10	R101	Nkwenda-Bugene	EA	205	44	249	472	7	16	12	2	-	37
11	T011	Ngara-Nyakasanza	SD				400	28.5	-	-	-	-	28.5
12	T003	Nyakasanza-Rusumo	SD				400	-	17	4	2	-	23
13	R103	Bugene-Kasalo	EA	91	72	163	386	-	45	70	3	5	123
14	R115	Murugarama-Rulenge	GR	63	86	154	377	1	2	19	2	-	24
15	T003	Nyakahura-Nyakasanza	SD	51	148	199	366	-	31	5	-	-	36
16	T004	Mutukula-Nyabihanga	GR				350	-	3	7	-	-	10
			EA				350	-	-	-	12	3	15
17	T003	Lusahunga-Nyakahura	SD	58	86	144	314	-	30	1	-	-	31
18	R110	Muhutwe-Kamachumu	GR	145	17	162	283	-	-	5	5	-	10
			EA				283	-	-	-	7	-	7
19	T004	Kasharunga-Kusindaga	GR	75	58	133	268	-	1	9	-	-	11
			EA				268	-	-	12	7	-	19
20	T004	Muleba-Kasharunga	GR				250	-	4	4	1	-	9
			EA				250	-	-	3	4	5	12
21	R115	Kumubuga-Nyakahura	EA				250	-	9	3	-	-	12
22	T004	Bwanga-Katoro	GR	26	33	59	249	-	2	14	3	-	19
23	T011	Murugarama-Ngara	SD				243	20	-	-	-	-	20
24	T004	Kasindaga-Biharamulo	GR				240	-	1	8	11	-	20
			EA				240	-	-	13	16	-	29
25	R113	Katoke-Nyamirembe	EA	52	48	100	233	-	-	39	17	-	56
26	R101	Kaisho-Nkwenda	EA				225	-	5	17	22	-	44
27	T004	Muhutwe-Muleba	EA	79	26	105	220	-	2	34	-	-	36
28	R115	Rulenge-Kumubuga	EA				200	-	7	39	3	-	49
29	T009	Kigoma-Brd-Nyakanazi	GR	29	42	71	195	-	-	7	21	-	28
30	T004	Biharamulo-Bwanga	GR	30	37	67	172	-	54	13	1	1	69
31	R111	Kasharunga-Kasindaga	GR				172	-	-	2	13	-	15
			EA				172	-	3	7	13	-	23

32	R110	Kamachumu-Muleba	GR	58	19	77	170	-	-	23	3	10	36
33	R116	Rulenge-Murusagamba	EA	57	13	70	146	-	40	30	12	-	82
34	R109	Kamachumu-Ndolage	EA				112	-	-	-	5	-	5
35	R118	Bwanga-Nyamirembe	EA	15	11	26	92	-	5	48	20	-	73
36	R107	Kanazi-Kyetema	EA				71	-	-	-	5	-	5
37	R112	Kyamnyorwa-Nyamirembe	EA	8	6	14	61	-	-	-	32	39	71
38	R114	Rusumo-Ngara	EA				60	-	2	10	6	5	23
39	R105	Katoma-Bukwali	GR				60	-	13	15	-	-	28
			EA				60	-	-	8	8	-	16
40	R106	Bukoba-Kabango Bay	EA				51	-	9	22	9	2	42
41	R101	Murongo-Kaisho	EA				50	-	-	11	12	7	30
42	R117	Kasulo-Rulenge	GR				50	-	13	9	2	-	24
			EA				50	-	-	8	8	5	21
43	R107	Kyaka-Kanazi	GR				50	-	-	14	-	-	14
			EA				50	-	3	25	14	-	42
44	R116	Murusagamba-Kumubuga	EA				50	-	15	8	-	-	23
45	R104	Amushenye-Ruzinga	EA				33	-	-	9	19	7	35
46	R102	Nyabihanga-Minizi	EA				29	-	-	25	7	3	35
47	R102	Kakuryu-Nyabihanga	GR				24	9	31	10	-	-	50
			EA				24	-	4	29	-	-	33
48	R108	Kanazi-Kanyinya	EA				10	-	4	-	-	2	6

- Note:
1. The data in columns Road condition classified in (good Fair & Poor) had been taken from field survey which had been carried on in Kagera Region on June & July/1995 according to the guideline for setting priorities from MOWCT.
 2. The data in columns of ADT with *(star), are the actual Traffic which had been carried on the site in July/1995 in Kagera Region according to the classification mention above.
 3. The ADT in the adjust columns is the total ADT in (Pcu'S), and it calculated using factors to convey the ADT into the passenger car unit.

3.3 MARINE TRANSPORT

With unreliable land routes to and from Kagera region, marine transport is the main means open to the region of handling cargo and passengers. Air transport, the only other alternative, is too expensive for normal use. The major port outlets are Bukoba, Kemondo Bay (for coffee cargoes) and Nyamirembe. These ports connect the region not only to neighbouring regions of Mwanza and Mara but also to (Uganda and Kenya both which countries share Lake Victoria with Tanzania. The Tanzania Railways Corporation is the major owner of lake going vessels for both cargo and passengers. TRC's marine vessels operate at 84% of their passenger capacity and 76.1% of the cargo capacity. There are also a few private ferries and other marine vessels outside TRC ownership and operation.

Table III-5 shows the major TRC vessels and their routes. The table lists four passenger vessels and mine cargo or cargo plus passenger vessels. TRC has on Lake Victoria 4 passenger vessels of combined capacity for 2,283 passenger cargo carrying vessels number 9 with a total 3,170 f... capacity.

TABLE III-5: MAJOR LAKE VICTORIA TRC MARINE TRANSPORT VESSELS, 1996.

Name of Vessel	Passenger Capacity (Numbers)	Cargo Capacity Tons	Route
M.V. Victoria	1,200	200	Mwanza - Bukoba
M.V. Butiama	200	100	Mwanza-Ukerewe-Kome-Buchezi
M.V. Serengeti	593	350	Mwanza-Bukoba
M.V. Clarias	290	10	Mwanza-Kome-Buchezi
M.V. Umoja	-	1,200	Mwanza-Kemondo-Bay-Musoma-Kisumu (Kenya)
M.V. Nyangumi (Tanker)	-	350	Mwanza-Kisumu (Kenya)

M.T. Ukerewe	-	720	Mwanza-Musoma-Kemondo Bay-Bukoba
M.T. Linda	-	-	Port Operation
M.L. Maindi	-	120	Mwanza-Nansio-Buchezi-Nyamirembe
M.L. Wimbi	-	120	Mwanza-Nansio-Buchezi-Nyamirembe-Solima
TOTAL	2,283	3,170	

Source: TRC, Mwanza, 1997.

TABLE III-6: PASSENGERS AND CARGO (TONS) FERRIED BY TRC MARINE DIVISION FOR 1977-1997:

Year	Passengers Ferried	Cargo (tons) ferried
1977	128,000	155,000
1978	134,000	102,000
1979	225,000	129,000
1980	315,000	219,000
1981	315,000	122,000
1982	430,000	117,000
1983	571,000	93,000
1984	619,000	111,000
1985	666,000	98,000
1986	720,000	88,000
1987	517,222	N/A
1988	457,720	75,000
1989	403,792	98,500
1990	740,557	103,934
1991	720,205	108,430
1992	502,647	136,919

1993	567,531	177,070
1994	691,195	147,681
1995	711,609	179,456
1996	577,562	145,386
1997 (Est.)	622,000	148,000

Source: TRC Mwanza, 1997.

Currently 600,000 passengers are ferried annually and 150,000 tons of cargo per year are also transported.

3.4 AIR TRANSPORT

An unreliable over land route and a restrictive marine transport capacity has meant that Kagera region has had to depend on air services for urgent cargo or passenger traffic. Kagera region has the services of an airport capable of handling light aircraft. Commercial and non-commercial traffic ferried by A.T.C. and private carriers has fluctuated in volume between 1986 and 1993.

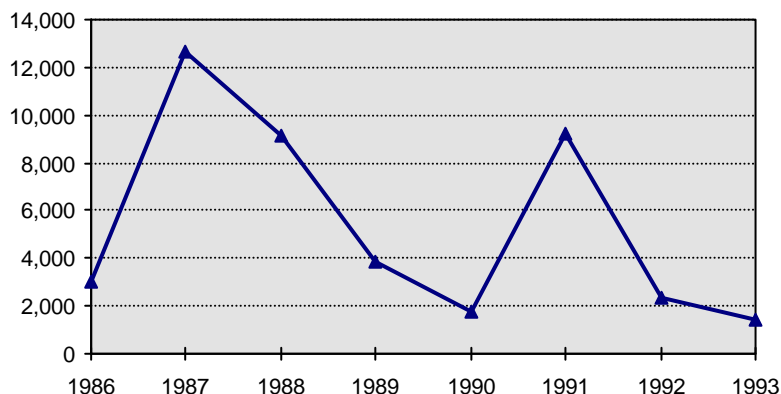
There are other smaller airships in the region. Table III.7 shows the level of air traffic services of Bukoba airport between 1986 and 1993. By national standards the amount of air freight and number of passengers handled each year at Bukoba airport is insignificant. However, this air route is critical and important to Kagera Region providing a much needed safety valve. On the average the airport handles only 5,435 passengers and 3.2 tons a year. This is a mere 0.5% and 0.04% respectively of the country's total number of passengers and freight respectively.

TABLE III-7: COMMERCIAL AND NON-COMMERCIAL AIR CRAFT - PASSENGERS AND AIR FREIGHT HANDLED AT BUKOBA AIRPORT, KAGERA REGION, 1986 - 1993.

Year	Passengers Bukoba Airport	Total Passengers Tanzania	% of Total Passengers	Freight Bukoba Airport (Tons)	Total Freight Tanzania (Tons)	% of Total Freight
1986	2,986	1,156,427	0.3	60.8	2,281.1	0.04
1987	12,690	1,204,736	1.1	6.0	8,169.1	0.07
1988	9,172	1,211,946	0.8	10.1	12,161.3	0.08
1989	3,888	907,226	0.4	4.4	8,229.6	0.05
1990	1,760	985,221	0.2	-	10,427.8	-
1991	9,211	1,038,740	0.9	4.1	11,467.5	0.04
1992	2,318	947,745	0.2	-	7,277.7	-
1993	1,456	691,311	0.2	0.3	9,180.0	0.00
Total	43,481	8,143,352	0.5	25.7	69,194.1	0.04
Average	5,435	1,017,919	0.5	3.2	8,649.3	0.04

Source: Compiled from data supplied by Transport Statistics 1993, Bureau of Statistics, Dsm Salaam.

Fig. 14: Commercial and Non-commercial Air Craft Passengers Handled at Bukoba Airport, Kagera Region, 1986 - 1993



In addition to Bukoba Airport, the region has the services of two gravel standard airstrips Ngara and Karagwe.

3.5 TELECOMMUNICATIONS:

Kagera region depends heavily for the development of its telecommunication links on TTCL (Tanzania Telecommunications Ltd.). TTCL has a regional office in Bukoba. Currently efforts

are leaving made to extend the Subscriber Trunk Dialling (STD) system to reach same 4000 telephone users around Bukoba township, Muleba, Biharamulo, Ngara and Karagwe towns. Others to be covered are Kyaka, Kanyigo, Kamachumu, Kaisho/Isingiro, Kabango, Chato and Rulenge. To date STD covers 2,000 customers from a 4,000 lines capacity.

Postal services are available in the region with at least one fully fledged post office in each district.

3.6 ENERGY:

3.6.1 Fuelwood:

The use of fuelwood (firewood and charcoal) for domestic purposes is the single most important demand on forests. Other non-domestic uses include: fish smoking, pottery firing, tea drying and brick burning. In 1983 Kaale in his study estimated that the demand for fuelwood per capita was around 2 cubic meters of round wood per year. The total demand was then 2,450,000 cubic meters while the regional sustainable supply was only 301,000 cubic meters. Thus the deficit was 88%. The deficit of 2,149,000 cubic metres was equivalent to 1000 ha. of afforestation. The afforestation effort required then starting at 684 ha. of afforestation for 1981/82 was to increase the area planted by 20% every year so as to take care also of a 4% increase in the regional population. The demand by 1998 has increased to 3,500,000 cubic meters. Thus up to how the region has been burning fuelwood from a shrinking forest area. This is undesirable. Serious efforts have to be made to arrest this situation before it is too late.

3.6.2 Electricity:

Electricity when available and at an affordable cost stimulates leisure and economic development. It can save forests from depletion by fuelwood demand and generally improved the quality of life.

According to the 1988 population census only 1.3% of the regions population had access to electricity mainly in Bukoba

Urban district. Bukoba Urban had a coverage 26.7% while the worst coverage was 0.2% in Bukoba Rural.

TABLE III-8: CONTRIBUTION OF POPULATION COVERED WITH ELECTRICITY, BY DISTRICT, KAGERA REGION, 1988.

District	Population	Population Covered	% Population Covered
Bukoba Urban	46,056	12,294	26.7
Bukoba Rural	337,793	781	0.2
Muleba	272,560	1,512	0.6
Biharamulo	208,908	661	0.3
Ngara	159,526	696	0.4
Karagwe	283,976	1,203	0.4
Total	1,308,819	17,147	1.3

Source: 1988 Population Census, Kagera region profile.

That was the situation in 1988. Kagera is now being supplied by hydropower from Uganda. The power import entitlement is 8.0 Mega Watts (Mws) but current demand is a mere 4.5 MWS. So far this power is distributed to Bukoba Urban, Bukoba Rural, Karagwe and Muleba districts. In 1997 TANESCO had planned rural electrification of Katobe TTC and Izigo village in Muleba, Rubya hospital and surrounding villages and from Kanyigo to villages in Bukoba Rural district.

3.6.3 Fossil Fuels:

Fossil fuels are important to the development and well being of Kagera region. By far the greatest demand is in running the transport sector. Some industries also need substantial quantities of industrial diesel oil. For the ordinary peasant in the region the most felt need met by fossil fuels is the supply of kerosene for lighting purposes. Three quarters of Bukoba Urban residents depend on kerosene for domestic lighting.

In the rural districts of the region the dependency ratio is much higher. Of special note is the requirements for water supply pumping. In 1988/89 about 422,000 litres of diesel was required to

fuel water pumps in the region (Kagera Regional Development Programme, 1990).

SECTION IV

SOCIAL SERVICES

4.1 HEALTH

4.1.1 Introduction

An individual's and even a community's health is a many faceted issue. In Kagera region it is affected by the humid, hot climate, it is affected by dietary habits and culture of the residents. Economic status of an individual or community determines the type of access not only to western oriented medicine but also to traditional health care. A low literacy rate has a negative effect. On the other hand health determines economic performance, life expectancy, life style and one's social and cultural standing. The coming of AIDS has added a new dimension not only in the health sector but in many economic, social and cultural considerations.

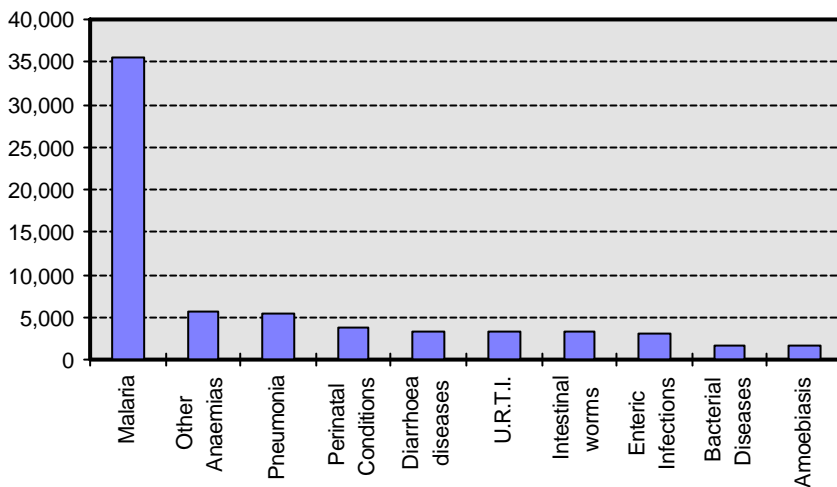
All these aspects are also reflected in the type of health problems the Kagera region population has to contend with. Tables IV - 1, IV - 2 and IV - 3 prioritises these problems.

TABLE IV - 1 THE TEN MOST COMMON REPORTED CAUSES
OF MORBIDITY, KAGERA REGION, 1996

DISEASE	OCCURRENCES		RANKING
	NUMBER	PERCENTAGE	
Malaria	35,555	53.3	1
Other Anaemias	5,553	8.3	2
Pneumonia	5,361	8.0	3
Perinatal Conditions	3,821	5.7	4
Diarrhoea diseases	3,346	5.1	5
U.R.T.I.	3,308	5.0	6
Intestinal worms	3,181	4.8	7
Enteric Infections	3,175	4.8	8
Bacterial Diseases	1,755	2.6	9
Amoebiasis	1,620	2.4	10
Total	66,675	100.0	-

Source: MTUHA (KAGERA REGION) 1996

Fig. 15: Table IV - 1: The Ten Most Common Reported Causes of Morbidity, Kagera Region, 1996



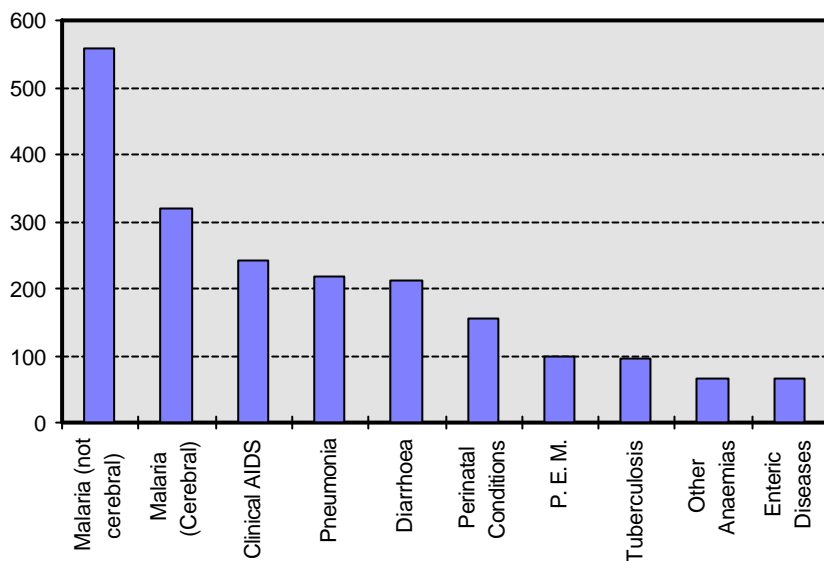
From Table IV - 1 Malaria is by far the most important illness in the region. This reflects the hot and long wet season that the region experiences making it ideal breeding grounds for mosquitoes. These wet conditions account also for occurrences of amoebiasis, diarrhoea and intestinal worms.

**TABLE IV - 2 THE TEN MOST COMMON REPORTED
CAUSES OF MORTALITY, KAGERA REGION, 1996**

DISEASE	DEATHS		RANKING
	NUMBER	PERCENT	
Malaria (not cerebral)	557	27.5	1
Malaria (Cerebral)	318	15.7	2
Clinical AIDS	243	12.0	3
Pneumonia	219	10.8	4
Diarrhoea	212	10.4	5
Perinatal Conditions	154	7.6	6
P. E. M.	98	4.8	7
Tuberculosis	95	4.7	8
Other Anaemias	67	3.3	9
Enteric Diseases	65	3.2	10
Total	2,028	100.0	

Source: Mtuha (Kagera Region), 1996

**Fig. 16: The Ten Most Common Reported Causes of Mortality,
Kagera Region, 1996**



As with morbidity malaria in one form or another is the number one cause of death. Significantly, AIDS is the next most important cause of death after malaria. AIDS along with tuberculosis are the new scourges of modern times. Twenty years ago these two were not among the ten most important reasons for mortality. Death from Protein Energy Malnutrition (P.E.M.) as one of the ten most important causes of death is peculiar in scale to Kagera region. This cause is easily preventable since ignorance is the most likely reason behind this problem.

TABLE IV - 3: THE FIVE MOST COMMON DISEASES (OUT-PATIENTS ONLY) - BY DISTRICT, KAGERA REGION, 1996

Bukoba Urban		Bukoba Rural		Muleba		Biharamulo		Ngara		Karagwe	
Disease	Cases	Disease	Cases	Disease	Cases	Disease	Cases	Disease	Cases	Disease	Cases
1. Malaria	22,121	1. Malaria	118,705	1. Malaria	115,685	1. Malaria	57,277	1. Malaria	89,004	1. Malaria	59,538
2. U.R.T.I	5,038	2. U.R.T.I	43,092	2. U.R.T.I	32,202	2. U.R.T.I	20,478	2. U.R.T.I	30,911	2. U.R.T.I	21,755
3. Diarrhoea	4,391	3. Intestinal Worms	15,930	3. Intestinal Worms	9,406	3. Diarrhoea Diseases	8,353	3. Intestinal Worms	10,496	3. Intestinal Worms	18,810
4. Intestinal Worms	4,134	4. Diarrhoea	13,698	4. Eye diseases	9,989	5. Pneumonia	7,420	4. Diarrhoea diseases	8,367	4. Diarrhoea diseases	8,749

5. Surgical conditions	3,771	5. ILL defined diagnosis	12,342	5. Pneumonia	7,645	6. Intestinal Worms	7,598	5. Skin - Infection	8,840	5. Eye diseases	7,990
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Source : District Annual Reports Kagera Region, 1996

From Table IV - 3 it is evident that there is no variation between the districts in the importance of malaria as the number one illness and U.R.T.I. as the number two problem. However, in the ranking of the next three problems there is considerable variation reflecting the influence of varied environments. But it can be generalised that intestinal worms and diarrhoea are the next two most important. Other depending on a district are pneumonia, eye diseases and skin diseases.

In addition to the above health problems, there are communicable diseases, which flare up or disappear depending on environmental factors. Apart from diseases spreading because of contact within the region there is also that risk from contact with neighbouring regions. Kagera region also bears a risk from sharing a long common border with Uganda, Rwanda and Burundi.

TABLE IV -4: DISTRIBUTION OF COMMUNICABLE DISEASE CASES IN KAGERA AND NEIGHBOURING REGIONS, 1994 AND 1995.

Region	Cholera		Plague		Meningitis		Dysentery		Rabies	
	1994	1995	1994	1995	1994	1995	1994	1995	1994	1995
Kagera	0	0	0	0	3	41	0	467	0	21
Mara	128	0	0	0	69	144	190	81	0	64
Mwanza	213	6	0	0	326	196	3,433	722	165	84
Shinyanga	1,376	127	0	0	58	0	969	0	0	0
Kigoma	126	76	3	0	218	223	3,939	267	792	58
Total 5 Regions	1,843	209	3	0	674	604	8,531	1,537	957	227
Total Mainland	5,013	2,220	547	833	2,228	2,794	28,896	10,758	1,981	1,932

Source: Health Statistics Abstract, 1997

Taking the five neighbouring regions as a zone with Kagera at its centre the following interpretation can be made from Table IV - 4.

Firstly, the zone is virtually free of plague with only 3 cases reported in Kigoma in the two years. Secondly, the zone had 28% of Mainland's cases of cholera. Hence cholera is an important health hazard in the zone although Kagera itself recorded no case in the two years. Thirdly the zone carried 25% of Mainland's cases of Meningitis and dysentery. This is significant although Kagera itself is relatively free. Fourthly, again Kagera region is relatively free of rabies but the zone carries 30% of all the country's cases. According to the 1988 Population Census the zone carries 30% mainland's population.

TABLE IV - 5: DISTRIBUTION OF REPORTED CASES OF MEASLES IN KAGERA AND NEIGHBOURING REGIONS, 1992 - 1994

REGION	NUMBER OF CASES				RANKING
	1992	1993	1994	TOTAL	
Kagera	632	126	111	869	2
Mara	331	24	78	433	4
Mwanza	423	49	84	556	3
Shinyanga	166	37	31	234	5
Kigoma	1,293	1,243	126	2,662	1
Total 5 Regions	2,845	1,479	430	4,754	-
Total Mainland	13,015	15,635	3,558	32,208	-

Source: Health Statistics Abstract, 1997

During the period 1992 to 1994 the zone had only 15% of the Mainland's cases of measles. This is a relief. Among the neighbouring Kigoma region accounted for 56% of the zone's cases, followed by Kagera Region at 18%.

4.1.2 Health Facilities

Kagera region's response to the various causes of morbidity and mortality is reflected in the establishment and distribution of a variety of health facilities. The deployment of trained health personnel to these facilities throughout the region in part of the effort to come to grips with Kagera's health problems.

MCH clinics and dispensaries are the first line of attack. Their strategic distribution could ensure that 90% of all health problems are taken care of by these institutions at village level.

TABLE IV - 6: DISTRIBUTION OF DISPENSARIES AND MCH CLINICS BY DISTRICT AND OWNERSHIP, KAGERA REGION, 1996

District	Population 1996 Est.	DISPENSARIES			MCH Clinics	Population per Dispensary	Land area per dispensary (KM ²)
		Public	Private	Total			
Bukoba U	56,926	7	11	18	1	3,163	4.4
Bukoba R	387,721	36	17	53	44	7,315	102.8
Muleba	329,712	22	9	31	23	10,636	80.6
Biharamulo	251,715	19	11	30	22	8,391	297.9
Ngara	216,413	26	3	29	25	7,463	152.7
Karagwe	408,689	26	14	40	31	10,217	189.0
Total	1,651,176	136	65	201	146	8,215	141.2

Source: Regional Medical Office, Bukoba, 1998

Looking at Table IV-6 Muleba and Karagwe appears the most disadvantaged in terms of average population per dispensary. But in terms of land area per dispensary Karagwe and Biharamulo are the worst covered. In both cases the urban district of Bukoba is the best served. A dispensary's service to the surrounding community is not really complete without an MCH clinic. Hence these clinics are normally paired with dispensaries or an Health Centre. One third of the region's dispensaries are privately owned

TABLE IV - 7 DISTRIBUTION OF DISPENSARIES BY DISTRICT, 1980 TO 1996.

DISTRICT	1980	1985	1990	1996
Bukoba Urban	1	1	2	18
Bukoba Rural	34	46	47	53
Muleba	14	14	22	31
Biharamulo	21	21	22	30
Ngara	22	22	27	29
Karagwe	26	27	32	40
Total	118	131	152	201

Source: Regional Medical Office, Bukoba, 1998

Fig. 17: Distribution of Dispensaries by District, 1980 To 1996, Kagera Region.

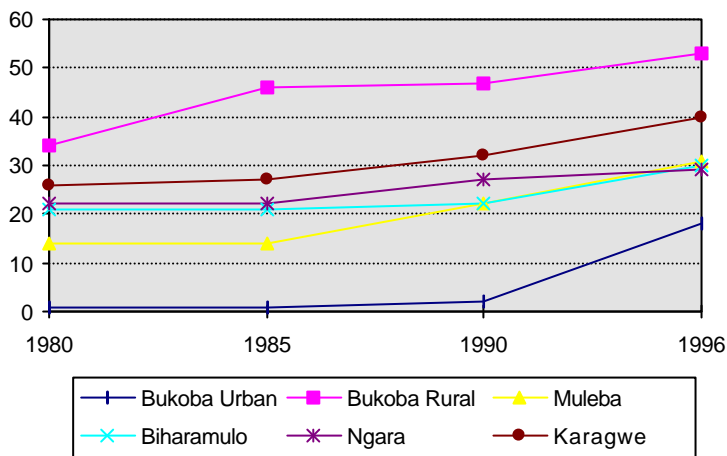


TABLE IV - 8 DISTRIBUTION OF DISPENSARIES BY DISTRICT, KAGERA REGION, 1980, 1985 AND 1996

District	Population 1980 (Est.)	Population 1985 (Est.)	Population per dispensary 1980	Population per dispensary 1985	Population per dispensary 1996
Bukoba U	38,707	43,705	38,707	43,705	3,163
Bukoba R	305,422	328,709	8,983	7,146	7,315
Muleba	227,613	255,942	16,258	18,282	10,636
Biharamulo	173,284	195,397	8,258	9,305	8,391
Ngara	116,499	140,810	5,295	6,400	7,463
Karagwe	200,880	257,249	7,726	9,528	10,217
Total	1,062,405	1,221,812	9,003	9,327	8,215

Source: Compiled from information given by the Regional Medical Office, Bukoba, 1998

Table IV - 7 shows that each district has increased its number of dispensaries between 1980 and 1996, although the pace has differed from one district to another. The greatest increase was between 1990 and 1996 reflecting the coming into being of government's policy of privatisation of the health sector. The most dramatic increase was in Bukoba Urban district again

reflecting the tendency for the private sector to shy away from rural areas and concentrate in urban centres.

Table IV - 8 flows from Table IV - 5. The table reveals a number of points worth consideration by health planners.

- The average population per dispensary ratio has changed slightly for the better since 1980. This means the region as a whole is managing to keep up with population increases and more.
- The Bukoba Urban coverage improved dramatically between 1985 and 1996 after a period of very poor coverage. It is now ideal.
- Bukoba Rural has steadily improved its coverage from 8,933 to 7,146 between 1980 and 1985. The year 1996 shows a deterioration in coverage.
- Muleba district has improved after a deterioration in 1985. But it has still a long way to go to catch up with the rest of the region.
- The remaining three districts of the Kagera namely Biharamulo, Ngara and Karagwe are steadily deteriorating in coverage. A lot of effort is called for to reverse this trend.

In the referral hierarchy health centres are at the bottom. Dispensaries, depending upon the sensitivity of the case refer less serious cases to health centres and the more serious directly to hospitals. Health centres also do take on patients directly in the absence of a dispensary in the neighbourhood. Health centres are

expected to be better equipped, better supplied and better staffed than dispensary. Hospitals, at the apex of the hierarchy of course should be even better equipped, supplied and staffed.

TABLE IV - 9: DISTRIBUTION OF HEALTH CENTRES AND HOSPITALS BY DISTRICT, KAGERA REGION FOR 1974, 1980, 1985, 1990 AND 1996

District	1974		1980		1985		1990		1996	
	Hosp.	H.C.	Hosp.	H.C.	Hosp.	H.C.	Hosp.	H.C.	Hosp.	H.C.
Bukoba Urban	1	-	1	1	1	1	1	2	1	2
Bukoba Rural	1	4	2	4	2	4	2	5	2	5
Muleba	3	2	3	2	3	2	3	2	3	2
Biharamulo	1	1	1	1	1	1	1	1	1	1
Ngara	2	2	2	2	2	2	2	2	2	2
Karagwe	2	3	2	3	3	3	3	3	3	3
Total	10	12	11	13	12	13	12	15	12	15

Source: Regional Medical Officer, Bukoba, 1997

Increases in the number of hospitals and health centres between 1974 and 1996 has been modest. Health centres went up from 12 to 15 and hospitals from 10 to 12. See Table IV - 9.

TABLE IV - 10: POPULATION COVERAGE OF HOSPITALS BY DISTRICT, KAGERA REGION, 1974, 1985 AND 1996

District	1974		1985		1996	
	Population (Est)	Population per hospital	Population (Est)	Population per Hospital	Population (Est)	Population per Hospital
Bukoba Urban	33,496	33,496	43,705	43,705	56,926	56,926
Bukoba Rural	279,071	279,071	328,709	164,355	387,721	193,861
Muleba	198,163	66,054	255,942	85,314	329,712	109,904
Biharamulo	150,864	150,864	195,397	195,397	251,715	251,715
Ngara	92,041	46,021	140,810	70,405	216,413	108,207

Karagwe	155,835	77,918	257,249	85,750	408,689	136,230
Total	909,470	90,947	1,221,812	101,818	1,651,176	137,598

Source: Compiled from information provided by the Regional Medical Office, Bukoba, 1997.

The hospital coverage for the region displayed in Table IV - 10 shows that this has been deteriorating steadily since 1974. The deterioration is 51% between 1974 and 1996. This means Kagera people were covered with hospital services much better in 1974 than in eighth 1985 or 1996. Bukoba Urban is the best served although even here the situation has gotten worse. Bukoba Rural was better served in 1985 and 1996 than it was in 1974. Muleba district coverage has gotten worse since 1974 but it is still better than the regional average. Biharamulo is the worst covered district and the situation was more desperate in 1996 than in 1974. Ngara is in the same position as Muleba. Karagwe is the average case in the region.

A look at Table IV - 11 and IV - 12 below reveals that both the population per doctor and population per bed criteria have got worse between 1990 and 1996, because both bed and doctor numbers have stagnated. The best coverage per doctor is in Bukoba Urban. The worst cover ratio is 17 times bigger than the best at 5,693 for 1996. Bukoba Rural has the worst cover at 96,930 followed by Biharamulo at 62,926 for 1996. With respect to population per bed the best coverage is again in Bukoba Urban district at 176 for 1996 and the worst is in Bukoba Rural at 2041 followed closely by Biharamulo at 1,798.

TABLE IV - 11: DISTRIBUTION OF DOCTORS AND HOSPITAL BEDS BY DISTRICT, KAGERA REGION, 1990 AND 1996

DISTRICT	1990			1996		
	HOSPITAL BEDS	DOCTORS		HOSPITAL BEDS	DOCTORS	
		PUBLIC	PRIVATE		PUBLIC	PRIVATE
Bukoba Urban	323	10	-	323	10	-

Bukoba Rural	190	1	3	190	1	3
Muleba	657	2	11	657	2	11
Biharamulo	140	1	3	140	1	3
Ngara	280	1	5	280	1	5
Karagwe	474	1	9	474	1	9
Total	2,064	16	31	2,064	16	31

Source: Regional Medical Offices, Bukoba, 1998

TABLE IV - 12: POPULATION COVERAGE OF DOCTORS AND HOSPITAL BEDS, BY DISTRICT, KAGERA REGION 1990 AND 1996

District	1990			1996		
	Population (Est)	Population per bed	Population per doctor	population (Est)	Population per bed	Population per doctor
Bukoba Urban	49,293	153	4,929	56,926	176	5,693
Bukoba Rural	354,352	1,865	88,588	387,721	2,041	96,930
Muleba	287,217	437	22,094	329,712	502	25,362
Biharamulo	219,273	1,566	54,818	251,715	1,798	62,929
Ngara	171,275	612	28,546	216,413	773	36,069
Karagwe	317,683	670	31,768	408,689	862	40,869
Total	1,399,093	678	29,768	1,651,176	800	35,131

Source: Compiled from data supplied by the Regional Medical Office, Bukoba, 1998.

When compared to other regions of the Mainland, the region's 791 per bed cover for 1995 is slightly better than the Mainland average of 882. Kagera ranks 8th in terms of desirable coverage.

It is the best among the neighbouring regions of Mwanza, Mara, Shinyanga, Kigoma and Kagera. See Table: IV - 13

Table IV - 14 shows the rating among region when the total number of health facilities (not MCH Clinics) in a region are added up for 1995. Kagera region fares badly in this regard. It rank berg close to the bottom at number 18. It is only better than Tabora and Shinyanga. There are 1.3 health facilities per 10,000 population in the region or 7,460 people per health facility.

TABLE IV - 13 NUMBER OF POPULATION PER BED BY REGION 1995

Region	Pop 1995 (Est)	Number of beds	Pop per bed	Ranking
Kagera	1,641,104	2,074	791	8
Mtwara	991,801	1,457	681	3
Arusha	1,776,799	1,535	1,158	16
Coast	737,178	795	927	13
Dar es Salaam	1,856,661	2,141	867	10
Dodoma	1,487,139	1,711	869	11
Iringa	1,460,498	2,005	728	5
Kigoma	1,030,691	832	1,239	18
Kilimanjaro	1,556,928	2,289	680	2
Lindi	741,479	980	757	7
Mara	1,232,112	1,072	1,149	15
Mbeya	1,759,814	1,854	949	14
Morogoro	1,475,604	2,088	707	4
Mwanza	2,351,233	2,867	820	9
Rukwa	996,903	861	1,158	17
Ruvuma	987,223	1,635	604	1
Shinyanga	2,225,069	1,537	1,448	20
Singida	961,038	696	1,381	19
Tabora	1,214,073	1,322	918	12
Tanga	1,457,756	1,935	753	6
Total	27,941,103	31,686	882	-

Source : Health Statistics Abstract, 1997.

TABLE IV - 14 : POPULATION PER HEALTH FACILITY AND NUMBER OF HEALTH FACILITIES PER 10,000 POPULATION BY REGION, 1995:

Region	Population Estimate 1995	Number of Health Facilities	Population per Facility	Number of Facilities per 10,000 Pop.	Ranking
Kagera	1,641,104	220	7,460	1.3	18
Mtwara	991,801	139	7,135	1.4	16
Arusha	1,776,799	285	6,234	1.6	14
Coast	737,178	192	3,839	2.6	1
Dar es Salaam	1,856,661	430	4,318	2.3	3
Dodoma	1,487,139	244	6,095	1.6	13

Iringa	1,460,498	285	5,125	2.0	5
Kigoma	1,030,691	181	5,694	1.8	10
Kilimanjaro	1,556,928	395	3,942	2.5	2
Lindi	741,479	139	5,334	1.9	8
Mara	1,232,112	233	5,288	1.9	7
Mbeya	1,759,814	292	6,027	1.7	12
Morogoro	1,475,604	280	5,270	1.9	6
Mwanza	2,351,233	317	7,417	1.3	17
Rukwa	996,903	147	6,782	1.5	15
Ruvuma	987,223	195	5,063	2.0	4
Shinyanga	2,225,069	275	8,091	1.2	20
Singida	961,038	163	5,896	1.7	11
Tabora	1,214,073	161	7,541	1.3	19
Tanga	1,457,756	271	5,379	1.9	9
Total	27,941,103	4,844	5,768	1.7	-

Source: Compiled from 1988 Population Census Data and Health Statistics Abstract (1997) data.

4.1.3 Immunisation of Young Children and Prospective Mothers

The control of disease by immunisation is a standard practice which has been accepted by many residents in Kagera region. Although like many other regions immunisation coverage of T. T. among prospective mothers is still very low.

The immunisation coverage figures in Table IV - 15 are very good. But unless special efforts are made even these good figures will not reach 100% by 1999 (See Table IV - 16). This is the target for under one child immunisation throughout the Mainland. Special efforts are particularly important for Ngara and Bukoba Rural. Karagwe district with its excellent performance is almost at the 100% mark.

A further look at Table IV - 16 shows the progress of immunisation under each vaccine. Except for measles all the vaccinations seem to have reached a plateau from where improvement is proving illusive.

**TABLE IV - 15: IMMUNISATION COVERAGE OF CHILDREN UNDER
1 YEAR, BY DISTRICT BY PERCENT KAGERA REGION, 1996**

DISTRICT	BCG	DPT 3	POLIO 3	MEASLES
Bukoba Urban	99.7	94.0	91.3	99.8
Bukoba Rural	87.3	80.2	82.6	79.9
Muleba	99.9	95.0	93.6	93.4
Biharamulo	99.9	98.7	99.9	88.8
Ngara	99.2	79.2	78.3	74.2
Karagwe	99.9	99.9	99.8	99.9
Total	96.0	87.1	90.6	87.3

Source: Regional Medical Officer, Bukoba, 1998

**TABLE IV - 16 IMMUNISATION COVERAGE (0-1 YR) BY VACCINE,
KAGERA REGION, 1990-1996**

YEAR	BCG		DPT 3		POLIO 3		MEASLES	
	Absolute Numbers	%	Absolute Numbers	%	Absolute Numbers	%	Absolute Numbers	%
1990	46804	83.6	46370	82.8	39385	70.3	41136	73.5
1991	54418	94.7	48590	84.5	48232	83.9	44331	77.1
1992	56450	95.6	51133	86.6	51045	86.4	48111	81.5
1993	56851	93.8	51199	84.4	55613	91.7	50635	83.5
1994	60198	96.7	55582	89.2	53537	86.0	49360	79.3
1995	61793	96.6	58936	92.1	58329	91.2	53274	83.3
1996	63747	96.0	59816	87.1	60142	90.6	57930	87.3

Source: MCH Annual Reports Kagera

Fig. 18: Immunisation Coverage (0-1 Years) by Vaccine, Kagera Region, 1990 - 1996

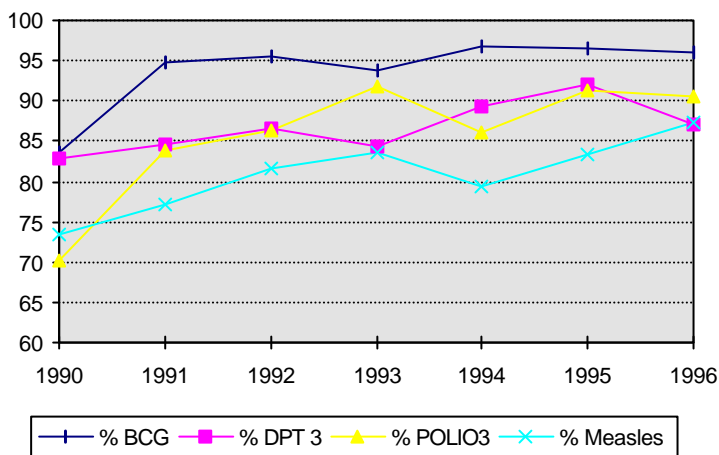


TABLE IV - 17 : INOCULATION OF CHILDREN OVER ONE YEAR, BY DISTRICT, KAGERA REGION, 1996

DISTRICT	BCG	DPT	POLIO	MEASLES
Bukoba Urban	N.A	N.A	N.A	N.A
Bukoba Rural	327	176	167	910
Muleba	117	17	18	123
Biharamulo	93	59	49	451
Ngara	48	478	477	676
Karagwe	39	35	37	331
Total	624	765	748	2491

Sources: Regional Medical Officer, Bukoba, 1998

Tables IV - 18 (A to F) show the status of immunisation of women in the child bearing age group (15 yrs to 44 yrs). The number of women who had only one T.T. inoculation are not recorded in the tables. This is because to be immunized women need at least two T.T. vaccinations. Of the six districts in the region the best coverage were attained by Muleba at 17.3% and Biharamulo at 16.6%. The worst performance was in Bukoba

Urban, which district scored a mere 11.3% for 1996. On the whole, the regions efforts in this field show very poor results, although this is the picture throughout Mainland Tanzania.

TABLE IV - 18 A) IMMUNISATION COVERAGE OF WOMEN IN THE CHILD BEARING AGE GROUP. BUKOBA URBAN DISTRICT, KAGERA REGION, 1996

Vaccination	TT 1	TT 2	TT 3	TT 4	TT5
Absolute Numbers		1552	1187	405	218
Percent Cover		11.3	9.0	3.0	2.0

Source: MCH Annual Report (1996), Kagera

TABLE IV - 18 (B) IMMUNISATION COVERAGE OF WOMEN IN THE CHILD BEARING AGE GROUP. BUKOBA RURAL DISTRICT, KAGERA REGION, 1996

Vaccination	TT 1	TT 2	TT 3	TT 4	TT 5
Absolute Numbers		11,673	7,907	3,059	1,675
Percent Cover		11.7	7.9	3.0	1.6

Source: MCH Annual Report (1996), Kagera

TABLE IV - 18 (C) IMMUNISATION COVERAGE OF WOMEN IN THE CHILD BEARING AGE GROUP, MULEBA DISTRICT, KAGERA REGION, 1996

Vaccination	TT 1	TT 2	TT 3	TT 4	TT 5
Abosule Numbers		11,751	7,039	2,277	1,006
Percent Cover at TT2 and over		17.3	10.4	3.3	1.4

Source: MCH Annual Report (1996) , Kagera

TABLE IV-18 (D) IMMUNISATION COVERAGE OF WOMEN IN THE CHILD BEARING AGE GROUP BIHARAMULO DISTRICT, KAGERA REGION, 1996

Vaccination	TT 1	TT 2	TT 3	TT 4	TT 5
Abosule Numbers		8,542	5,677	2,604	1,542
Percent Cover at TT2 and over		16.6	11.0	5.0	2.9

Source: MCH Annual Report (1996) , Kagera

TABLE IV-18 (E) IMMUNISATION COVERAGE OF WOMEN IN THE CHILD BEARING AGE GROUP, NGARA DISTRICT, KAGERA REGION, 1996

Vaccination	TT 1	TT 2	TT 3	TT 4	TT 5
Abosule Numbers		5,960	3,394	1,205	401
Percent Cover at TT2 and over		13,7	7.8	2.7	0.9

Source: MCH Annual Report (1996) , Kagera

TABLE IV-18 (F) IMMUNISATION COVERAGE OF WOMEN IN THE CHILD BEARING AGE GROUP, KARAGWE DISTRICT, KAGERA REGION, 1996

Vaccination	TT 1	TT 2	TT 3	TT 4	TT 5
Abosule Numbers		8,918	7,282	4,474	4,413
Percent Cov. at TT2 and over		12.6	10.3	6.3	6.2

Source: MCH Annual Report (1996), Kagera

4.1.4 Child Nutrition

For many children the underlying cause for poor health is malnutrition. Hence, its importance to child well being is paramount.

Kagera was a beneficiary along with another ten regions of the UNICEF funded CSPD between 1990 and 1994. The Table IV-19 below shows the extent of child malnutrition in the region.

TABLE IV - 19 PERCENTAGE OF CHILDREN BORN SEVERELY UNDERWEIGHT IN CSPD REGIONS, 1990 - 1994

REGION	1990	1991	1992	1993	1994
Kagera	2.0	2.1	1.6	1.2	1.2
Mtwara	6.3	5.5	1.8	1.9	2.0
Singida	3.5	1.4	1.5	1.1	1.1
Coast	-	-	-	7.1	4.4
Morogoro	3.2	3.3	2.2	1.6	1.4
Iringa	1.7	1.4	1.3	1.1	1.1
Ruvuma	3.9	3.7	2.3	1.6	1.5
Kilimanjaro	0.6	0.4	0.3	0.2	0.2
Mara	6.9	3.0	2.8	1.6	1.4
Mwanza	-	-	-	3.2	2.3
Shinyanga	2.0	1.4	1.5	1.1	1.1
Total	2.8	2.5	1.6	1.6	1.4

From the table Kagera performed better than the 11 regions' average. The rate of severe underweight children went down from 2.0% in 1990 and 1991 to 1.2% in fourth and fifth year.

In 1995 a nation wide survey of new born children showed that Kagera Region had 1002 children who were severely underweight (below 60%) among 60,417 weighed. This is 1.7% of all new born babies. Those who were moderately underweight (60% to 80%) were 4,606 which in 7.6% of all babies weighed. Thus the total number of under weight children was 5,608 or 9.3% of the total. This means malnutrition of babies at birth is still much of a problem in the region. The national average is at par with Kagera. See Table IV - 20

**TABLE IV - 20 : NUTRITION STATUS OF CHILDREN AT BIRTH
IN TANZANIA MAINLAND, BY REGION, 1995**

Region	Number weighed	CHILDREN UNDER NUTRITION			
		WEIGHT		Total	%
		<60%	60-80%		
Kagera	60,417	1,002	4,606	5,608	9
Mtwara	23,127	850	4,138	4,988	22
Singida	31,254	376	1,276	1,652	5
Lindi	22,779	868	1,932	2,800	12
Ruvuma	26,630	646	2,599	3,245	12
Morogoro	51,239	1,045	3,215	4,260	8
Coast	22,934	734	2,607	3,341	15
Dar es Salaam	50,370	435	1,206	1,641	3
Iringa	45,459	847	8,083	8,930	20
Arusha	68,418	709	2,845	3,554	5
Dodoma	52,957	500	1,686	2,186	4
Kigoma	42,408	1,392	5,227	6,619	16
Mbeya	84,231	1,528	10,062	11,590	14
Mara	45,944	651	1,918	2,569	6
Mwanza	89,166	1416	4,648	6,064	7
Rukwa	33,454	876	3,611	4,487	13
Shinyanga	74,715	559	2,244	2,803	4
Tabora	45,648	431	1,734	2,165	5
Tanga	54,006	701	2,060	2,761	5
Total	968,091	15,777	66,665	82,442	9

Source: Health Statistics Abstract 1997.

Results of 1990 to 1995 surveys show a chronic situation of severe under weight among new born children of between 2% and 1%.

The following year in 1996 a total 65,052 under five children were weighed in first attendance. Of this number of children 1.3% were severely underweight and another 8.3% were moderately under weight. The total being 9.6% which is marginally worse than the results in 1995. Re-attendances were 1,195,153 revealing 1.5% severe underweight and 16.1% moderate under weight.

District by district Ngara had the highest rate of severe underweights at 2.7% on first attendance. The least underweights were in Karagwe at 0.8%. On re-attendances Ngara still held the record for the highest proportion of severe underweight children under five years at 4.0%. With Karagwe holding the least proportion of severe underweights at 0.8%. Moderate underweights are highest in Muleba for first attendance at 15.0% and Ngara for reattendances at 23.8%.

TABLE: IV - 21 NUTRITIONAL STATUS OF < 5 YEARS CHILDREN. 1996
KAGERA REGION

District	Total No. of Children Attended. 1St Attendances					Total No. of Children Attended. Re Attendances				
	Total No. of Children Weighed	Under Weight Below 60 Percentiles		Between 60 - 80 Percentiles		Total No. of Children Weighed	Under weight below 60 percentiles		Between 60-80 Percentiles	
		Number	Percent	Number	Percent		Number	Percent	Number	Percent
Karagwe	14536	127	0.8	1414	9.7	389527	3429	0.8	78844	20.0
Bukoba	17463	229	1.7	881	5.0	304728	4772	1.5	42517	13.9
Muleba	14202	170	1.2	2138	15.0	195291	1898	0.9	25200	12.9
Biharamul o	10422	106	1.0	359	3.4	143933	1682	1.2	10117	7.0
Ngara	8429	231	2.7	654	7.7	151674	6173	4.0	36125	23.8
Total	65052	863	1.3	5446	8.3	1195153	17954	1.5	192803	16.1

Source: MCH Annual Report, Kagera, 1996

4.1.5 Infant and Underfive Mortality

Children survival is a priority responsibility of all parents and the community at large. Young children are particularly vulnerable in the first week of life. The next most vulnerable period is the first month followed by the first year and ultimately the first five years. Beyond five years a child will have come to terms with his or her environment to ensure a normal existence but the first five years are critical. Mortality rates in the first year of life and the first five

years are a reflection of how effective have been the various parental and community interventions in protecting the life of the child. Health care interventions are particularly important.

IMR and U5MR of Kagera region for 1975, 1985 and 1995 is unsatisfactory even by Tanzania standards. The region is among the 5 poorest performers on the mainland. But it is encouraging to note the fall in IMR from 133 per 1000 in 1975 to 127 per 1000 in 1995. The U5MR has also gone down from 225 per 1000 to 212 per 1000 over the same period. (See Table IV - 22)

TABLE: IV - 22 IMR AND U5MR IN TANZANIA MAINLAND BY REGIONS, 1975, 1985 AND 1995 (EST.)

REGION	IMR			U5MR		
	1975	1985	1995 (est)	1975	1985	1995 (est)
Kagera	133	130	127	225	219	212
Mtwara	161	138	119	267	233	202
Lindi	151	140	129	255	236	218
Ruvuma	145	113	88	245	188	143
Morogoro	140	124	96	267	209	163
Coast	121	113	105	204	189	174
Dar es Salaam	108	105	102	179	173	168
Iringa	152	130	111	257	220	189
Dodoma	133	132	130	225	222	220
Arusha	108	75	52	179	129	78
Kigoma	163	115	81	269	192	137
Kilimanjaro	76	67	59	119	104	90
Mara	140	125	112	236	211	189
Mbeya	161	124	96	267	209	163
Mwanza	139	115	95	233	192	157
Rukwa	170	131	101	283	221	172
Shinyanga	150	110	81	252	183	131
Singida	137	96	67	231	157	106
Tabora	140	101	73	236	166	116
Tanga	112	106	100	187	176	166

Source : Health Statistics Abstract 1997.

There is a gender factor to IMR and U5MR. Throughout Tanzania Mainland male children are more at risk from death than

female children. This also applies to Kagera region where in 1988 IMR for males was 133 but 127 for females. U5MR similarly was 224 for males and 213 for females (See Table IV -23)

TABLE IV - 23 IMR AND U5MR IN TANZANIA MAINLAND BY REGION AND BY SEX, 1988:

REGION	IMR			U5MR		
	Male	Female	Average	Male	Female	Average
Kagera	133	127	130	224	213	219
Mtwara	141	134	138	238	227	233
Lindi	140	139	140	237	235	236
Ruvuma	115	110	113	193	183	188
Morogoro	133	118	125	224	197	211
Coast	118	109	113	199	180	189
Dar es Salaam	109	100	105	181	165	173
Iringa	137	124	130	231	209	220
Arusha	79	82	75	126	131	129
Dodoma	136	127	132	230	114	222
Kigoma	119	111	115	200	184	192
Mara	128	122	125	216	205	211
Kilimanjaro	67	67	67	104	104	104
Mbeya	130	118	124	220	197	209
Mwanza	122	108	115	204	178	192
Rukwa	137	125	131	232	211	221
Shinyanga	114	106	110	191	175	183
Singida	98	96	96	161	152	157
Tabora	103	99	101	169	163	166
Tanga	110	102	106	183	168	176

Source: 1988 Population Census.

Apart from the sex factor there is also a rural/urban connection which affects IMR and U5MR. The trend in the country including Kagera is for a higher IMR and U5MR in rural areas and a lower IMR and U5MR in urban centres. The exception in the country are Iringa, Tabora and Kilimanjaro. The IMR for rural Kagera is 130 as against 116 for urban areas. For U5MR the rural rate is 220 while it is 193 in urban centres. (See Table IV-24).

TABLE IV - 24 IMR AND U5MR IN TANZANIA MAINLAND, BY REGIONS AND URBAN/RURAL CONFIGURATION, 1988.

REGION	IMR			U5MR		
	Rural	Urban	Average	Rural	Urban	Average
Kagera	130	116	130	220	193	219
Mtwara	143	108	138	241	180	233
Lindi	143	121	129	241	204	236
Ruvuma	114	107	113	190	177	188
Morogoro	134	94	125	226	153	211
Coast	115	104	113	193	172	189
Dar es Salaam	121	103	105	203	169	173
Iringa	130	135	130	219	229	220
Dodoma	136	94	132	230	154	222
Arusha	76	72	75	120	114	129
Kigoma	116	109	115	194	181	192
Kilimanjaro	66	73	67	102	115	104
Mara	128	101	125	216	116	211
Mbeya	128	107	124	216	177	209
Mwanza	119	97	115	200	158	192
Rukwa	134	112	131	227	186	221
Shinyanga	112	92	110	186	150	183
Singida	99	81	96	161	129	157
Tabora	101	103	101	165	169	166
Tanga	109	89	106	182	144	176

Source: 1988 Population Census

4.1.6 Maternal Mortality

Women bear an added risk from death during or soon after child bearing. This risk peculiar to women can be reduced to insignificant proportions by the right health care interventions. Among Mainland's 20 regions Kagera is ranked 12, that is it belongs to the worse half. But it encouraging that it is getting better. The rate was reduced for 304 in 1992 to 242 in 1995. (See Table IV-25) One of the most important health care

intervention which reduces MMR is T.T. immunisation. Unfortunately T.T. immunization cover is very low. It is less than 20%. Greater efforts are needed.

**TABLE IV - 25: MATERNAL MORTALITY RATE IN TANZANIA
MAINLAND BY REGIONS FOR 1992 TO 1995**

REGION	1992	1993	1994	1995	RANKING
Kagera	304	343	190	242	12
Mtwara	264	212	161	252	10
Lindi	262	289	193	264	14
Ruvuma	225	189	186	177	8
Morogoro	289	172	190	153	6
Coast	209	111	70	187	5
Dar es Salaam	220	398	237	328	19
Iringa	311	321	276	281	18
Arusha	102	158	114	159	4
Shinyanga	143	188	199	184	9
Singida	242	171	238	207	13
Dodoma	197	214	208	266	16
Kigoma	144	155	105	87	2
Kilimanjaro	126	46	107	63	1
Mara	67	59	106	124	3
Mbeya	67	361	436	264	20
Mwanza	221	186	266	207	15
Rukwa	172	294	243	267	17
Tabora	151	185	130	216	7
Tanga	255	172	220	195	11
Total	199	211	197	208	-

Source: Health Statistics Abstract, 1997

Another contributing factor to a high MMR in Kagera is the disproportionately high number of women who give birth at home. Table IV - 26 shows that Kagera region leads in the proportion of home deliveries at 67.7%. Only 29.6% of all deliveries take place at a health facility.

TABLE IV - 26 PLACE OF DELIVERY - PERCENTAGE DISTRIBUTION OF BIRTHS IN THE FIVE YEAR PRECEDING THE SURVEY - TANZANIA MAINLAND BY REGIONS, 1996

REGION	HEALTH FACILITY	HOME	DONT KNOW /MISSING	TOTAL
Kagera	29.6	67.7	2.7	100.0
Coast	51.1	44.0	4.9	100.0
Dodoma	41.5	57.4	1.1	100.0
Arusha	41.3	54.1	4.6	100.0
Kilimanjaro	64.3	31.1	4.6	100.0
Tanga	45.0	54.3	0.6	100.0
Morogoro	54.0	44.7	1.3	100.0
Dar es Salaam	85.9	12.3	1.8	100.0
Lindi	49.5	42.3	8.2	100.0
Mtwara	51.5	47.8	0.7	100.0
Ruvuma	79.8	17.8	2.4	100.0
Iringa	46.6	53.0	0.3	100.0
Mbeya	46.9	52.7	0.4	100.0
Singida	47.1	51.5	1.4	100.0
Tabora	63.3	28.7	8.0	100.0
Rukwa	45.6	53.5	0.8	100.0
Kigoma	35.5	61.7	2.8	100.0
Shinyanga	38.9	50.4	10.7	100.0
Mwanza	37.6	53.8	8.6	100.0
Tanga	109		8.9	100.0
Mara	31.7	58.7	9.6	100.0

Source: Tanzania Demographic and health Survey 1996

4.1.7 Life Expectancy

Life expectancy at birth in Kagera as measured by the 1978 and 1988 population censuses show no improvement, unlike the rest of Tanzania. It was 45 years in 1978 and it measured 45 years ten years later. The only other region to show no improvement is Dar es Salaam. The reasons behind Kagera's lack of improvement are not clear, but early mortality from AIDS could

have contributed towards this state of affairs. The region was ranked 7th in the length of its life expectancy in 1978. In 1988 it went down the bottom slot sharing this doubtful privileged with Iringa and Rukwa regions. See Table IV - 27

TABLE IV-27: LIFE EXPECTANCY AT BIRTH TANZANIA MAINLAND BY SEX AND BY REGION 1978 AND 1988 IN YEARS

Region	Average 1978	1988			Ranking
		Average	Male	Female	
Kagera	45	45	44	45	20
Mtwara	40	46	44	48	16
Lindi	42	47	46	48	13
Ruvuma	43	49	48	50	8
Morogoro	44	46	45	48	15
Coast	47	48	46	51	9
DSM	50	50	50	50	5
Iringa	41	45	44	47	19
Arusha	50	57	57	58	2
Dodoma	45	46	45	47	17
Kigoma	40	48	47	49	11
Kilimanjaro	58	59	57	62	1
Mara	44	47	46	48	12
Mbeya	41	47	45	48	14
Mwanza	44	48	46	50	10
Rukwa	40	45	44	47	18
Shinyanga	42	50	48	51	6
Singida	44	55	54	55	3
Tabora	44	53	53	54	4
Tanga	49	49	48	51	7
Mainland	44		49	51	-

Source: 1988: Population Census

4.1.8 AIDS:

Kagera was the first region in Tanzania where the Acquired Immunity Deficiency Syndrome (AIDS) epidemic showed how disruptive it can be. The existence of orphans became commonplace. The sight of neglected homesteads, banana/coffee plantations became more frequent as AIDS mortality cut down the number of the economically active age group. Social and cultural practices and perceptions were overthrown. Thus the economic, social and cultural cost of AIDS was uncompromisingly demonstrated for all to see. Kagera is still paying this cost though health education has started having an impact. Meanwhile there are more than 100,000 orphans in the region as a result of death from AIDS. The first cases of AIDS were in 1983. From that year the epidemic rapidly advanced to each 1,271 new cases by 1991. Since then the number of new cases has shown a decline, showing clearly that people have started to take preventive measures against HIV infection. See Table IV-28.

**TABLE IV-28: DISTRIBUTION OF NEW CASES OF AIDS REPORTED IN
KAGERA REGIONS 1982-1996**

YEAR	AIDS CASES	
	New Cases	Cumulative total
1982	NIL	NIL
1983	3	3
1984	103	106
1985	219	325
1986	525	850
1987	819	1,669
1988	497	2,166
1989	413	2,579
1990	896	3,475
1991	1,270	4,745
1992	1,071	5,816
1993	833	6,649
1994	418	7,067
1995	159	7,226
1996	203	7,429

Source: Regional Medical Office, Bukoba, 1998

Table IV-29 shows the countrywide distribution of cumulative AIDS cases. Although in the eighties Dar es Salaam and Kagera led in the number of cases, by 1991 Kagera had been overtaken by Mbeya with Mwanza and Kilimanjaro following behind Kagera.

Table IV-30 shows the rate of AIDS per 10,000 population based on Table IV-29. In 1992 and 1993 Kagera was ranked third behind Dar es Salaam and Mbeya regions. By 1996 it has also been overtaken by Kilimanjaro and Coast regions. It was then ranked 5th. Kagera has learnt the hard way about the devastating effects of AIDS and has taken preventive health education seriously. Other regions it would appear, have still to learn their lesson.

TABLE IV-29: CUMULATIVE AIDS CASES BY REGION AND YEAR (1991-1996)

Region/Year	1991	1992	1993	1994	1995	1996
Kagera	4,742	5,813	6,646	7,064	7,223	7,426
Arusha	1,117	1,637	2,185	2,368	2,615	2,787
Coast	1,676	2,215	2,74	3,023	3,268	3,373
Dar es Salaam	8,834	9,295	10,406	11,050	11,302	12,983
Dodoma	536	762	1,028	1,071	1,090	1,096
Iringa	2,281	3,334	4,462	4,674	4,785	4,883
Kigoma	930	1,556	1,92	2,070	2,257	2,280
Kilimanjaro	2,060	3,707	4,699	5,119	5,513	5,991
Lindi	842	1,211	1,691	1,966	2,173	2,480
Mara	639	980	1,304	1,393	1,486	1,486
Mbeya	6,924	9,890	11,439	12,214	12,371	12,371
Morogoro	2,398	3,598	4,328	4,575	4,605	4,605
Mtwara	1,361	1,968	2,090	2,201	2,267	2,244
Mwanza	3,041	4,207	5,349	5,731	5,974	6,365
Rukwa	261	496	715	777	801	882
Ruvuma	1,197	1,807	2,480	2,847	3,087	3,345
Shinyanga	1,278	1,874	2,624	3,062	3,361	3,824
Singida	763	1,107	1,472	1,688	1,908	2,135
Tabora	1,400	1,972	2,786	3,075	3,428	3,805
Tanga	1,914	2,636	3,207	3,475	3,793	4,062
Unspecified	1	1	1	2	44	44
Mainland	44,195	60,066	73,572	79,445	83,351	88,467

Source: Health Statistics Abstract, 1997

TABLE IV-30: RATE OF AIDS PER 100,000 POPULATION BASED ON THE CUMULATIVE CASES BY REGION

Region	1992			1993			1996		
	Population	Rate	Bank	Population	Rate	Bank	Population	Rate	Rank
Kagera	1477431	280	3	1517865	289	3	1674586	444	5
Arusha	1573566	61	16	1634512	70	16	1826547	153	17
Coast	693924	189	4	708650	206	4	756056	446	4
D'Salaam	1648902	538	1	1729979	531	1	1914376	678	1
Dodoma	1362540	31	19	1395637	37	19	1497586	73	20
Iringa	1346788	144	7	1387646	161	7	1502266	325	8
Kigoma	956124	86	14	983274	98	14	1061458	215	15
K'njaro	1205853	147	6	1231444	185	5	1325231	452	3
Lindi	700399	95	13	714548	112	12	757361	328	7
Mara	1090364	55	18	1122447	59	18	1221963	122	18
Mbeya	1671081	337	2	1723695	353	2	1940033	638	2
Morogoro	1356749	160	5	1392487	164	6	1511786	305	9
Mtwara	940727	106	11	953990	110	13	1008236	242	13
Mwanza	2084130	118	8	2139028	129	8	2326964	274	11
Rukwa	825405	31	20	861672	37	20	1013529	87	19
Ruvuma	897443	111	9	928481	128	9	1020461	328	6
Shinyanga	1990565	55	17	2049137	64	17	2269337	169	16
Singida	875090	78	15	897243	85	15	978203	218	14
Tabora	1140709	106	10	1168417	121	10	1270769	299	10
Tanga	1396120	99	12	1425748	113	11	1519499	267	12
Total	25233910			25965900			28396247	307	

Source: Health Statistics Abstract, 1997

4.1.9 Other Health Issues

4.1.9.1 Tuberculosis and Leprosy

These two ancient scourges are still a factor to be reckoned with in Tanzania and in Kagera. While the leprosy case detection rate per 100,000 in Kagera went down from 13. to 11 and 9.0 to 4.8

for 1992 and 1993 respectively, cases of tuberculosis have been on the increase. See Table IV - 31.

TABLE IV-31: NUMBER OF NEW CASES OF AIDS AND TUBERCULOSIS, KAGERA REGION 1986 TO 1996

Year	New AIDS cases	New T.B. cases
1986	525	565
1987	819	663
1988	497	582
1989	413	695
1990	896	720
1991	1270	1040
1992	1071	1187
1993	833	1154
1994	418	1130
1995	159	1203
1996	203	1078

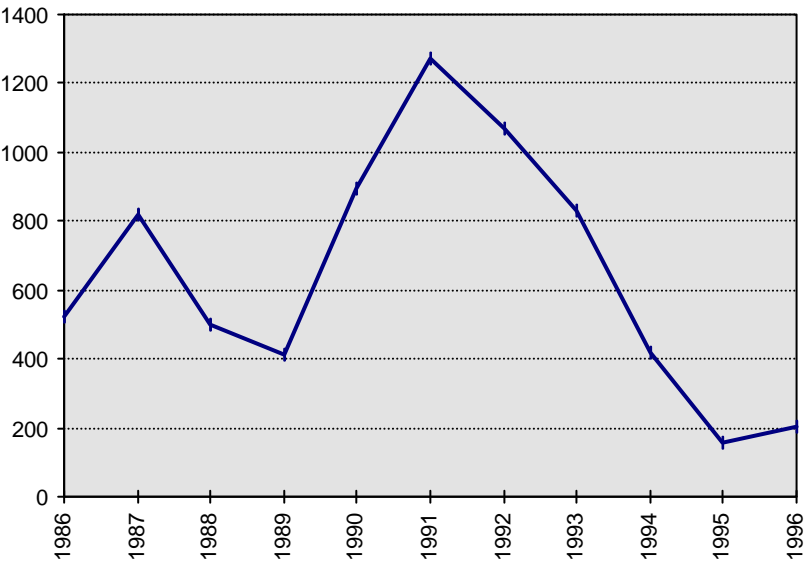
Source Regional Medical Office, Bukoba, 1997

4.1.9.2 Cost Sharing

Kagera region has been slow in the implementation of the cost sharing exercise. This exercise involves the collection of standard user fees for the purpose of ploughing back these sums in the improvement of health care delivery at the facilities affected. It was introduced by government upon the realisation that it could not bear the cost of public health care alone.

In the financial year 1994/95 and 1995/96 Kagera had the poorest performance in this field after Rukwa. It collected Tshs. 4.3 million and was awarded a 1% performance rating.

Fig. 19: Number of New Cases of AIDS, Kagera Region 1986 To 1996



4.1.9.3 The Refugees Dimension

Following political upheavals in two neighbouring countries in recent years, Kagera played unwilling host to hundreds of thousands of refugees. Refugees brought in diseases including STDs, HIV/AIDS and enteric problems. Some of these were drug resistant because of policies of unsupervised access to drugs in the places of refugee origin. They also brought along

overcrowding in health facilities and increased the risk from malnutrition.

4.2 WATER SUPPLIES:

4.2.1 Introduction:

Kagera is a well watered region.

Rainfall is adequate, Rivers, streams and springs abound. The region's land mass borders a fresh water lake with same 250 kilometres of coastline. The water problem in Kagera is not access to water but access to safe, clean water within reasonable distance. The coverage was 36.8% in 1996.

4.2.2 Rural Water Supplies:

The demand for rural water supplies is determined by the distribution and size of the human population and the number of its livestock. In 1988 Kagera region (not including Bukoba Urban) had the following water supply schemes show in Table IV-32.

TABLE IV - 32: DISTRIBUTION OF RURAL WATER SUPPLY SCHEMES BY DISTRICT AND TYPE, KAGERA REGION 1988.

District	Gravity Schemes	Pumped Schemes	Operational Gravity/Pumped schemes	Non operational	Shallow wells with hand pump	Traditional water sources	Total
Bukoba	6	12	15	3	51	23	92
Rural	-	7	6	1	59	22	88
Biharamulo	2	10	12	-	6	3	21
Muleba	7	8	13	2	1	1	17
Karagwe Ngara	6	7	10	3	-	3	16
Total	21	44	56	9	117	52	234

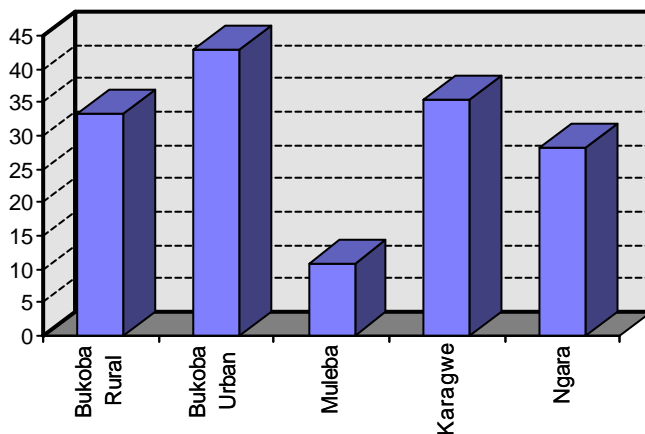
Source: Kagera Regional Development Programme (Report on planning data base), 1990.

TABLE IV - 33: DISTRIBUTION OF RURAL POPULATION COVERED WITH SAFE AND CLEAN WATER SUPPLIES, BY DISTRICT, KAGERA REGION, 1988.

District	Total Population	Population Covered	% Population Covered
Bukoba Rural	343,956	114,398	33.3
Biharamulo	209,524	90,198	43.0
Muleba	274,447	29,436	10.7
Karagwe	292,589	103,169	35.3
Ngara	158,658	44,787	28.2
Total	1,279,174	431,998	33.8

Source: Kagera Regional Development Programme (Report on planning data base) 1990.

Fig. 20: Distribution of Rural Population Covered With Safe and Clean Water Supplies, By District, Kagera Region, 1988.



The number of water supply schemes in 1988 totalled 234 of which 9 were non-operational i.e. 4%. The schemes managed to cover 431,998 people or 33.8% of total population. Biharamulo at 43.0% was the best served and Muleba at 10.7% was the least covered.

TABLE IV - 34: DISTRIBUTION OF RURAL WATER SUPPLY SCHEMES BY DISTRICT AND TYPE, KAGERA REGION, 1996.

District	Gravity Schemes		Pumped Schemes		Shallow wells hand pumped	
	Working	Not Working	Working	Not Working	Working	Not Working
Bukoba Rural	5	-	2	15	135	30
Muleba	3	-	4	5	37	-
Biharamulo	2	-	3	-	412	148
Ngara	7	2	3	3	163	30
Karagwe	14	2	1	4	45	-
Total	31	4	13	27	792	208

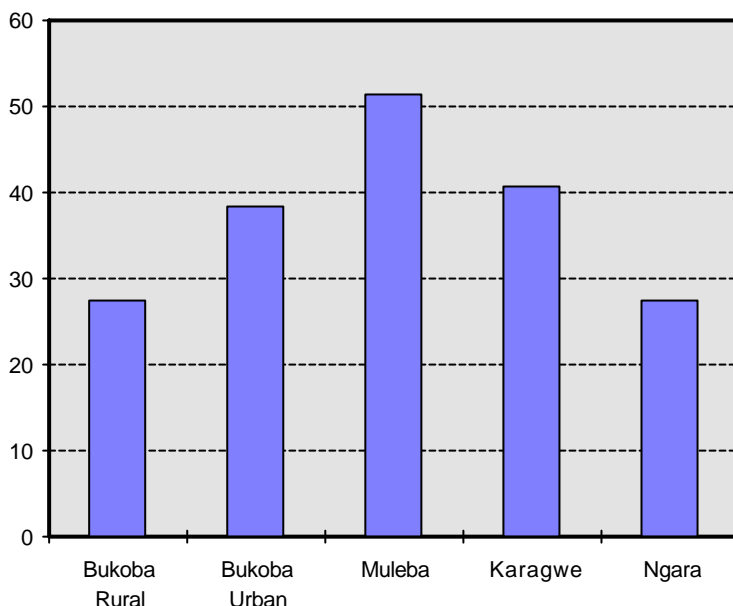
Source: Regional Water Engineer, Bukoba, 1998.

TABLE IV - 35: DISTRIBUTION OF RURAL POPULATION COVERED WITH CLEAN AND SAFE WATER SUPPLIES, BY DISTRICT, KAGERA REGION, 1996.

District	Total population	Population Covered	% population covered
Bukoba Urban	-	-	-
Bukoba Rural	387,721	106,400	27.4
Muleba	312,912	119,846	38.3
Biharamulo	236,915	121,610	51.3
Ngara	193,513	78,800	40.7
Karagwe	383,589	105,600	27.5
Total	1,514,650	532,256	35.1

Source: Compiled from data supplied by The Regional Water Engineer, Bukoba, 1998.

Fig. 21: Percentage of Rural Population Covered With Clean and Safe Water Supplies, By District, Kagera Region, 1996



Gravity plus pumped schemes (not hand pump) increased from 65 in 1988 to 75 in 1996. Of these expensive technology scheme 14% were not working in 1988. By 1996 the number of schemes not working had jumped to an alarming 41% (Table IV - 32 and IV - 34). With respect to hand pumped shallow wells, there were 117 in 1988 all working. By 1996 of the total of 1000 hand pumped wells 21% were not working. Hand pumped shallow wells would appear to be the more appropriate technology in preference to the piped/powered pump water schemes.

With regard to regional coverage with clean and safe water supplies the situation was 33.8% coverage in 1988 as against 35.1% coverage in 1996. That is, there has been little change in

coverage. The supply of facilities managed to keep pace with population increase. But the level of coverage was still low. Between 1988 and 1996 the coverage for Bukoba Rural and Karagwe had deteriorated while that of Ngara, Biharamulo and Muleba had gone up. By 1996 the best coverage was in Biharamulo at 51.3% and the worst was in Bukoba Rural at 27.4%. The corresponding rates for 1988 were 43.0 for Biharamulo and 10.7% Muleba. See Table IV - 33 and IV -35).

Since 1988 the government has learnt that it cannot establish and run water supply schemes in rural areas on its own. So the government introduced a system of including those served in the planning, construction and running of these schemes. To this purpose there are now 273 village water committees and 166 village water funds with a total user contribution of over Tshs. 17 million. See Table IV - 36.

TABLE IV - 36: DISTRIBUTION OF EXISTING VILLAGE WATER COMMITTEES AND VILLAGE WATER FUNDS, BY DISTRICT, KAGERA REGION, 1996.

District	Village water Committees	Village water Funds	Amount Contribution (Tshs.)
Bukoba Rural	73	42	5,850,025.00
Muleba	32	18	1,705,061.75
Biharamulo	59	56	6,172,564.00
Ngara	40	20	891,453.30
Karagwe	69	30	2,500,000.00
Total	273	166	17,119,104.05

Source: Regional Water Engineer, Bukoba, 1998.

4.2.3 Urban Water Supplies:

Urban water supplies are important not only for domestic purpose but also for industrial development and the running of various administrative, social and other economic services.

Though the status of urban water supply sources is satisfactory as per Table IV - 37, it is unsatisfactory according to Table IV - 38. Only about 50% of the urban demand for water was being met in 1996. The worst case was Ngara urban centre where there was a deficit of almost 80%.

TABLE IV - 37: STATUS URBAN WATER SUPPLY SOURCES BY URBAN CENTRE, KAGERA REGION, 1996.

Urban Centre	Source Water Supply	Working/Not Working
Bukoba	Lake Victoria Kagemu spring Kahororo spring Ihungo spring	working working working working
Muleba	Kaigara spring Nyamwara spring	working working
Biharamulo	Kagango spring Runyinya Kanywamaizi	working working not working
Karagwe	Katooma Omururongo	not working working
Ngara	Boreholes	working

Source: Regional Water Engineer, Bukoba, 1998.

TABLE IV - 38: DISTRIBUTION URBAN WATER DEMAND AND SUPPLY, BY URBAN CENTRE, KAGERA REGION, 1996.

Urban Centre	Demand million litres/day	Actual supply million litres/day	(-) Deficit/Surplus(+) Million litres/day	Percent surplus (+) deficit (-)
Bukoba	6.0	3.2	-2.8	-47
Ngara	1.4	0.3	-1.1	-79
Biharamulo	0.9	0.6	-0.3	-34
Karagwe	1.7	0.7	-1.0	-59
Muleba	1.1	0.7	-0.4	-36
Total	11.1	5.5	-5.6	-50

Source: Regional Water Engineer, Bukoba, 1998.

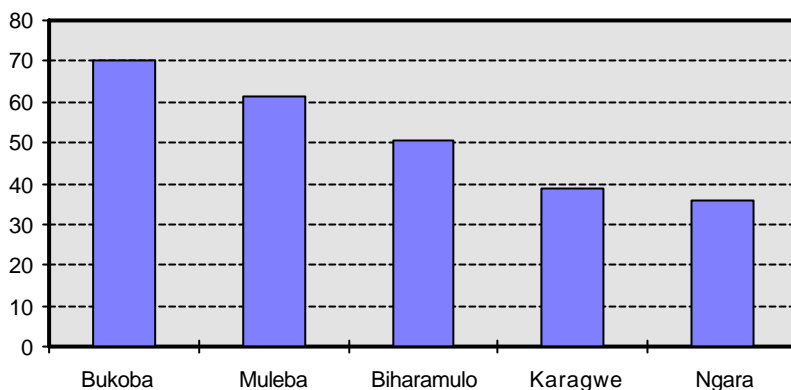
In terms of coverage 55.4 per cent of urban dwellers had access to safe and clean water in 1996. This is better than the rural average coverage of 35.1% . Bukoba town topped the list with 70.3% cover while at the bottom Ngara managed to cover only 35.9% of its urban population. See Table IV - 39

TABLE IV - 39: DISTRIBUTION OF URBAN POPULATION COVERED WITH CLEAN AND SAFE WATER SUPPLIES, BY DISTRICT, KAGERA REGION, 1996.

Urban Centre	Total Urban Population	Urban Population Covered	% urban population covered
Bukoba	56,926	40,000	70.3
Muleba	16,800	10,300	61.3
Biharamulo	14,800	7,500	50.7
Karagwe	22,900	8,900	38.9
Ngara	25,100	9,000	35.9
Total	136,526	75,700	55.4

Source: Compiled from data supplied by The Regional Water Engineer, Bukoba, 1998.

Fig. 22: Percentage of Urban Population Covered With Clean and Safe Water Supplies, By District, Kagera Region, 1996.



4.2.4 The Refugee Impact:

The influx of refugees in their hundreds of thousands in recent years has had a negative effect on water supplies especially in areas such as Ngara district where refugee concentrations were huge. The sudden increase in water demand dried up water sources which normally do not. This overload on water sources was accompanied by deterioration in sanitation standards, thus spreading more widely than ever, the water borne diseases and indirectly increasing morbidity and mortality among indigenous people.

4.2.5 Sanitation:

Kagera region is one of the six most density populated regions along with Mwanza, Kilimanjaro, Coast/Dar es Salaam, Mtwara and Tanga. Concentration of human population especially in urban settlements bring with is the hazards of human waste disposal and carbage collection. The disposal of faecal matter is particularly

critical because many human diseases are spread via this medium.

The best survey on the status of sanitation in Kagera was carried out by the 1988 population census.

TABLE IV - 40: ACCESS TO TOILETS BY DISTRICT AND POPULATION, KAGERA REGION, 1988.

District	Total Population	Flush Toilet		Pit Latrine		No Toilet		N.S
		Population	%	Population	%	Population	%	pop.
Bukoba Urban	46,055	8,277	18	35,889	78	1,836	4	53
Bukoba Rural	337,794	3,488	1	305,177	90	29,078	9	51
Muleba	272,561	1,045	-	244,502	90	26,816	10	198
Biharamulo	208,908	1,090	1	179,323	86	28,149	13	346
Ngara	159,528	647	1	139,424	87	19,445	12	12
Karagwe	283,977	1,635	1	256,873	90	25,261	9	208
Total	1,308,823	16,182	1	1,161,188	89	130,585	10	868

Source: 1988 Population Census, Regional Profile, Kagera.

TABLE IV - 41: ACCESS TO TOILETS BY DISTRICT AND BY RURAL/URBAN CATEGORY, KAGERA REGION, 1988.

District	Total Population		Access to Toilets				No Toilets				N.S	
	Urban	Rural	Urban		Rural		Urban		Rural		Urban pop	Rural pop
			Pop.	%	Pop.	%	Pop.	%	Pop.	%		
Bukoba Urban	27,870	18,185	26,845	96	17,321	95	996	4	840	5	29	24
Bukoba Rural	-	337,794	-	-	308,665	91	-	-	29,078	9	-	51
Muleba	12,509	260,052	12,138	97	233,409	90	371	3	26,445	10	0	198
Biharamulo	14,116	194,792	13,189	93	167,224	86	927	7	27,222	14	0	346
Ngara	8,132	151,396	7,573	93	132,498	88	559	7	18,886	12	0	12
Karagwe	5,954	278,023	5,782	97	252,726	91	172	3	25,089	9		208
Total	68,581	1,240,242	65,527	96	1,111,843	90	3,025	4	127,560	10	29	839

Source: 1988 Population Census, Regional Profile, Kagera.

According to Table IV - 40 the census revealed that 90% of the regional population had access to toilets. This very good performance was evenly distributed between districts.

The differences in accessibility between rural and urban areas are shown by Table IV -41. In rural areas accessibility is at 90% and 96% in urban centres. The best rural coverage is in Bukoba Urban district at 95%. For urban areas the best is also by Muleba and Karagwe at 97%.

4.3 EDUCATION SERVICES

4.3.1 Pre-School Education

Nursery schools provide pre-primary school education normally for children aged 3 to 6 years. In Kagera little priority has been given to this field of education. It is only now that parents are coming to realise the importance of this type of education.

TABLE IV-42: DISTRIBUTION OF PRE-SCHOOL TEACHERS, NUMBERS AND PUPIL ENROLMENT BY DISTRICT, KAGERA REGION 1996

District	Total population	Total Enrolment	Number of pre-schools	Average population per School	Average pupils, per School
Bukoba Urban	56,926	436	9	6,325	48
Bukoba Rural	387,721	235	8	48,465	29
Muleba	329,712	653	15	21,981	44
Biharamulo	251,715	597	9	27,968	66
Ngara	216,413	222	3	72,138	74
Karagwe	408,689	514	21	19,461	24
Total	1,651,176	2,657	65	25,403	41

Source: Regional Education Office, Bukoba, 1998

The number of these schools in 1996 was a mere 65 compared to 689 primary schools. There were 2,657 pupils in these schools to give an average ratio of one school to 41 pupils in the region. The average population per school was 25,403. However, this regional average varies a lot. The average in Ngara district was 72,138 and the lowest in Bukoba Urban was 6,325. The schools are still too few in number. Ngara, Bukoba rural and Biharamulo especially are still too far behind in this regard.

4.3.2 Primary Education

4.3.2.1 Introduction

In post- independence Tanzania the rights of every child to at least a primary education was finally expressed by the 1974 (Universal Primary Education (UPE) policy. Primary education was made compulsory and parents plus their local governments were invited to participate in expanding the UPE facilities to meet demand. The affected child age group was 7 to 13 years. What follows below is how Kagera Region has managed in the implementation of this policy.

4.3.2.2 Primary Schools

Although data related to 1974 at the start of UPE is hard to come by, information available from 1980 to 1996 shows there has been a significant increase in both the number of schools. See Tables IV-43 to IV-46.

TABLE IV-43: DISTRIBUTION OF PRIMARY SCHOOLS, BY DISTRICT, KAGERA REGION, 1980

District	Population 1980 (Est)	Number of Schools	Population per School
Bukoba Urban	38,707	19	2,037
Bukoba Rural	305,422	175	1,745
Muleba	227,613	128	1,778
Biharamulo	173,284	86	2,015
Ngara	116,499	73	1,596
Karagwe	200,880	112	1,794
Total	1,062,405	593	1,792

Source: Compiled from data provided by Kagera Regional Development Programme, 1990 and 1988 Population Census.

Fig. 23: Population per Primary Schools, by District, Kagera Region, 1980

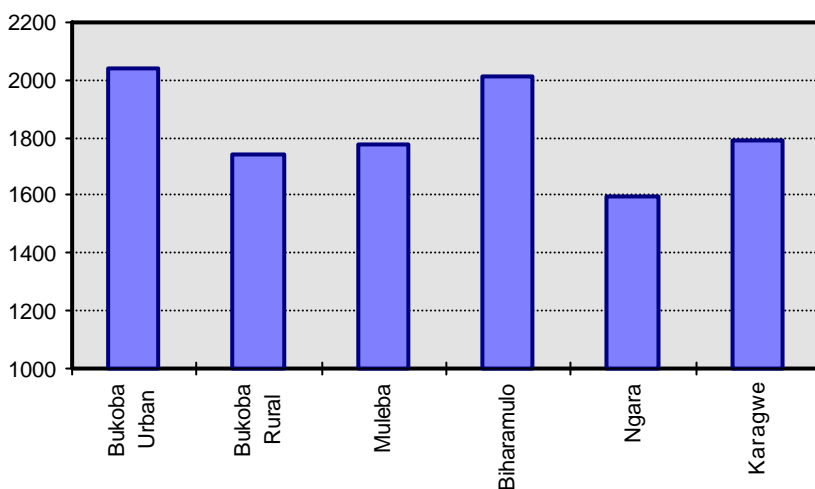


TABLE IV -44: DISTRIBUTION OF PRIMARY SCHOOLS BY DISTRICT, KAGERA REGION, 1985

District	Population 1985 (Est)	Number of Schools	Population per School
Bukoba Urban	43,705	20	2,185
Bukoba Rural	328,509	183	1,796
Muleba	255,942	128	2,000
Biharamulo	195,397	88	2,220
Ngara	140,810	72	1,956
Karagwe	257,249	121	2,126
Total	1,221,812	612	1,996

Source: Compiled from data given by Kagera Regional Development Programme, 1990 and 1988 Population Census.

Fig. 24: Population per Primary Schools, by District, Kagera Region, 1985

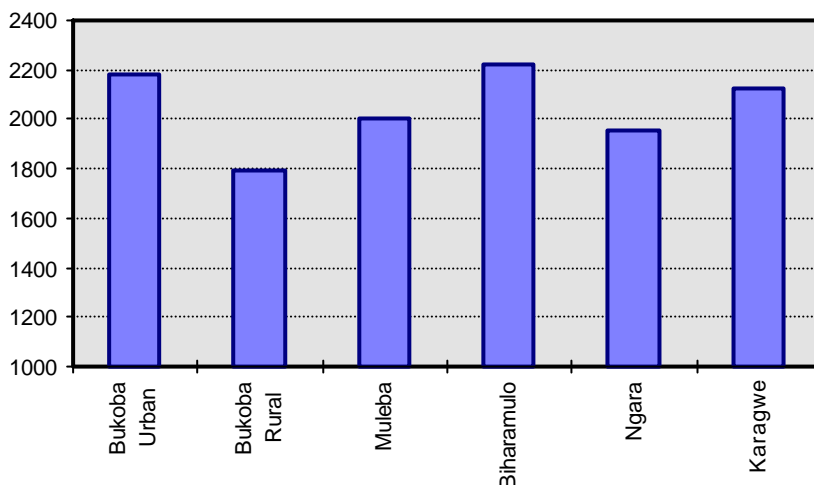


TABLE IV-45: DISTRIBUTION OF PRIMARY SCHOOLS, BY DISTRICT, KAGERA REGION 1989

District	Population 1989 (Est)	Number of Schools	Population per School
Bukoba Urban	48,137	20	2,407
Bukoba Rural	349,115	195	1,790
Muleba	280,759	131	2,143
Biharamulo	214,343	93	2,305
Ngara	164,846	75	2,198
Karagwe	304,878	130	2,345
Total	1,362,078	644	2,115

Source: Compiled from data supplied by Kagera Regional Development Programme, 1990 and 1988 Population Census

Fig. 25: Population per Primary School, by District, Kagera Region, 1989

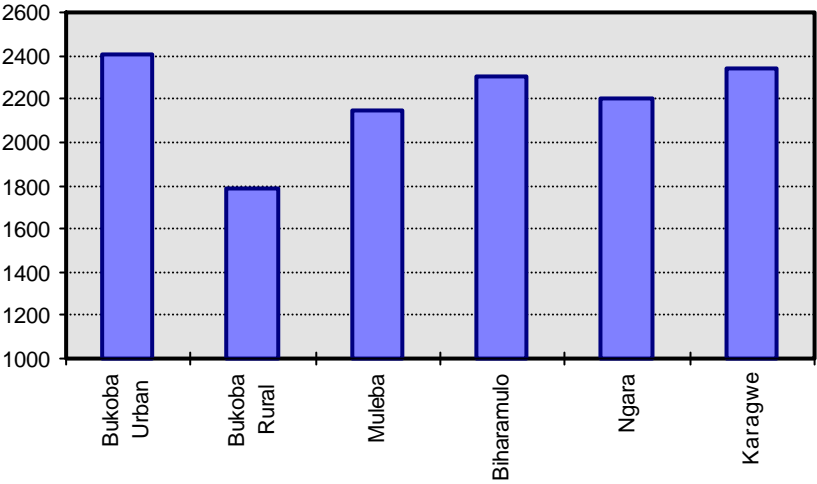
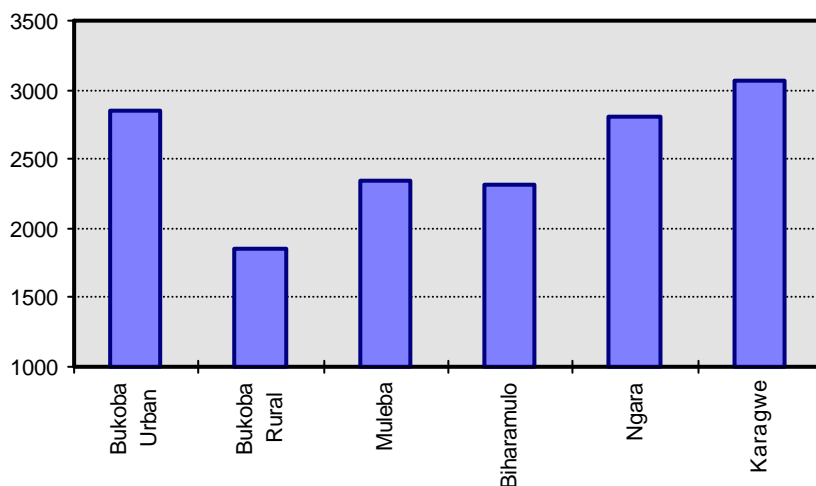


TABLE IV-46: DISTRIBUTION OF PRIMARY SCHOOLS,BY DISTRICT,KAGERA REGION 1996

District	Population 1996 (Est)	Number of Schools	Population per School
Bukoba Urban	56,926	20	2,846
Bukoba Rural	387,721	209	1,855
Muleba	329,712	141	2,338
Biharamulo	251,715	109	2,309
Ngara	216,413	77	2,811
Karagwe	408,689	133	3,073
Total	1,651,176	689	2,396

Source: Compiled from data supplied by the Regional Education Office, 1998 and the 1988 Population Census.

Fig. 26: Population per Primary School, by District, Kagera Region, 1996



From the above tables inspite of a steady increase in the number of primary schools, the average population per school has steadily grown. From a ratio of one school to 1,792 population as a regional average the ratio has swelled to 2,396 people per school.

This is an increase of 34%. This steady decline in coverage has been true of each district without exception. The increase of schools between 1980 and 1996 shows increase of 16%. The population is outstripping the increase in the number of schools. The regional population is estimated to have increased by 588,771 people or 55% over this period.

All but one of the schools are public.

4.3.2.3 Primary Education Enrolment

According to the 1988 Population Census the age group 7-13 years makes up 19.9% of the total population in the region. This is the ideal group for primary school education. However, for unavoidable reasons the school going age group tends to overflow into other years. It is not uncommon for some students to finish Std.VII at the age of 14 or 15 years. Therefore, the target group for GER totals at least 25% of the population.

TABLE IV -47 (a): ENROLMENT IN PRIMARY SCHOOLS BY GRADE, SEX AND DISTRICT, 1996

District	Grade I			Grade II			Grade III		
	B	G	T	B	G	T	B	G	T
Bukoba Urban	797	780	1577	771	750	1521	627	705	1332
Bukoba Rural	5433	4983	10416	4406	5294	9700	4522	4214	8736
Muleba	3681	3771	7452	3805	3519	7324	3443	3281	6724
B/mulo	2808	2403	5211	2884	2483	5367	3641	2183	5824
Ngara	2134	1950	4084	1832	1672	3504	1604	1514	3118
Karagwe	4190	3942	8132	3905	3771	7676	3210	3244	6454
Total	19043	17829	36872	17603	17489	35092	17047	15141	32188

Cont'd

TABLE IV-47 (b): ENROLMENT IN PRIMARY SCHOOLS BY GRADE, SEX AND DISTRICT, 1996

District	Grade IV			Grade V			Grade VI			Grade VII		
	B	G	T	B	G	T	B	G	T	B	G	T
Bukoba Urban	633	637	1270	534	608	1142	608	585	1193	553	576	1129
Bukoba Rural	4338	4274	8612	4106	3837	7943	3922	3538	7460	3085	3038	6123
Muleba	3236	3191	6427	2762	2716	5478	2614	2705	5319	1822	1843	3665
B/mulo	2447	2263	4710	2057	1825	3882	1971	1876	3847	1263	938	2201
Ngara	1802	1889	3691	1242	1105	2347	1688	1607	3295	1084	1077	2161
Karagwe	3766	3917	7683	1745	1855	3600	2445	2478	4923	2379	2479	4858
Total	16222	16171	32393	12446	11946	24392	13248	12789	26037	10186	9951	20137

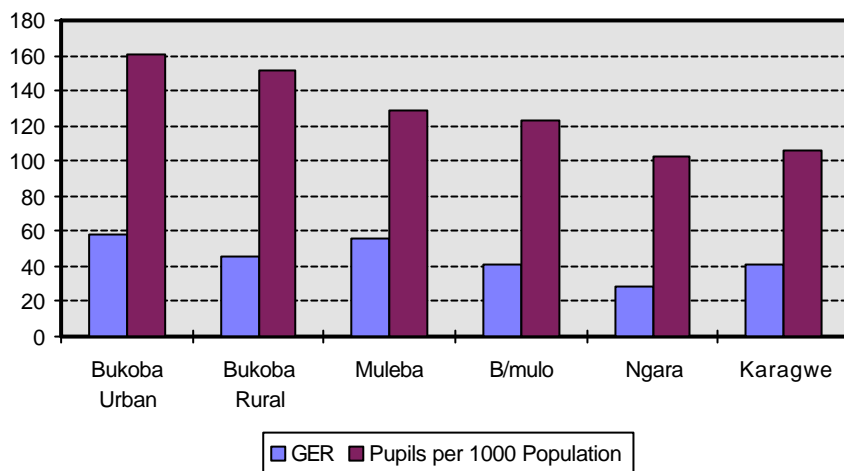
Source: The Regional Education Office, Bukoba, 1998

TABLE IV-48: GROSS ENROLMENT RATE, TOTAL ENROLMENT, ENROLMENT PER 1000 POPULATION, PRIMARY EDUCATION, KAGERA REGION, 1996

District	Populati on 1996 (Est)	Total Enrolme nt 1996	Target Std I Enrolment 1996	Actual Std I Enrolment 1996	GER 1996	Pupils per 1000 Populatio n
Bukoba Urban	56,926	9,164	2,704	1,557	58	161
Bukoba Rural	387,721	58,990	22,463	10,416	46	152
Muleba	329,712	42,389	15,950	8,927	56	129
B/mulo	251,715	31,042	12,762	5,211	41	123
Ngara	216,413	22,200	12,763	3,717	29	103
Karagwe	408,689	43,326	19,826	8,064	41	106
Total	1,651,176	207,111	86,468	37,892	44	125

Source: Compiled from data given by the Regional Education Office, Bukoba, 1998 and the 1988 Population Census.

Fig. 27: Gross Enrolment Rate (GER) and Enrolment Per 1000 Population, Primary Education, Kagera Region, 1996



The average GER for 1996 was 44 while the number of pupils per 1000 population was 125. According to GER less than one half of the target group got recruited into school. Working on total enrolment the number of pupils per 1000 population who are in school is around 50%. Ngara, Karagwe and Biharamulo district have the worst GER and number of pupils per 1000 population. The best efforts to cover school age children are by Bukoba Urban and Bukoba Rural Districts.

TABLE IV-49: ESTIMATED PRIMARY SCHOOL PUPILS PER 1000 POPULATION, BY DISTRICT, KAGERA REGION, 1985, 1990 AND 1996

District	1 9 8 5			1 9 9 0			1 9 9 6		
	Total Population	Total Enrolment	Pupils per 1000	Total Population	Total Enrolment	Pupils per 1000	Total Population	Total Enrolment	Pupils per 1000
Bukoba Urban	43,705	5,418	124	49,293	6,668	135	56,926	9,164	161
Bukoba Rural	328,709	59,558	181	354,352	56,819	160	387,721	58,990	152
Muleba	255,942	42,419	166	287,217	42,108	147	329,712	42,389	129
B/mulo	195,397	26,663	136	219,273	26,556	121	251,715	31,042	123
Ngara	140,810	20,563	146	171,275	20,972	122	216,413	22,200	103
Karagwe	257,249	36,756	143	317,683	40,209	127	408,689	43,326	106
Total	1,221,812	191,377	157	1,399,093	193,332	138	1,651,176	207,111	125

Source: Compiled from data supplied by the Regional Education Office and the 1988 Population Census.

Fig. 28: Estimated Primary School Pupils Per 1000 Population, by District, Kagera Region, 1985, 1990 and 1996

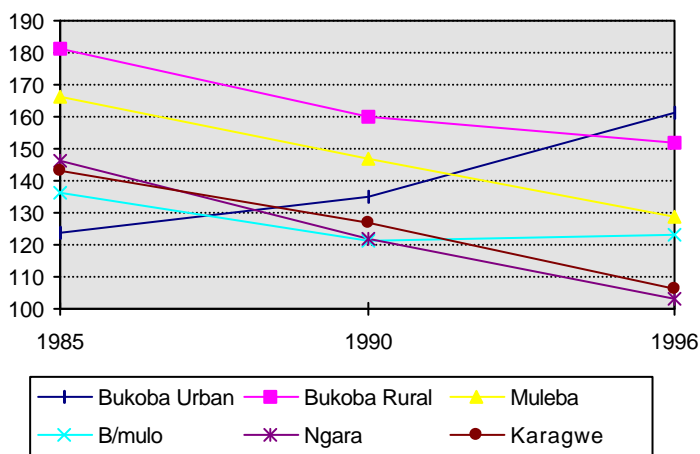


Table IV-49 shows how the ratio of pupils per 1000 population has varied between 1985, 1990 and 1996. Region wise the ratio has been going down with time. It was 157 in 1985, 138 in 1990 and 125 in 1996. This deterioration is reflected by all the districts except Bukoba Urban where it has been growing. Therefore the situation in the region is that each year that passes less and less proportion of school age children are getting into school. The region is heading towards illiteracy.

Kagera's regional population has a sex ratio of 95 males for every 100 females. But the sex ratio in the total enrolment of pupils is 104. This means that there are more females than males in the population but more males attend primary school education than females. The greatest such gap is in Biharamulo.

On the other hand, Bukoba Urban district the population sex ratio is 98 but it is 97 in primary schools. Thus female children are at best advantage in Bukoba Urban and least advantage in Biharamulo. This was in 1996.

**TABLE IV-50: DISTRIBUTION OF PRIMARY SCHOOL ENROLMENT
SEX RATIO, KAGERA REGION, 1996**

District	Total Enrolment 1996		Enrolment sex Ratio	Sex Ratio in Population (1988)
	Boys	Girls		
Bukoba Urban	4,523	4,641	97	98
Bukoba Rural	29,812	29,178	102	92
Muleba	21,363	21,026	102	95
Biharamulo	17,071	13,971	122	98
Ngara	11,386	10,814	105	90
Karagwe	21,640	21,686	100	97
Total	105,795	101,316	104	95

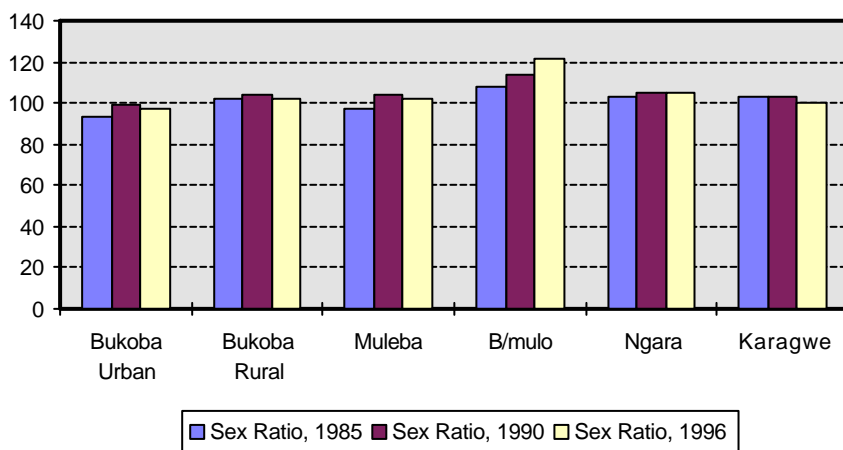
Source: Compiled from data supplied by the Regional Education Office, Bukoba, 1998 and 1988 Population Census

TABLE IV-51: THE DISTRIBUTION OF PRIMARY SCHOOL ENROLMENT SEX RATIO, BY DISTRICT, KAGERA REGION 1985, 1990 AND 1996

District	1985			1990			1996		
	Boys	Girls	Sex Ratio	Boys	Girls	Sex Ratio	Boys	Girls	Sex Ratio
Bukoba Urban	2,606	2,812	93	3,318	3,350	99	4,523	4,641	97
Bukoba Rural	30,133	29,425	102	28,935	27,884	104	29,812	29,178	102
Muleba	20,910	21,509	97	21,456	20,652	104	21,363	21,026	102
B/mulo	13,859	12,804	108	14,121	12,435	114	17,071	13,971	122
Ngara	10,439	10,124	103	10,751	10,221	105	11,386	10,814	105
Karagwe	18,617	18,131	103	20,371	19,838	103	21,640	21,686	100
Total	96,564	94,813	102	98,952	94,375	105	105,795	101,316	104

Source: Compiled from data supplied by the Regional Education Office, Bukoba, 1998

Fig. 29: The Distribution of Primary School Enrolment Sex Ratio, By District, Kagera Region 1985, 1990 And 1996



From Table IV-51 the trend in the sex ratio over 1985, 1990 and 1996 enrolments is for more and more males in relation to females being recruited into primary schools. The exception is Karagwe District. However, this trend which was at its highest in 1990 has since been reversing except for Biharamulo and Ngara districts.

4.3.2.4 Absenteeism

TABLE IV-52: AVERAGE ATTENDANCE AT PRIMARY SCHOOLS BY DISTRICT, KAGERA REGION, 1996

District	Percent Attendance
Bukoba Urban	95
Bukoba Rural	77
Muleba	88
Biharamulo	82
Ngara	70
Karagwe	78
Total	82

Source: Regional Education Office, Bukoba, 1998

Pupils do attend school but some do so only for a certain number of days in a month. There are various reasons for non attendance such as family work, lack of motivation and illness. Table IV-49 reveals that the average attendance for the region is 82% while the worst attendance record for 1996 is held by Ngara at 70%. The best is in Bukoba Urban district at 95%.

4.3.2.5 Primary School Dropouts

Dropping out from school is a common phenomenon. Reasons for this range from truancy, pregnancy and death to others. The regional picture is that truancy is the number one cause for dropping out. It amounted to 2.12% of total enrolment in 1996.

Total dropouts for the region is 2.44%. District by district the highest dropout percentage in 1996 was held by Bukoba Urban at 3.59%. The least is by Ngara at a total of 1.45%. Pregnancy as a reason for dropping out is high in Bukoba Urban and Bukoba Rural at 0.09% and 0.08% respectively. According to 1996 data dropping out is highest among grades IV, V and VI in Bukoba Urban. It is grade V in Bukoba Rural and grade VII in Muleba. Biharamulo Ngara and Karagwe dropouts are at their height at grade IV. See Tables IV-53(a) to IV-53(g). As expected pregnancy increases with grades.

Compared to some selected regions Kagera's dropout rates does not seem out of the ordinary. Thus:

Kagera	2.44%
Arusha	2.89%
Mwanza	1.80%
Coast	7.40%
Mtwara	2.40%

TABLE IV-53(A) PRIMARY SCHOOL DROPOUTS KAGERA REGION, 1996

Reason	GD I		GD II		GD III		GD IV		GD V		GD VI		GD VII		Total	%
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls		
Truancy	78	77	228	220	342	262	513	382	396	379	436	358	408	317	4,396	2.12
Pregnancy	-	-	-	-	-	1	-	9	-	21	-	32	-	46	109	0.05
Death	13	12	24	19	21	17	26	23	6	9	11	5	6	7	199	0.1
Other Causes	13	13	19	19	27	21	34	28	29	46	36	28	17	19	349	0.17
Total	104	102	271	258	390	301	573	442	431	455	483	423	431	389	5,053	2.44

Source: Compiled from data supplied by the Regional Education Office, Bukoba, 1998

TABLE IV-53(b) PRIMARY SCHOOL DROPOUT - BUKOBA URBAN - 1996

Reason	GD I		GD II		GD III		GD IV		GD V		GD VI		GD VII		Total	Percent
Truancy	7	10	14	14	23	16	28	23	27	28	30	29	18	16	283	3.09

Pregnancy	-	-	-	-	-	-	-	1	-	-	-	3	-	4	8	0.09
Death	-	1	3	1	1	-	1	1	-	1	-	-	-	-	9	0.1
Other Causes	-	1	5	2	2	3	-	3	3	2	1	3	2	1	28	0.31
Total	7	12	22	17	26	19	29	27	30	30	31	35	20	21	328	3.59

Source: Regional Education Office, Bukoba, 1998

**TABLE IV-53(c) PRIMARY SCHOOL DROPOUTS - BUKOBA RURAL
AGERA REGION 1996**

Reason	GD I		GD II		GD III		GD IV		GD V		GD VI		GD VII		Total	Percent
Truancy	19	12	58	49	72	48	80	62	106	123	88	79	85	68	949	1.61
Pregnancy	-	-	-	-	-	-	--	5	-	10	-	13	-	18	46	0.08
Death	4	3	3	3	7	4	9	3	2	1	6	-	2	2	49	0.08
Other Causes	2	-	-	3	9	4	18	11	10	15	19	5	6	10	112	0.19
Total	25	15	61	55	88	56	107	81	118	149	113	97	93	98	1,156	1.96

Source: Regional Education Office, Bukoba, 1998

**TABLE IV-53(d) PRIMARY SCHOOL DROPOUTS MULEBA DISTRICT
KAGERA REGION 1996**

Reason	GD I		GD II		GD III		GD IV		GD V		GD VI		GD VII		Total	Percent
Truancy	7	8	40	35	65	65	97	90	108	92	96	96	142	102	1,043	2.46
Pregnancy	-	-	-	-	-	-1	-	1	-	4	-	8	-	12	26	0.06
Death	3	1	6	1	3	3	5	5	2	3	1	1	2	1	37	0.09
Other Causes	2	1	1	2	-	-	-	1	-	5	1	6	2	2	23	0.05
Total	12	10	47	38	68	69	102	97	110	104	98	111	146	117	1,129	2.66

Source: Regional Education Office, Bukoba, 1998

**TABLE IV-53(e) PRIMARY SCHOOL DROPOUTS-BIHARAMULO DISTRICT
KAGERA REGION 1996**

Reason	GD I		GD II		GD III		GD IV		GD V		GD VI		GD VII		Total	Percent

Truancy	25	30	58	74	87	73	100	69	51	73	84	45	18	13	800	2.58
Pregnancy	-	-	-	-	-	-	-	1	-	5	-	2	-	2	10	0.03
Death	-	3	7	5	4	3	3	2	1	1	1	-	-	1	31	0.1
Other Causes	4	1	4	5	8	5	6	4	2	4	4	3	-	-	50	0.16
Total	29	34	69	84	99	81	109	76	54	83	89	50	18	16	891	2.87

Source: Regional Education Office, Bukoba, 1998

**TABLE IV-53(F) PRIMARY SCHOOL DROPOUTS NGARA DISTRICT
KAGERA REGION 1996**

Reason	GDI		GD II		GD III		GD IV		GD V		GD VI		GD VII		Total	Percent
Truancy	3	-	16	9	24	14	44	24	23	17	21	16	34	22	267	1.2
Pregnancy	-	-	-	-	-	-	-	1	-	1	-	1	-	3	6	0.03
Death	5	1	3	6	3	4	5	4	1	1	1	2	2	1	39	0.18
Other Cause	-	-	-	-	1	1	1	-	1	3	-	1	-	-	8	0.04
Total	8	1	19	15	28	19	50	29	25	22	22	20	36	26	320	1.45

Source: Regional Education Office, Bukoba, 1998

**TABLE IV-53(G) PRIMARY SCHOOL DROPOUTS - KARAGWE DISTRICT
AGERA REGION 1996**

Reason	GDI		GD II		GD III		GD IV		GD V		GD VI		GD VII		Total	Percent
Truancy	17	17	42	39	71	46	164	114	81	46	117	93	111	96	1,054	2.43
Pregnancy	-	-	-	-	-	-	-	-	-	1	-	5	-	7	13	0.03
Death	1	3	2	3	3	3	3	8	-	2	2	2	-	2	34	0.08
Other Causes	5	10	9	7	7	8	9	9	13	17	11	10	7	6	128	0.3
Total	23	30	53	49	81	57	176	131	94	66	130	110	118	111	1,229	2.84

Source: Regional Education Office, Bukoba 1998

4.3.2.6 Primary School Streams

Streams are a convenience adopted to cope with the problem the scarcity of classrooms and schools. There were 5,649 primary school streams in the region by 1996.

The average number of pupils per stream averages about 37 for the region. There is very little variation between districts. Similarly there is little variation between rural districts in the number of streams per school. It is about 8. However, Bukoba Urban has ratio of 12 streams per school. But this is in keeping with the urban nature of the district where land is at a premium and not easy to come by. See Tables IV-54 and IV-55.

TABLE IV-54 DISTRIBUTION OF PRIMARY SCHOOL STREAMS BY DISTRICT, KAGERA REGION 1996

District	S T R E A M S							
	GD I	GD II	GD III	GD IV	GD V	GD VI	GD VII	Total
Bukoba Urban	42	42	37	34	32	33	29	249
Bukoba Rural	263	249	248	264	236	224	208	1692
Muleba	181	181	172	171	157	162	137	1161
Biharamulo	120	121	118	115	114	108	103	799
Ngara	96	88	87	101	81	91	78	622
Karagwe	184	175	153	187	133	146	148	1126
Total	886	856	815	872	753	764	703	5649

Source: Regional Education Office, Bukoba, 1998

TABLE IV-55: DISTRIBUTION OF PUPILS PER STREAM AND STREAMS PER SCHOOL, BY DISTRICT, KAGERA REGION, 1996

District	Total Enrolment	Number of School	Number of Streams	Pupils per Streams	Streams per School
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Bukoba Urban	9,164	20	249	37	12.5
Bukoba Rural	58,990	209	1,692	35	8.1
Muleba	42,389	141	1,161	37	8.2
Biharamulo	31,042	109	799	39	7.3
Ngara	22,200	77	622	36	8.1
Karagwe	43,326	133	1,126	38	8.5
Total	207,111	689	5,649	37	8.2

Source: Regional Education Office, Bukoba, 1998

4.3.2.7 Primary School Facilities

The shortage of classrooms and school desks has been one of the side effects of a rapidly expanding primary school system leading to demand outstripping supply.

The overall regional shortage of classrooms is 32%. Biharamulo leads with a big 50% deficit while the smallest deficits are one quarter for Bukoba Urban and Muleba districts.

On the matter of school desks the overall shortage for the region is 48% ie. the region has about one half of its requirements for school desks.

TABLE IV-56: DISTRIBUTION OF CLASSROOMS AND DESKS BY DISTRICT, KAGERA REGION 1996

District	Classrooms				Desks			
	Required	Actual	Shortage		Required	Actual	Shortage	
			Number	%			Number	%
Bukoba Urban	177	133	44	25	3,537	2,978	559	16
Bukoba Rural	1,439	990	449	31	27,256	17,012	10,244	38

Muleba	1,018	769	249	24	21,791	8,736	13,055	60
Biharamulo	678	362	316	47	13,349	5,821	7,528	56
Ngara	489	318	171	35	9,854	3,645	6,209	63
Karagwe	973	697	276	28	22,724	13,173	9,551	42
Total	4,774	3,269	1,505	32	98,511	51,365	47,146	48

Source: Regional Education Office, Bukoba, 1998

Fig. 29 (a): Distribution of Classrooms (Required and Actual) by District, Kagera Region 1996

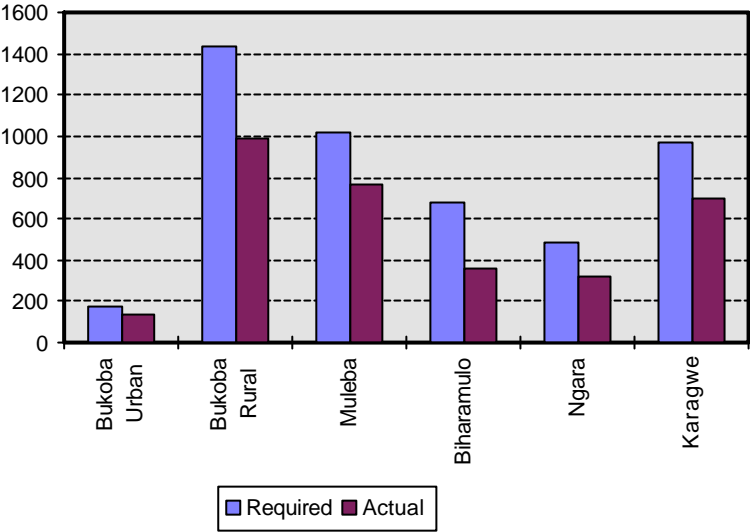
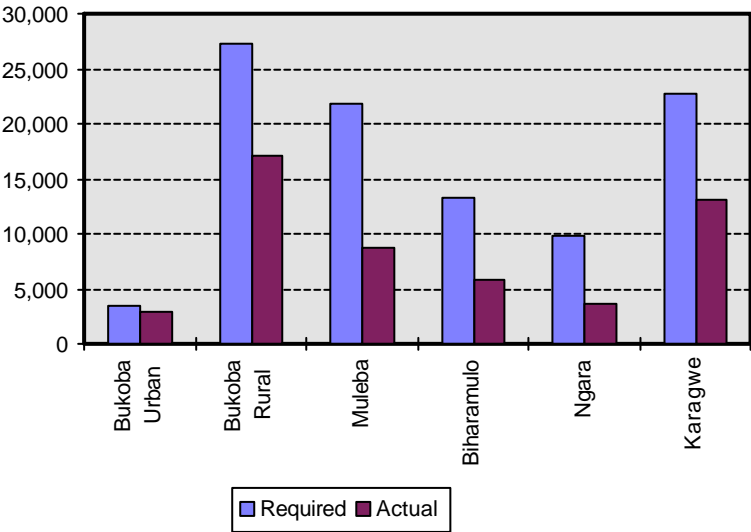


Fig. 29 (b): Distribution of Desks(Required and Actual) by District, Kagera Region 1996



The desk shortage translated at district level indicates only 16% shortage in Bukoba Urban and a large 60% and 63% for Muleba and Ngara districts.

TABLE IV-57: DISTRIBUTION OF PRIMARY SCHOOL TOILETS AND TEACHER HOUSES, BY DISTRICT, KAGERA REGION, 1996

District	School Toilets				Teacher Houses			
	Required	Actual	Shortage		Required	Actual	Shortage	
			No.	%			No.	%
Bukoba Urban	365	142	223	61	260	37	223	86
Bukoba Rural	2959	473	2486	84	1781	264	1517	85
Muleba	1746	666	1080	62	1291	177	1114	86
Biharamulo	1221	330	891	73	863	117	746	86
Ngara	955	263	692	72	764	148	616	81
Karagwe	1798	544	1254	70	1313	228	1085	83
Total	9,044	2,418	6,626	73	6,272	971	5,301	85

Source: Regional Education Office, Bukoba 1998

School toilets and teacher houses deficits are even more serious than those shown for classrooms and desks. Bukoba Rural leads in toilet shortage at 84% while the districts of Bukoba Urban, Muleba and Biharamulo lead in teach house shortage at 86%. The rest of the districts also have very high shortages for both toilets and teacher houses. The average shortage for the region is 73% for school toilets and 85% for teacher houses.

**TABLE IV-58: STATUS OF PHYSICAL FACILITIES IN
PRIMARY SCHOOLS IN SELECTED REGIONS**

Region	Classroom Shortage %	Toilet Shortage %	Teacher Houses Shortage %
Kagera	32	73	85
Arusha	41	72	69
Lindi	49	81	85
Mwanza	46	80	73
Dodoma	36	96	77
Tanga	37	73	90
Iringa	23	54	54
Shinyanga	76	93	90
Mbeya	37	72	68
Singida	45	65	65

Source: Socio-Economic Profiles for Arusha, Lindi, Mwanza, Dodoma, Tanga, Iringa, Shinyanga, Mbeya and Singida regions.

Compared with nine selected regions Kagera has the least shortage in classrooms except for Iringa. On school toilets Kagera's situation is only better than Lindi, Mwanza, Dodoma and Shinyanga. Kagera has the highest teacher house shortage with the exception of Tanga and Shinyanga. Greater efforts are called for to build school toilet and teacher houses to bring Kagera region to par with the majority of regions in the country.

4.3.2.8 Teachers

Teachers are the biggest single factor in the development of primary education. The region requires 6,889 teachers but actually acquired only 6,361. This leaves an unfilled gap of 528 teachers or a deficit of 7%. Further analysis from table IV-59 shows this deficit is made up of a surplus 13 Grade B/C teachers and a deficit of 541 Grade A teachers.

Bukoba Urban district has a surplus of both Grade A and Grade B/C teachers. Bukoba Rural and Ngara have a surplus of Grade B/C teachers but a deficit of Grade A teachers. The rest of the districts have deficits in both categories. Muleba has the doubtful distinction of having the largest deficit which is 149 teachers.

TABLE 59: DISTRIBUTION OF TEACHERS IN PRIMARY SCHOOL BY DISTRICT, KAGERA REGION, 1996

District	REQUIRED		ACTUAL		SHORTAGE	
	III A	III B/C	III A	III B/C	III A	III B/C
Bukoba Urban	171	156	249	158	+78	+ 2
Bukoba Rural	889	847	838	1011	-51	+164
Muleba	613	867	514	817	- 99	- 50
Biharamulo	465	480	369	446	- 96	- 34
Ngara	347	471	307	505	- 40	+ 34
Karagwe	886	697	553	594	- 333	-103
Total	3,371	3,518	2,830	3,531	- 541	+ 13

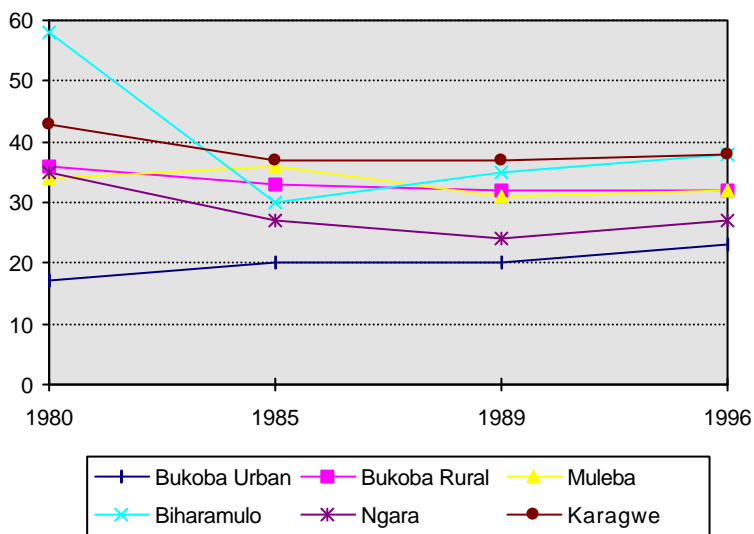
Source: Regional Education Office, Bukoba, 1998

TABLE IV-60 STATUS OF PUPILS PER TEACHER RATIO BY DISTRICT, KAGERA REGION, 1980, 1985 1989 AND 1996

District	1980			1985			1989			1996		
	Number		Pupils per Teacher	Number		Pupils per Teachers	Number		Pupils per Teaches	Number		Pupils per Teachers
	Pupils	Teachers		Pupils	Teachers		Pupils	Teachers		Pupils	Teachers	
Bukoba Urban	4,614	268	17	5,568	275	20	6,414	317	20	9,164	407	23
Bukoba Rural	50,956	1,406	36	59,558	1,817	33	59,145	1,821	32	58,990	1,849	32
Muleba	38,996	1,133	34	41,819	1,174	36	39,235	1,249	31	42,389	1,331	32
Biharamul o	30,177	520	58	26,665	900	30	24,690	696	35	31,042	815	38
Ngara	22,286	639	35	20,563	763	27	19,646	811	24	22,200	812	27
Karagwe	33,736	793	43	36,755	990	37	38,591	1,037	37	43,326	1,147	38
Total	180,765	4,759	38	190,928	5,919	32	187,721	5,931	32	207,111	6,361	33

Source: Compiled from data provided by Regional Education Office, Bukoba, 1998 and Kagera Regional Development Programme, 1990

Fig. 30: Status of Pupils Per Teacher Ratio by District, Kagera Region, 1980, 1985 1989 And 1996



Comparing the situation with regard to teachers between 1980 and 1996 the following conclusions can be made:

- a) The regional pupils per teacher ratio has improved from 38 to 32/33 while the number of teachers increased from 4,759 to 6,361 which is a 34% increase while pupil total enrolment increased by a mere 15%.
- b) Bukoba Urban district continues to have the best pupils per teacher ratio. This is to be expected. But attempts have been made push up the ratio forwards the regional average. This the ratio went up from 17 to 23. This is as it should be. However, further efforts in the same direction are required. There is still a long way to go.

- c) Bukoba Rural district ratios have tended to even out with the regional average ratio. This is the ideal situation.
- d) Muleba districts pupils per teacher ratio has improved so that it is now at par with the regional average.
- e) Biharamulo started in 1980 with the most disadvantaged ratio of one to 58 while the regional average was one to 38. This ratio has improved but along with Karagwe it is still the worst in the region. Further efforts are called for.
- f) Ngara district has had over the years a better ratio than the regional average. It is still so. In fact it has tended to improve.
- g) Karagwe started in 1980 with a ratio of 1:43. It is 1:38 in 1996. So, it has improved but it is still along with Biharamulo the worst ratio.

4.3.2.9 Primary Education Development Indicators

In summary, it will be of interest to see how the primary education sub sector has performed against certain development criteria. This performance can then be compared to primary education development in other regions of the country.

TABLE IV-61: PROGRESS OF PRIMARY EDUCATION DEVELOPMENT, KAGERA REGION, 1980 TO 1996

Indicator	1980	1985	1989/90	1996
Number of Schools	593	612	644	689
Enrolment Boys	94,611	96,632	98,952	105,795
Enrolment Girls	86,154	94,296	94,375	101,316
Total Enrolment	180,765	190,928	193,327	207,111

Total Regional Population	1,065,405	1,221,812	1,399,093	1,651,176
Number of Streams	-	-	-	5,649
Number of Classrooms	-	-	-	4,774
Number of Teachers	4,759	5,519	5,931	6,361
Population for School	1,792	1,996	2,173	2,396
Pupils for School	305	312	300	301
Pupils for 1000 Population	170	156	138	125
Pupils per Stream	42	40	39	37
Pupils per Classroom	-	-	-	43
Streams per School	7.6	7.8	7.7	8.2
Pupils per Teacher	38	32	32	33
1988 Census Population Sex Ratio	96	96	96	96
Enrolment Sex Ratio	110	102	105	104

Source: Compiled from data supplied by Regional Education Office, Bukoba, 1998, the 1988 Population Census and the Kagera Regional Development Programme, 1990

From Table IV-61 the following facts can be deduced:

a) There has been **a turn for the better in:**

- = the number of Schools
- = total pupil enrolment
- = the number of streams
- = the number of Teachers
- = the number of pupils per stream

- = the number of streams per school
- = the number of pupils per teacher
- = the number male pupils to female pupils (the enrolment Sex Ratio)

b) There has been **stagnation in:**

= the number of pupils per school

c) There has been a **deterioration** in

= the population per school ratio

= pupils per 1000 population showing less and less school age children are going to school.

The Table IV-62 below shows that compared to some nine selected regions Kagera's develop of primary education scores as follows:

- Kagera has the best pupils per school and pupils per classroom ratios but this could be due to it low pupils per 1000 population ratio. It has also the best pupils per teacher ratio after Lindi and Mbeya.
- The region is middling in terms of population per school
- It has the worst pupils per 1000 population ratio except for Lindi. Its enrolment sex ratio is very badly slanted in favors of boys. Only Shinyanga and Dodoma have worse slanted ratios.

**TABLE IV-62: DEVELOPMENT OF PRIMARY EDUCATION IN KAGERA
REGION AND SOME SELECTED REGIONS 1995/96**

Region	Pupils per School	Populati on per School	Pupils per Classroom	Enrolme nt Sex Ratio	Pupils per Teacher	Pupils per 1000 Populatio n
Kagera	301	2,396	43	104	33	125
Arusha	427	2,992	81	98	41	143
Mwanza	385	2,740	85	103	45	139

Lindi	238	2,189	71	104	22	109
Singida	382	2,741	77	96	38	139
Mbeya	343	2,131	64	100	32	161
Shinyanga	344	2,401	196	110	56	143
Iringa	327	2,024	49	96	37	162
Tanga	325	2,327	67	103	36	140
Dodoma	375	2,839	77	105	40	132

Source: Socio-Economic Profiles of Arusha, Mwanza, Lindi, Singida, Mbeya, Shinyanga, Iringa, Tanga and Dodoma Regions

4.3.2.10 The Refugees and Primary Education

Refugees from neighbouring countries who recently flooded into Kagera regions bordering districts of Ngara, Karagwe and Biharamulo overcrowded primary schools to an extent many indigenous parents sent their children to Bukoba Urban to escape this overcrowding. This has in turn resulted in the over loading of Bukoba's household with negative consequences on household incomes and resources.

4.3.3. Secondary Education:

With the explosion of primary school education triggered by UPE it was inevitable that sooner or later this was going to lead to an expansion of secondary school education.

However, the number of examinees for secondary declined by one third between 1985 and 1996. But the number of students selected to join Form I increased three times from 452 to 1,240 over that period. Consequently, the proportion of those selected

from those examined also increased from 1.6% to 6.7%. The urban district of Bukoba continued to lead in the percentage of those selected possibly because of better education brought about by better equipment and a better pupils to teacher ratio. Karagwe district continued to trail behind. The number of girls selected in relation to boys selected also improved greatly. In 1985 girls comprised only 32% of pupils selected. By 1996 this had gone up to 46%. See Table IV-63.

This Form I selection process affects only public schools.

TABLE IV-63 DISTRIBUTION OF PRIMARY SCHOOL PUPILS EXAMINED AND SELECTED FOR FORM I BY DISTRICT, KAGERA REGION 1985 AND 1996

District	Sex	1985			1996		
		Examined	Selected	% Selected	Examined	Selected	% Selected
Bukoba urban	Boys	344	28	8.1	522	158	30.3
	Girls	346	29	8.4	507	113	22.3
	Total	690	57	8.3	1029	271	26.3
Bukoba Rural	Boys	3812	71	1.9	2997	162	5.4
	Girl	3344	28	0.8	2944	112	3.8
	Total	7156	99	1.4	5941	274	4.6
Muleba	Boys	4001	74	1.8	1684	107	6.4
	Girls	3445	31	0.9	1683	103	6.1
	Total	7446	105	1.4	3367	210	6.2
Biharamulo	Boys	2183	42	1.9	1151	105	9.1
	Girls	1786	16	0.9	856	93	10.9
	Total	3969	58	1.5	2007	198	9.9
Ngara	Boys	1606	31	1.9	900	58	6.4
	Girls	1544	13	0.8	920	56	6.1
	Total	3150	44	1.4	1820	114	6.3
Karagwe	Boys	3249	62	1.9	2097	83	4.0
	Girls	3013	27	0.9	2309	90	3.9
	Total	6262	89	1.4	4406	173	3.9
Total	Boys	15195	308	2.0	9351	673	7.2
	Girls	13478	144	1.1	9219	567	6.2
	Total	28673	452	1.6	18570	1240	6.7

Source: Regional education office, Bukoba 1998

The number of secondary schools is a clear indication of the commitment of Kagera peoples to post primary education. It is a success story. In 1974 there were only 8 schools in the region but by 1996 the number had increased to 41. This is a 400% increase over the 22 years. Of particular importance is the increase in private sector secondary schools. There were only 2 in 1974 and had increased by 1,400% to reach 30 schools by 1996. Although private schools in 1974 comprised only one third of the total number of secondary schools, in 1996 private schools outnumbered public schools three to one. The ratios were reversed. See Table IV-64.

TABLE IV-64 DISTRIBUTION OF THE NUMBER OF SECONDARY SCHOOLS BY SECTOR, KAGERA REGION, 1974 TO 1996

Sector	1974	1980	1985	1990	1996
Public	6	6	6	10	11
Private	2	6	6	18	30
Total	8	12	12	28	41

Source: Regional Education office, Bukoba 1998

TABLE IV-65 ENROLMENT AND SEX RATION IN SECONDARY SCHOOLS KAGERA REGION, 1985, 1989 AND 1996

Year	1985	1989	1996
Enrollment boys	3159	3428	5541
Enrolment Girls	1740	2302	3851
Total Enrolment	4899	5730	9392
Enrolment Sex Ratio	182	149	144

Source: Regional Education office, Bukoba 1998

Looking at the progress in secondary education enrolment 1985 to 1996 it can be said that:-

- total enrolment has increased by 92% in eleven years.
- The enrolment sex ratio is progressively being reduced in favour of female pupil. It went down from 182 to 149 to 144. But it is still in favour of boys.

TABLE IV-66 SECONDARY SCHOOL ENROLMENT BY FORM, SECTOR AND SEX KAGERA REGION 1996

Sector/Sex	Form I	Form II	Form III	Form IV	Form V	Form VI	Total	%
Public								
Boys	601	541	621	563	49	48	2423	58
Girls	462	434	353	363	55	58	1725	42
Total	1063	975	974	926	104	106	4148	100
Private								
Boys	853	813	768	616	39	29	3118	59
Girls	616	558	515	422	8	7	2126	41
Total	1469	1371	1283	1038	47	36	5244	100
Grand Total	2532	2346	2257	1964	151	142	9392	-

Sector: Regional Education office, Bukoba, 1998

In 1996 girl students constituted 42% of all students in public secondary school. The corresponding percentage in private schools was 41. There were in public schools 3938 students in Forms I to IV and 210 in Forms V to VI. Thus the two senior forms constituted 5% of the student body. In private schools the

ratio was 1.6%. More resources are required in the private sector to increase the share of senior forms in secondary schools.

There were 238 streams in the region's secondary schools. This was in 1996. Thus the number of streams per school was 9.6 for public schools and 4.4 in private secondary schools. The number of students per stream was 39 in public schools and 40 in the private sector.

With respect to teachers, these were 228 in public schools and 237 in private schools. This works at 18 students per teacher for public school and 16 students per teacher in private school. It can therefore, be said that private school students are not at a disadvantage at least in terms of streams and teachers.

The regional secondary education indicators are:

- The average population per secondary school is 40,273
- The average number of streams per school is 5.8
- The average number of students per stream is 39
- The number of students per teacher is 17
- The number of students per 10,000 Population is
 - "A" level = 1.8
 - "O" level = 55

Compared to some selected regions the development of secondary education in Kagera is about average. In terms of population per secondary school Arusha, Coast, and Morogoro show better development. However, Kagera is ahead of Mwanza and Mtwara regions. The students per 10,000 population criteria show the same trend. See Table IV-67;

TABLE IV-67: SECONDARY SCHOOL EDUCATION DEVELOPMENT INDICATORS IN ARUSHA REGION AND SOME SELECTED REGIONS

Region	Kagera	Arusha	Mtwara	Coast	Morogoro	Mwanza
Population per Secondary School	40,273	36,384	77,339	28,499	39,573	67,871
Student per 10,000 Population						
"0" level	55	50	42	61	-	-
"A" level	1.8	1.2	1.6	4.6	-	-

Source: Socio-Economic Profiles of Arusha, Mtwara, Coast, Morogoro and Mwanza Regions.

Refugees have not spared secondary schools in the region. There has been cases of refugee children being sent to Kagera region's secondary schools to join other "orphans". This is in addition to direct entry into the secondary school system by refugee children on a one by one basis.

4.3.4 Adult Literacy

Development of people includes the privilege and obligation for one to become literate. Thus literacy is an integrate part of development. In the Tanzania context the ability to read and write Kiswahili and some numeracy defines adult literacy. The extent of the success of this exercise in Kagera region was revealed by the censuses of 1967, 1978 and 1988.

According to the censuses shown in Table IV-68 Kagera region was ranked 5th in 1967, 8th in 1978 and 9th in 1988. It started relatively high but has been overtaken by some of the regions.

The 59.5% literacy rate for the region is still a matter of satisfaction.

TABLE IV-68: PERCENTAGE OF LITERACY FOR POPULATION AGED 10 YEARS AND ABOVE IN MTWARA REGION COMPARED TO OTHER REGIONS IN THE LAST THREE CENSUSES

Region	1967	1978 Census	1988 Census	Ranking
Kagera	40	52.9	59.5	8
Mtwara	28	51.4	57.1	13
Kilimanjaro	56	74.1	80.8	1
Dar es Salaam	60	73.3	80.7	1
Ruvuma	41	66.3	70.5	2
Tanga	40	60.6	66.0	4
Morogoro	37	58.6	62.8	6
M a r a	35	56.4	63.9	5
Iringa	31	54.0	68.3	3
Dodoma	24	49.5	55.5	14
Mbeya	29	49.2	61.9	7
Rukwa	-	48.5	58.6	9
Lindi	-	48.4	53.8	16
Singida	24	46.7	57.4	11
Mwanza	25	44.3	57.3	12
Coast	26	44.0	51.1	17
Kigoma	19	43.7	55.1	15
Arusha	26	41.9	58.1	10
Tabora	27	40.5	50.5	18
Shinyanga	16	33.2	48.3	19

Source: 1988 Population Census

The literacy performance of people in rural areas was different from that of people in urban areas. For 1988 the rates were lower in rural areas and those of males were higher than those of females in both urban and rural areas. See Table IV-69.

TABLE IV-69: LITERACY RATE FOR RURAL AND URBAN POPULATION OF 10 YEARS AND ABOVE IN MTWARA REGION COMPARED TO OTHER REGIONS IN TANZANIA 1988 CENSUS

Region	M a l e			Female		
	Rural	Urban	Total	Rural	Urban	Total
Kagera	68.0	84.4	69.0	49.7	72.4	50.9
Mtwara	65.5	77.9	67.9	46.3	61.6	48.5
Mbeya	69.9	87.5	73.3	48.4	70.0	52.7
Mara	73.7	88.0	75.3	53.7	71.5	55.6
Dodoma	61.5	85.4	64.3	45.1	73.7	48.2
Arusha	61.5	91.8	65.6	46.4	82.8	50.9
Kilimanjaro	84.5	90.3	85.5	75.7	83.6	76.9
Tanga	72.8	88.6	75.9	53.2	75.6	57.3
Morogoro	68.8	86.4	72.9	49.5	72.0	54.6
Coast	60.1	72.2	64.0	40.1	51.8	44.9
Dar es Salaam	68.4	90.0	87.9	48.0	77.7	74.6
Lindi	62.4	75.9	64.6	42.0	60.2	44.8
Ruvuma	77.7	87.6	78.7	61.4	75.7	63.3
Iringa	80.1	87.4	84.9	57.2	70.4	58.5
Mwanza	63.7	83.7	67.6	43.4	66.9	47.8
Shinyanga	57.9	85.9	59.9	36.2	67.7	39.3
Singida	65.0	85.5	66.8	47.2	70.8	49.3
Rukwa	69.1	84.3	71.3	43.9	66.4	49.3
Kigoma	65.1	83.1	67.4	43.1	62.7	45.5

Source: 1988 Population Census

Since 1988 further efforts have been made to improve these rates. Table IV-70 shows the numbers of illiterate people registered in 1990, 1993 and 1996. If these figures represent all illiterates in the region then the literacy rates for the region were more than 90% in the three years in question.

**TABLE IV-70 NUMBER OF ILLITERATE POPULATION REGISTERED,
KAGERA REGION 1990, 1993 AND 1996 (ESTIMATED)**

District	1990		1993		1996	
	Male	Female	Male	Female	Male	Female
Bukoba Urban	420	948	98	140	246	152
Bukoba Rural	8,263	14,844	4,302	7,428	7,901	11,742
Muleba	10,840	18,033	4,487	7,755	11,071	14,807
Biharamulo	17,564	21,406	5,964	10,792	5,954	8,777
Ngara	6,183	11,479	7,781	12,538	18,595	10,706
Karagwe	11,446	16,345	7,730	12,755	3,325	5,257
Total	54,716	83,055	30,362	51,408	47,092	57,441

Source: Regional Education Office, Bukoba, 1998

SECTION V

OTHER DEVELOPMENT ISSUES

5.1 WOMEN PROTECTION AND DEVELOPMENT

5.1.1 Introduction

Ethnicity derived practices have marginalized women in Kagera Region. Women discrimination has been institutionalized and ethnic customs and prejudices have tended to reinforce this. Women are equal to men. Women are expected to be given equal opportunities and equal participation in the development of their society. So as equal agents of development are also expected to share equally in the benefits accruing thereof. Yet society conspires to restrict women to their traditional reproductive, productive and community management roles which are blatantly discriminatory.

According to the 1998 Population Census there are 100 women for every 96 males in Kagera. Further, according to J, Mwabuki 70% labour input into agriculture is by women. Women work on the average 10 hours a day as opposed to 8 hours a day for men. Therefore gender is a development issues. Sustainable development in society and the region as a whole can only be realised in the long run if it is linked to the betterment of the lot of Kagera women. Social justice demands that the low political and social power of women be raised progressively to equal that of men eventually.

The need to redress this imbalance is clear. Women need legal protection and improvement so that their status and power equal

that of their counterparts. Above all women need equal remuneration for their great contribution development, so that they share equally in the fruits therefrom. To achieve this there is a need to mainstream women in the development process by improving their access to education, political and social power, benefits etc. Kagera's women access to education has been one of mixed results. The primary school enrolment sex ratio deteriorated from 102 in 1985 to 104 in 1996 inspite of a sex ratio of 96 in the population. This must be reversed. Access to secondary school education by women has however, improved. In 1985 girl students comprised only 32% of all pupils selected for Form I. In 1996 this share had gone up to 46%.

The argument here is that "if the region is to develop, women must be invested in". One of the most crucial investments for this purpose is investment in stimulating awareness among women of the need to change their status. In this regard group mobilization of women offer the platform on which awareness can be nurtured to fruition. Women groups can be formed to engage initially in income generation for the purpose of poverty alleviation/eradication. Economically these groups could eventually mature into savings and credit societies. But their prime function should be to increase women awareness and so lead to empowerment which in turn will open the door to equity and equality with men.

5.1.1 Women Groups

According to J. Mwabuki, ten year's ago there were 2,160 women in income generating activities. Sixty percent generated income for emergencies such as sickness and social services. Fifteen percent operated a revolving fund loan system. The other

twenty five percent established income generating activities on a commercial basis.

To-day there are 1,219 groups with a total membership of 13,387 women of these groups 966 are commercially oriented. See Table V-1, Table V-2. and Table V-3. Agricultural production makes 59% all income generating groups. There are 566 groups geared to agricultural production. Other agriculture relaxed group are: 72 poultry groups, 39 dairy cattle groups, 23 gardening group, 2 banana selling groups, four food selling groups and one milk selling group. This makes a total of 707 groups or 73% of all economic activity groups.

**TABLE V-1: INCOME GENERATION GROUPS FOR WOMEN BY DISTRICT
KAGERA REGION - 1997.**

District	Number of Women Groups	Number of Women Members
Bukoba Urban	83	629
Bukoba Rural	397	2025
Muleba	180	2011
Biharamulo	66	652
Ngara	27	398
Karagwe	466	7672
Total	1219	13387

Source: Regional Community Development office, Bukoba, 1998

Fig. 31 (a): Number of Income Generation Groups for Women By District Kagera Region - 1997.

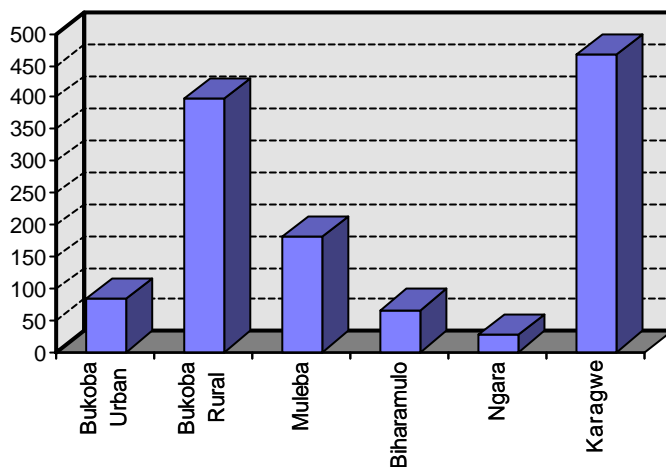


Fig. 31 (b): Number of Women Members of Income Generation Groups by District Kagera Region - 1997

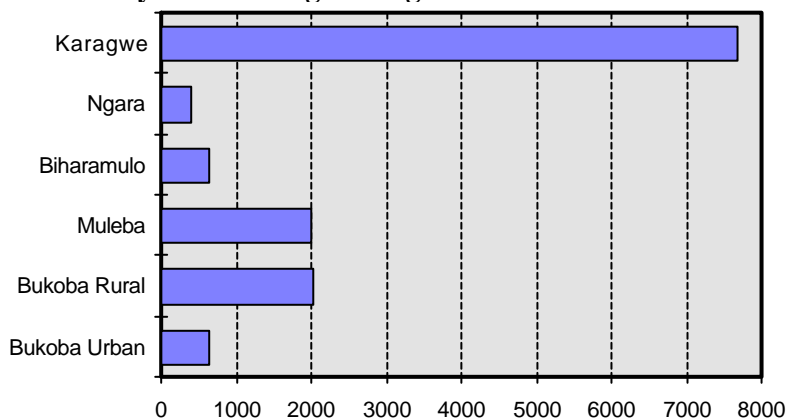


TABLE V-2: LOANS TO WOMEN GROUPS AS AT DEC. 1996 (TSHS.)

District	Amount of Loan	Amount Paid Back	Amount Outstanding
Bukoba Urban	n.a	n.a	n.a
Bukoba Rural	5,326,400.00	230,902.00	5,598,138.00
Muleba	n.a	n.a	n.a
Biharamulo	n.a	n.a	n.a
Ngara	n.a	n.a	n.a
Karagwe	n.a	n.a	n.a
Total	5,326,400.00	230,902.00	5,598,138.00

Source: Community Development Office, Bukoba Rural, 1998.

**TABLE V-3: NUMBER OF WOMEN GROUPS BY ECONOMIC ACTIVITY
KAGERA REGION - 1997.**

DISTRICT	Bukoba Urban	Bukoba Rural	Muleba	Biharamulo	Ngara	Karagwe	Total
1. Poultry	7	54	10	-	1	-	72
2. Agricultural Production	-	154	76	-	5	331	566
3. Water Jars Casting	-	14	3	12	-	-	29
4. Petty Trade	-	31	7	2	3	-	43
5. Fishing/Selling Fish	4	1	-	2	-	-	7
6. Improved Cooking Stoves	-	2	-	2	-	-	4
7. Milling Machines	-	3	3	2	1	-	9
8. Hostel	-	1	-	-	-	-	1
9. Tailoring/Kiting	-	-	15	10	2	17	44
10. Tea Rooms	-	12	10	10	-	-	32
11. Dairy Cattle	11	24	-	1	3	-	39
12. Shops	5	-	-	-	5	-	10
13. Making Bricks	2	-	1	-	-	-	3
14. Brewing Beer (Local)	2	-	4	3	-	30	39
15. Gardening	17	-	-	6	-	-	23
16. Selling Food	4	-	-	5	-	-	9
17. Selling milk	-	-	1	-	-	-	1
18. Selling bananas	-	-	2	-	-	-	2
19. Charcoal/Firewood	5	-	2	-	-	-	7
20. Tree nurseries	-	-	4	2	-	-	6
21. Keeping pigs	12	-	8	-	-	-	20
Total	69	296	146	57	20	378	966

Source: Regional Community Development Office, Bukoba, 1998.

5.2 YOUTH DEVELOPMENT

The 1988 Population Census gave the population of 10-24 years age group as 417,842 which is 31.5% of the total population. This is the group composed of primary school and secondary school dropouts and graduands. This is the time most youths are trying to get an economic foothold in life. This is the group where skills and education make the difference. Behavioral formation is at its most critical at this charge. Neglect by society could lead to anti-social practices resulting in untold damage to that generation and even generations to come.

Therefore, every effort must be exerted to find a solution to unemployment in this age group.

Kagera region is coming to grips with this youth problem by establishing and running vocational training centres to provide skills. Secondly by establishing youth groups for cultural and economic interests, the energy of this group is channeled into useful or harmless activities.

The region has 20 vocational training centres distributed as follows:-

- 4 in Bukoba Urban
- 4 in Bukoba Rural
- 4 in Muleba
- 5 in Karagwe
- 2 in Biharamulo
- 1 in Ngara.

The skills taught are very varied. They vary from office craft to mechanics, building to commerce, agriculture to home craft. See Table V.4. Most of centres are in the private sector.

As a by product of the region's invasion by HIV/AIDS and refugees there has been an increase in the number of orphans and street children. The care of these under-privileged children has attracted various NGOs and community participatory action but a lot needs to be done. It is not uncommon to see households headed by children as a result of death from AIDS of a whole generation of adults.

TABLE V-4: VOCATIONAL TRAINING CENTRES KAGERA REGION, 1997

No.	NAME OF TRAINING CENTRE	ADDRESS	LOCATION	DISTRICT	OWNER	REG.	TRADE	NEW INTAKE
1	Kagera Vocational Training Centre	Box 906 Bukoba	Rwamisheny	Bukoba Urban	VETA	No.	Carpentry, Joinery, Welding, Fabrication, Masonry, bricklaying, Tailoring	January
2	Kashasha Village Technical Training Centre	Box 98 Bukoba	Katero Word	Bukoba Rural	ELCT/NW Diocese	YES	Carpentry, Joinery, Masonry, Bricklaying, Welding, Fabrication	January
3	Gera, Wazazi, Vocational Training Centre	Box 1349 Bukoba	Gera-Kiziba Division	Bukoba Rural	Tanzania Parents Association	YES	Carpentry, Joinery, M.V. Mechanics, Masonry, Welding, Business Studies	January
4	Ruzinga Vocational Training Centre	Box 454 Bukoba	Ruzinga	Bukoba Rural	Mugongo/Ruhisa Villages	NO	Carpentry Masonry	January
5	Ntoma Homecraft Centre	Box 14 Ntoma VIA Bukoba	Ntoma-Kanyangeleko	Bukoba Rural	ELCT/NW Diocese	YES	Tailoring Cookery	January
6	Kashozi Homecraft Centre	Box 1106 Bukoba	Kashozi	Bukoba Urban	Bukoba Catholic Diocese	NO	Sewing, Cookery Knitting & Handcraft Agriculture	January
7	Bakhita Secretarial School	Box 202 Bukoba	Bukoba	Bukoba Urban	Canession Sisters	YES	Typewriting, Office Practice, Secretarial Duties, Short Hand, Book-keeping English Language	July

8 .	The Unversal College of Commerce	Box 169 Bukoba	Bukoba	Bukoba Urban	Peter Kabantega	YES PRE. REG.	Motor Vehicle Mechanics, Motor Driving, Accountancy, Secretarial	January
9 .	Karagwe District Vocational Training Centre	Box 62 Karagwe	Kayanga	Karagwe	Karagwe District Council	YES	M.V. Mechanics/Carpent ry/Joinery, Masonry/Bricklayin g, Tailoring	January
1 0 .	Bugene youth Carpentry Training Centre	Box 146 Karagwe	Bugene	Karagwe	Fr. Isaías Bambara & C.F. Mutakyahwa	YES	Carpentry/Joinery, Electrical Installation	January
1 1 .	Kayanga Vocational Training Centre	Box 176 Karagwe	Kayanga	Karagwe	D. Kiwia, M.Katunzi, M. Kiwia & C. Katesigwa	YES REG.Y ES	Tailoring/Dressmaki ng, Carpentry & Joinery, Motor Vehicle Mach., Masonry & Bricklaying, Motor Driving	January
1 2 .	Bugene Homecraft Centre	Box 103 Karagwe	Bugene	Karagwe	Rulenge Catholic Dio.	NO	Agriculture	January
1 3 .	Isingire Homecraft Centre	Box 103 Karagwe	Isingiro	Karagwe	Rulenge Catholic Diocese	NO	Sewing, Cookery Agriculture	January
1 4 .	Rubya Homecraft Centre	Box 122 Rubya Bukoba	Ihangiro	Muleba	Bukoba Diocese	NO	Home Economics	January
1 5 .	Rubya Vocational Training Centre	Box 135 Rubya Bukoba	Muleba Isumbi	Muleba	Richard Rutashobya	NO	Motor Vehicle Mechanics, Carpentry, Masonry, Driving, Commerce	July
1 6 .	Kagondo Kolping Training Centre	c/o Catholic Diocese Private Bag Bukoba	Kagondo	Muleba	Tanzania Kolping Society	NO	Carpentry Masonry	February
1 7 .	Muleba Vocational Training Centre	Box 100 Muleba	Muleba	Muleba	Wevidha, West Victoria Development & Health Association	NO	Automotive, Mechanics, Welding, Carpentry, Masonry, Electrical, Typing	January
1 8 .	Biharamulo Vocational Training Centre	Box 74 Biharamulo	B'Mulo	B'Mulo	Mr. Hamad Salum	NO	Motor Vehicle Mechanics, Welding, Masonry Carpentry, Driving, Auto Electrical	July
1 9 .	Biharamulo Vocational Training Centre	Box 129 B'Mulo	Rubondo FDC	B'Mulo	Gratien Mashahidi	NO	Motor Vehicle Mechanics, Masonry, Carpentry Tailoring	January
2 0 .	Rulenge Vocational Training Centre	Box 50 Rulenge	Rulenge	Ngara	Rulenge Catholic Diocese	YES	Masonry, Carpentry	

Source: Regional Commissioner's Office, Bukoba, 1998

There are 259 Youth groups engaged in various businesses shown in Table V-5.

The Total membership is 1,537 giving an average of 6 members per group. Loans made available to the groups amount to T.shs. 14,159,000. The average loan per group is T.Shs. 54668.

**TABLE V-5; NUMBER OF YOUTH GROUPS BY ECONOMIC ACTIVITY
AND BY DISTRICT, KAGERA REGION, 1998.**

Economic Activity	Bukoba Urban	Bukoba Rural	Muleba	Biharamulo	Ngara	Karagwe	Total
1. Tailoring	-	-	-	-	-	-	-
2. business/shops	14	50	48	28	81	38	259
TOTAL Loans	1,794,000	6,419,500	1,250,000	1,542,750	1,852,750	1,300,000	14,159,000
Total Number of Groups	14	50	48	28	81	38	259
Members Total	72	286	233	216	552	178	1537
Average Members per groups	5	6	5	8	7	6	6

Source: Regional Commissioner's Office, Bukoba, 1998.

5.3 COOPERATIVES

In poor communities as found in Kagera region the use of the cooperative movement strategy can alleviate poverty. It also strengthens the democratisation of society. In 1990 and 1996 there were the following cooperative societies by type:

	<u>1990</u>	<u>1996</u>
Agricultural Marketing	265	189
Savings and Credit	75	60
Consumer	52	4
Industrial	3	4
Fishing	1	4
Livestock	1	23
Transport	1	1
Services	3	2
Building	-	1
Others	<u>2</u>	<u>8</u>
	<u>403</u>	<u>296</u>

Thus the number of cooperative societies was reduced by one quarter between 1990 and 1996. This consolidation could have been the result of freedom to cooperatives given by the 1991 Cooperative Act. In addition to the 296 primary societies in 1996, there were also one cooperative union covering Muleba, Bukoba Urban and Bukoba Rural. The second union was for Karagwe district and the third for Biharamulo.

A detailed look at the distribution of cooperative societies between districts shows that the average population per cooperation society is 5,734. But the ratio is one to 44,971 people in Ngara district. Ngara needs follow up to determine the cause. See Table V.6.

TABLE V-6: COOPERATIVE SOCIETIES, TYPE AND BY DISTRICT, KAGERA REGION, 1997

DISTRICT	Bukoba Urban	Bukoba Rural	Muleba	B'Mulo	Ngara	Karagwe	Total
Agricultural Marketing	2	51	44	31	1	60	189
Savings and Credit	11	29	11	3	1	5	60
Transport	-	1	-	-	-	-	1
Consumer	2	-	-	-	1	1	4
Fishing	1	3	-	-	-	-	4
Livestock	1	7	5	1	2	7	23
Industrial	4	-	-	-	-	-	4
Building	1	-	-	-	-	-	1
Services	2	-	-	-	-	-	2
Other	4	2	1	-	-	1	8
Total	28	93	61	35	5	74	296
Total Population (1997)	58,292	393,537	337,295	257,504	224,853	425,854	1,697,335
Average population per cooperative	2,082	4,232	5,529	7,357	44,971	5,755	5,734

Source: Regional Cooperative Office, Bukoba, 1998

5.4 ENVIRONMENTAL CONSERVATION

Environmental damage also exists in Kagera region mainly as a result of human activity, directly or indirectly. For example water hyacinth was introduced to Lake Victoria through human agency. Now this weed is the single most important threat to the waters and hence the fishing grounds of Lake Victoria. Little has been done to control this threat. But efforts are being made to find a

solution jointly with Kenya and Uganda as part of Lake Victoria Basin management and exploitation.

Same 600,000 refugees from Burundi and Rwanda flooded in the region between 1994 and 1996. While they were in the region the road infrastructure was damaged through over use, school and health facilities were overloaded. Trees were cut extensively to make way for refugee settlements. National Parks were proached heavily. Crops were destroyed. Crime multiplied and local morals got polluted. The introduction of drug resistance STDs was just one more hazard resulting from the refugee influx. Fortunately, Rwandas refugees were repatriated by December, 1996. But same 100,000 Burundi refugees are still hosted by Kagera region.

The refugee threat to the region's environment is still there to some extent.

The depletion of forests due to refugee agency, bush fires, improper farming systems, localised overgrazing and the high demand for fuelwood are realities for which solutions have to be found. In the three districts of Bukoba Urban, Bukoba Rural and Muleba alone fuelwood demand per year now stands at 1.5 million cubic meters of wood, while the supply runs at 1.1 million cubic meters.

The deficit of 400,000 cubic meters has to be found outside the districts or go towards depleting the forest capital of the three districts. Proper management of existing forest resources including the use of fuel saving stores is being attempted. On Rweya land alternative tree species are being researched on to replace the water drying eucalyptus species. Efforts at

afforestation are still the best answer to this depletion of forest resources. Not enough is being done in this respect.

5.5 THE REFUGEE DIMENSION

The damage to the environment inflicted on Kagera by the influx of Rwanda and Burundi refugees is already discussed above in section 5.4. But certain aspects of this dimension need further clarification.

First; the number of refugees was overwhelming. Refugees outnumbered locals by 2:1. Ngara residents and parts of Karagwe were literally swamped by refugees. The effect of this huge host on the morals, culture and health of affected Kagera was devastating. A closer look into this aspect may be worthwhile.

Secondly, then were positive aspects to the refugee invasion. Some of them are:

- For the first time there was intense focus by the international community on the region and the inadequacy of its facilities and infrastructure.
- Some 15,000 hectares of arable land were cleared and brought under cultivation.
- There were some local population access to refugee services, eg. water supplies, health services etc.....

5.6 TOURISM

Very little has been done to attract tourists to Kagera region. Kagera's accessibility with difficulty has contributed a lot to this

apathy towards tourism development. It is a valid reason and so long as Kagera continues its isolation only a trickle of tourists can be expected to make their way to the region. The joint development of Lake Victoria Basin with Kenya and Uganda offers the best chance for tourism development in the region.

Yet, Kagera region does have tourist attractions to offer. Sixteen per cent of the region's land area is reserved to Game Reserves and Game Controlled Areas. This is 4,730 sq. kms of forest area rich in such wildlife as elephant, reedbuck, topi, eland, water buck, hartebeest, zebra, dikdik, buffalo, bushbuck, roan antelope, giraffe, warthog, lion and hippo. Rare mountain gorillas can be found in Biharamulo. Game viewing and tourist hunting are alternatives offered tourists to choose from. The game reserves are Burigi, Ibanda, Biharamulo and Rumanyika. The game controlled areas are Masasi River and Nehwa Nkima.

Lake Victoria itself offers opportunities for leisurely cruises round the lake on Tanzania Railways boats offering reasonable cabin service out reasonable cost.

5.7 NOW-GOVERNMENTAL ORGANISATIONS NGO's

In recent history Kagera region has been subjected to three disasters. First came the Iddi Amin war which brought destruction mainly to the Kagera river enclave. Efforts at reconstruction were soon overtaken by the HIV/AIDS invasion which brought about another wave of reconstruction effort as AIDS began to cut down the productive and adult age group. Before the region could recover political upheavals in Burundi and

Rwanda flooded Kagera with refugees. In response to these disasters efforts by individuals, communities and government to come to grips with the situation were supplemented by Non-Governmental Organisations.

The first wave of NGOs was home grown. Indigenous NGOs were mostly developmental oriented covering districts, divisions and even wards. The AIDS menace encouraged the formation of many more indigenous NGOs but thistime to combat HIV/AIDS and their effects. The coming of AIDS to Kagera soon attracted foreign attention which resulted in the involvement of a variety of AIDS/HIV problem related NGOs. Refugees attracted another lot of NGOs given to the care of refugees and the alleviation of the refugee problem on the host people.

Local NGOs include KARADEA, WAMATA ABEKA, KADEA, BWABUKI, BUDEA, MDEA, ISHOZIZE, KADETFO, WEVIDHA, KACOBWA, KOTF, HUYAMA, FADECO, KAGERA ORPHANS to mention a few. Foreign NGOs are TCRS, SCF, BRTSTF, AMREF, RED CROSS, WORLD VISION, CARITAS, ELECT, Kolping, ACCORD, CARE, OXFAM etc.....

All these are involved in providing relief or development aid at grassroot level. Kagera more than any other region has the greatest concentration of NGOs. There are 16 NGOs dealing with HIV/AIDS alone. The presence of so many NGOs in one region bring about organisational problems. The absence of a coordinating mechanism and information exchange forum is keenly felt.

NGOs are not the only players on the scene. Multilaterals like UNDP, UNICEF, IDA, FAO, UNHCR and bilateral like JICA, GTZ, SIDA and DANIDA increase organisational complexity.

SECTION VI

POTENTIAL INVESTMENT AREAS

6.1 Introduction:

The development of Kagera region will not come about because of foreign investment alone. It is not enough that foreign private sector entrepreneurs, foreign NGOs, bilateral and Multilateral agencies invest in the region; complementary investment in the form of capital, labour and determination should be forthcoming from residents of Kagera region, their NGo's their community based organisations, their local and regional governments. The wholistic approach to investment in the one that will produce meaningful and sustainable development in the various sectors.

6.2 Agriculture:

Kagera being endowed with near perfect climate, soils and rainfall regime has a huge comparative advantage in agricultural production. To Kagera perhaps more than any other region agriculture is the key to future development. So that agriculture has got to be invested in by all if the region is to enter the 21st. century with some measure of comfort.

Problems of the agricultural sector in the region centres on : low soil fertility in the coffee/banana complex, declining yields, low technology, low producer prices, malnutrition and intermittent food shortage. To arrest declining soil fertility and yields the introduction of mixed farming and coffee hullers at household

level is necessary. Current efforts at introducing dairy cattle should be extended to cover most if not all households in the coffee/banana belt. The use of low technology leads to low yields, low incomes and food inadequacy. The development and introduction of clonal coffee which can boost yields/tree from 1-1.5kg to 4 -6kgs can change drastically the income level of peasants. Similarly the development and introduction K5 banana varieties, which are resistant or tolerant to pest and diseases can increase food security. Thus agricultural research which is directly relevant to farm problems is a priority investment area. The strengthening of agricultural cooperative societies is appropriate in that this leads to improved access to credit facilities by peasants and thus to farm inputs like improved seeds (seedlings/cloves), pesticides, fungicides, fertilizers and farm implements. It could also be the catalyst for better producer prices and exploration for the possibility of banana exports. The Privatization of some key extension services could produce better use of farmers extension centres better pruning and rejuvenation of coffee trees, the introduction of alternative cash crops such as vanilla, passion fruit and the development of an horticultural green belt around Bukoba town.

Last but not least arable land is a natural resource that should attract investment. So far only 15.5% of Kagera's land areas is cultivated. Kagera can afford a four fold increase in cultivated area and yet not cover all arable land. Along with the development of arable land is the improvement of traditional irrigation schemes which could improve greatly the productivity of land. Of the 38,080ha. of potential traditional irrigation areas almost all of it is undeveloped.

6.3 Livestock:

The introduction of dairy cattle is the single most important developmental effort for the livestock sector in recent years. The distribution of 7,400 heifers to some 4,000 farmers through Dutch aid has proved very successful and very popular. It has led to the production of 8.0 million litres of milk a year and the establishment of 12 milk handling units capable of producing sour milk, yoghurt, cheese, butter and exports of milk to Mwanza. Expansion of this scheme will not only raise incomes but will affect the development of coffee/banana farms by increasing the level of soil fertility.

A new phase in dairy development is the possible introduction of commercial dairy farms capable of handling 200 to 500 dairy cattle.

For those areas like Biharamulo and Ngara where climate and disease problems make dairy farming too much of a risk, the introduction of milk goats could be the answer. Already the Kivu centre has raised 120 such goats for distribution.

6.4 Fishing:

The problems of low incomes, low technology and low investment in the fisheries subsector could be alleviated by encouraging the formation of effective fishing cooperative. These cooperatives could provide the means to get access to credit facilities to improve fishing gear and fishing vessels. Investments in fish

filleting factories and small scale fish processing could improve fishermen incomes.

6.5 Forestry:

The forest resources of Kagera region are being depleted through fuelwood demand and the flooding of refugees into the region. Efforts at afforestation are grossly inadequate. But in the long run it is the most appropriate answer to the problem.

The introduction of the fuel saving stoves is a useful complementary area.

6.6 Industry:

The establishment of small scale industries is possibly the most appropriate approach to industrialisation of the region at least in the short term. Exceptions such as the establishment of were fish filleting factories will always crop up. The popularisation of coffee hullers at household level will not only improve incomes but will also improve soil fertility and provide employment to youths. The running of milk handling units provides another example of what agro- based small scale industries can do.

There are also non- agricultural industries like those in construction materials, brick and tile making, metal works etc. All these enterprises could provide part of the answer to youth unemployment.

6.7 Transport and Communication:

6.7.1 Roads:

Reliable all weather roads will do a lot to reduce Kagera's isolation. Hence the development of the Bukoba/Biharamulo/Mwanza and Mtukula/Bukoba/Lusahunga trunk roads are priority investment areas in the interest of national integrity and East African cooperation. The rehabilitation of district/feeder roads and adequate maintenance funding is essential to the unimpeded movement of goods and services within the region. For example most bridges in Muleba district are temporary.

6.7.2 Lake Victoria Transport:

The demand for reliable lake transport to service island and trade centres along the lake shore is very great yet no such transport exists. The old port of Kyaka and Murongo if re-opened could no stimulate intraregional trade as will be the development of Nyamirembe port. Further, Kagera's major port of Bukoba and Kemonondo are serviced by one old passenger vessel and one more passenger/cargo vessel which is equally dilapidated and marginally sea-worthy. Investment by the government or the private sector on more and better lake passenger and cargo vessels between Bukoba and Mwanza will be a major boost to accessibility of Kagera region.

6.7.3 Railway Transport:

In the long run the movement of bulky and increased volume of goods and produce from and to Kagera would best be served by a railway line connecting the region to the Central line.

6.7.4 Air Transport:

In the absence of reliable lake, road or railway transport system the development of at least one airport per district could serve as an emergency inlet/outlet of the region. The air strips for upgrading are Ihanda (Karagwe), Ruganzo (Ngara), Biharamulo and Bukoba. Muleba district needs construction of a new airstrip.

6.7.5 Telecommunication:

Telephone communications especially the STD system should be extended not only to district headquarters but also to trading centres to facilitate trade, services and production.

6.8 Energy:

The demand for fuelwood now stands at 3.5 million cubic metres of wood equivalent to 1,500 ha. of afforestation per year. Current afforestation efforts hardly meet half this demand. Afforestation efforts should be stepped up. The promotion of fuel saving stoves and fuel saving cooking techniques (e.g. soaking beans before cooking) should also be invested in.

The extension of the hydropower line than Uganda to Biharamulo and Ngara makes sense. At the same time studies should be carried out on the possibility of tapping the Rusumo, Murgwanza and Mabawe falls for hydro power. A start needs be made at rural electrification, although in other rural areas solar power and Biogas from biomass could also be promoted.

6.9 Water Supplies and Sanitation:

Population coverage in 1996 was estimated at 36.8% for the region with an urban coverage of 55.4% and rural coverage of 35.1%. The coverage for the region was 33.8% in 1988. At this rate of progress it will take another 200 years before coverage reaches 100%. Concerted efforts and assistance are needed to accelerate the pace of coverage.

Although coverage with safe and clear water is very low that of toilets is very high. In 1988 90% of people in the region had access to toilets. the coverage was even higher in urban centres. It was 96%. However, this should not lead to complacency. Sewerage and garbage collection and disposal in urban centres still needs improvement. Many public places, for instance, are without toilets. The Construction and good running and maintenance of public toilets needs attention. Also garbage collection and disposal in towns require investment.

6.10 Health:

Although AIDS is second to Malaria as a cause of death in the region. Both culturally and psychologically AIDS is a bigger threat to families and communities than malaria. AIDS in 1996 accounted for 12% of all deaths recorded while malaria decounted for 43%. The control of HIV/AIDS and coping with the effects of HIV/AIDS are priority areas in the health field. The control of early childhood diseases, child malnutrition and malaria are also important.

The coming of refugees into the region has highlighted the inadequacy of public health services. They are not only over loaded, they have dilapidated structures, ill equipped cronically short of medicines and other essential medical supplies. They are also inadequately manned. The current government policy to involve people in the running of their public health services is welcome. Attempts to introduce health insuarance should be encouraged. Above all invitation to the private sector to establish and run health services is the answer. NGOs, religions institutions, individuals, companies and community based organization all qualify. Public facilities and privately owned health establishments can be aided by wellwishers in terms of technical assistance, equipment, supplies, drugs, training and rehabilitation/renovation.

6.11 Education:

The Government has thrown the door open to the private sector to establish and run pre-schools, primary schools secondary schools and vocational training centres. Limited assistance by

bilaterals, multilaterals and others in the form equipment, teaching and learning materials, construction of classrooms, school toilets, teacher houses and desks is needed. There is a chronic shortage of teachers in all school categories. The existing secondary schools have the capacity to absorb only 15% of primary school leavers. More schools are required. The overcrowding of primary schools was made worse by the influx of refugees but even without refugees the number of primary schools facilities are inadequate and of low standards. Recently, enrolment into primary schools has fallen. Concerted efforts by parents, communities and local authorities are needed to boost up enrolment.

6.12 Environmental Conservation:

Environmental destruction brought about by refugees require putting right. Wildlife was ravaged and, forests cutdown to make way for settlements, agricultural production and fuelwood needs. Social service facilities were overloaded, roads destroyed by misuse /over use. Hence the rehabilitation of roads, hospital, dispensaries, schools and water supply facilities in order. Afforestation efforts need support. Wildlife conservation should be undertaken to allow wildlife populations to recover from the refugee onslaught.

6.13 Women development:

There are two aspects to women development. These are the gender issues and poverty alleviation. Key to both these aspects in the establishment of a whole network of women groups dedicated

to the gender issues and income generation. Gender imbalance in public institutions and public office should be identified. For example recruitment of pupils and students into primary and secondary schools, teacher and other public colleges and universities should be fifty/fifty. Public office appointments should gradually reduce the existing imbalance without jeopardizing the quality of public service. Intensive pre- appointment training and selection could be the answer.

Through women groups, women particularly in rural areas should be given access to soft loans and other credit facilities. These groups should be encouraged to mature into companies/partnership, businesses, saving and credit societies.

6.14 Youth Development:

The existence of over 100,000 orphans as a result of the AIDS scourge, poses Kagera region with a unique challenge. The region should be assisted to look after, educate and train for self employment this group of young people. To this effect agriculture, livestock and the natural resources sectors including mining should be made income attractive so that the majority of these and other youths in the region are easily absorbed. The communities in the region should review the usefulness of existing primary education and modify it to encompass during or after primary education, the acquisition of skills which would render youths self employable soonest.

6.15 The Refugee Question:

Just as disaster preparedness is important so is preparedness to host refugees. The refugee causing political problems of our neighbouring countries are unlikely to find a solution for many years to come. So recurrent waves of refugees will cross our borders into our country for a long time in the foreseeable future. It is an on and off situation. Refugees will come and will go back. But they will come again and go back again, time after time.

So investment in security, roads, schools, hospitals, dispensaries etc. on a more or less permanent basis may be the only answer, if we are not going to be damaged time in, time out.

6.16 Security:

The isolation of Kagera region and the social political upheavals in countries bordering Kagera makes sense the investment in security. Recent refugees influxes has also brought crime and political instability into Tanzania.

ANNEX A:

KAGERA REGION IN A NUTSHELL

1.0 GENERAL:

1.1 Location:

Extreme north west corner of Tanzania, between longitudes 30° 25' and 32° 40' east, latitudes 1° 00' and 2° 45' south.

1.2 Land Frontiers:

North - Uganda

East - Lake Victoria waters of Mwanza and Mara regions

South - Kigoma and Shinyanga region

West - Rwanda and Burundi

1.3 Land Area:

Total area 40,838 km² of which 11,885 km² is water and 28,953 is land. 3.2% of Tanzania's land area.

1.4 Administrative Units:

- 6 districts of Bukoba Urban, Bukoba Rural, Muleba, Biharamulo, Ngara and Karagwe.
- 25 divisions
- 150 wards
- 540 villages

1.5 Population:

1.5.1 Population Census 1988:

Total	=	1,326,183
Sex Ratio	=	96
Annual Growth Rate	=	2.7%
Population density	=	45.8° per km ²
Average household size	=	4.9
Net lifetime Migration	=	-5,980
Urbanization	=	5.3%
Dependence Ratio	=	111.35° (106.46 in 1978)

1.5.2 Other censuses:

<u>Year</u>	<u>Total population</u>	<u>Annual Growth Rate</u>
1948	456,396	-
1957	514,431	1.4%
1967	658,712	2.5%
1978	1,009,379	4.0%

1.5.3 Population Projections:

1998	=	1,748,150
2000	=	1,849,965

1.6 Ethnicity:

Bantu groups indigenous to area

Wahaya	=	Bukoba urban, Bukoba Rural, Muleba. Small groups in the rest of the region.
Wanyambo	=	Karagwe
Wasubi	=	Biharamulo and parts of Ngara
Wahangaza	=	Ngara
Other groups	=	Wasukuma, Wazinza and Warongo as minorities in Biharamulo district.

1.7 Climate:

Rainfall bi-modal falling in October to November and March to May. Annual precipitation 650 mms. in parts of Biharamulo/Karagwe to 2000 mms near the lake. Temperatures 20° - 28°C.

1.8 Agro-economic Zones:

Zone 1: The Lake Shore and Islands:

Lake shore areas of Muleba, Bukoba and Biharamulo. 1,300m. to 1400m. above sea level. Rainfall dimodal, 1,400 mms. to 2,000 mms. Crops are coffee, bananas, beans and tea.

Zone 2: The Plateau Area:

Altitude over 1,400m. above sea level. Parts of Bukoba Rural, Muleba, Bugufi area in Ngara,

small part of Biharamulo and the whole of Karagwe district. Rainfall bi-modal 1000mms. to 1,400mms. Crops are coffee, bananas, beans, maize and cassava.

Zone 3: The Lowlands:

Altitude below 1,3000m. above sea level. Rainfall mono-modal 650mms. to 1,000mms. Most of Biharamulo, Bushubi area of Ngara which is most of the district. Crops are maize, cotton, beans and cassava.

2.0 REGIONAL ECONOMY:

- % share of National GDP = 4.6.
- Agriculture based
- declining GDP in US \$. terms
- cash crops = coffee, tea, cotton
- Food crops = bananas, beans, maize, cassava.

2.1 Regional GDP at current prices - millions:

<u>Year</u>	<u>Tshs.</u>	<u>US\$.</u>
1980	1,712	208
1985	4,805	291
1990	30,325	154
1994	80,537	146

2.2 Regional GDP per capita current prices.

<u>Year</u>	<u>Tshs.</u>	<u>US\$.</u>
1980	1,607	195
1985	3,949	239
1990	21,103	107
1994	50,105	91

3.0 ECONOMIC INFRASTRUCTURE:

3.1 Roads:

Road Length:

3,951 kms divided as

- a) 605.5kms trunk, 1135 kms. regional, 1176.9kms district and 1033.6 feeder roads.
- b) 212.2 tarmac, 1780.5 gravel and 1958.3 earth roads

Road density: 0.14 kms. per sq.km. population.
2.26 kms per 1000 population

3.2 Air services:

- Bukoba airport capable of handling light aircraft
- One airstrip each for Biharamulo, Ngara and Karagwe

3.3 Marine Transport:

Mainly one TRC vessel of old age,
No reliable transport between islands

3.4 Telecommunications:

2000 STD telephone lines

3.5 Electricity:

Population coverage 1988 = 1.3%

3.6 Other Power sources:

1998 Fuelwood demand 3.5 million m³

Biogas and solar power still experimental.

Kerosene for lighting purposes.

4.0 PRODUCTIVE SECTOR FACILITIES:

4.1 Agriculture:

- 442,036 Ha. under cultivation 1995/96 which is only 15.5% of land area. A lot more arable land awaits development.
- 38,089 potential traditional irrigation area identified which is less than 10% developed
- 67,000 ha. of coffee/banana trees
- 1,762 ha. of tea trees

4.2 Livestock:

4.2.1 Livestock Units:

	<u>1984</u>	<u>1997</u>
Indigenous cattle	N.A	283,755
Dairy cattle	<u>N.A</u>	<u>10,507</u>
	<u>364,400</u>	<u>294,262</u>
Goats	344,400	N.A

sheep	53,800	N.A
Pigs	2,062	N.A

4.2.2 Livestock facilities:

Dips total	=	133
Dips in order	=	117
Dips in use	=	13
Veterinary centres	=	17

4.2.3 Commercial Livestock production:

State owned ranches at

- Kitengule
- Mabale
- Kagoma
- Kikurula
- Misenye
- Rusumo

5.0 BASIC SOCIAL FACILITIES:

5.1 Heath (1996):

Hospitals	=	Total 12
Health centres	=	Total 15
Dispensaries	=	136 public, 65 private Total 201
MCH clinics	=	146 all public

5.2 Water Supplies (1996):

Rural Areas:

Gravity schemes	=	31 working 4 not working
Pumped schemes	=	13 working 27 not working

hand pumped
shallow wells = 792 working 208 not working

5.3 Education (1996):

Pre-Schools Number	=	65
Enrolment	=	2,657
Primary Schools Number	=	689
Enrolment	=	207,111
Secondary Schools Number	=	41 (30 private)
Enrolment	=	9, 392

6.0 OTHER ISSUES:

6.1 Women Income Generation/Gender Issue Groups (1997):

Groups	=	1,219
Members	=	13,387

6.2 Youth Economic Groups:

Groups	=	259
Members	=	1,537

6.3 Tourist Attractions:

=	Lake Victoria cruises
=	Burigi Game Reserve - game viewing
=	Ibanda Game reserve - game viewing
=	Biharamulo Game reserve - game viewing mountain gorillas

- = Rumanyika Orugundu - game Reserve - game viewing
- = Masasi River Game Controlled Area - tourist hunting
- = Nchwa Nkima Game Controlled Area - tourist hunting

7.0 SELECTED SOCIAL AND ECONOMIC INDICATORS (1996):

7.1.1 Education (Primary):

Population per school	=	2,396
Pupils per 1000 population	=	125
Pupils per school	=	301
Pupils per classroom	=	43
Pupils per teacher	=	33
Pupils per stream	=	37
Streams per school	=	8.2
Enrolment Sex Ratio	=	104
% shortage of teachers to requirements	=	8
% shortage of teacher houses to requirements	=	85
% shortage of classrooms to requirements	=	32
% shortage of school toilets to requirements	=	73

7.1.2 Education (Secondary):

Population per school	=	40,273
Average streams per school	=	5.8
Average students per stream	=	39
Students per school	=	229
Enrolment sex Ratio	=	144
Students per teacher	=	17

Number of students per 10,000 population
"A" level = 1.8

"O" level = 55

7.1.3 Adult Literacy:

1967 = 40%
1978 = 52.9
1988 = 59.5%

7.2 Health:

7.2.1 Facilities:

Population per hospital = 137,598
Population per bed = 800
Population per doctor = 35,131
Population per dispensary = 8,215
Population per health facility = 7,460
Health facilities per 10,000 population 1.3

7.2.2 Services:

a) Under 1 year Child Immunisation Coverage:

BCG = 96.0%
DPT3 = 87.1%
Polio 3 = 90.6%
Measles = 87.3%

b) Tetanus Immunisation of women of child bearing age:

T.T.2 and over 12.6%/to 17.3%

c) Percentage delivery at a health facility on otherwise 5 years before 1996:

at health facility	=	29.6%
at bone	=	67.7%
Don't know/missing	=	2.7%

7.2.3 Basic Indicators:

- a) Infant Mortality Rate (IMR) and under five Mortality Rate (U5MR):

Year	<u>IMR</u>	<u>U5MR</u>
1975	133	225
1985	130	219
1995	127	212

- b) IMR and U5MR by Sex 1988:

SEX	IMR	U5MR
Male	133	224
Female	127	213

- c) IMR and U5M by Urban/Rural residence (1988):

	<u>IMR</u>	<u>U5MR</u>
Rural	130	220
Urban	116	193

- d) Maternal Mortality Rate (MMR):

1992	=	304
1993	=	343
1994	=	190
1994	=	242

e) Life Expectancy at Birth:

1978 Av.	=	45 years
1988 Av.	=	45 years
1988 Male	=	44 years
1988 Female	=	45 years

f) Acquire Immunity Deficiency Syndrome (AIDS):

Rate of AIDS per 100,000 population = 444

7.3 Water Supplies:

7.3.1 Coverage of population with clean and safe water supplies:

1988	=	33.8%
1996	=	36.8%

7.3.2 Urban/rural Areas water Coverage 1996:

Rural	=	35.1
Urban	=	55.4

7.3.3 Sanitation Coverage (1988):

Urban	=	96%
Rural	=	90%
Average	=	90%

ANNEX 2B2

BUKOKA URBAN DISTRICT 1996 SUMMARY

1.0 GENERAL:

1.1 Location/borders:

An enclave on the shores of Lake Victoria surrounded by Bukoba Rural district.

1.2 Land Area:

80sq. kms. or 0.3% of Kagera land area.

1.3 Administrative Units:

Divisions	=	1
Wards	=	13
Villages	=	8

1.4 Population:

1.4.1 Population Census 1988:

Total	=	47,009
Sex Ratio	=	105
Average household size	=	4.6
Annual growth rate	=	2.40%
Population density	=	587.6 per km ²

% Urban population	=	61
Dependence Ratio	=	73.98 (66.51 in 1978)

1.4.2 Population Projections:

	1998	2000AD	Total
		59,760	62,699
Density (per sq.km.)	747.0		783.7

1.4.2 Other Censuses:

	<u>1967</u>	<u>1978</u>
Total Population	8,141	36,914

1.5 Ethnicity (indigenous):

Bantu speaking Wahaya.

2.0 ECONOMIC INFRASTRUCTURE:

2.1 Roads:

73 kms. of road divided into 13.5 kms trunk, 5 kms. regional, 40.2 kms. district and 14.5 kms. feeder wards. Road surface is 5.5 kms. tarmac and 67.5 kms. gravel.

2.2 Marine/Air Transport:

One airport

One marine port

2.3 Electricity (1988):

Population covered 26.7 per cent

3.0 BASIC SOCIAL FACILITIES:

3.1 Health:

Hospitals	=	1
Health centres	=	2
Dispensaries	=	18
MCH Clinics	=	1

3.2 Education:

Pre- Schools

Number 9

Total enrolment 436

Primary Schools

Number 20

Total enrolment 9,164

4.0 PRODUCTIVE SECTOR FACILITIES/ASSETS:

4.1 Agriculture (Combined with Bukoba Rural District:

Area under cultivation (Ha) =

% of land under cultivation =

Potential traditional irrigation (Ha) =

$$\frac{\text{Area under coffee/bananas (ha)}}{\text{Area under tea (ha)}} =$$

4.2 Livestock (Combined with Bukoba Rural District):

Number of indigenous cattle	=	
Number of dairy cattle	=	
Number of goats (1984)	=	
Number of sheep (984)	=	
Number of pigs (1984)	=	
Dips working	=	
Dips not working	=	
Dips in use	=	
Livestock Health Centres	=	

5.0 SELECTED SOCIAL AND ECONOMIC INDICATORS:

5.1 Education (Primary):

Population per school	=	2,407
Pupils per 1000 population	=	161
Pupils per school	=	458
Pupils per classroom	=	69
Pupils per teacher	=	23
Pupils per stream	=	37
Streams per school	=	12.5
Enrolment sex ratio	=	97
% shortage of teachers	=	24 surplus
% shortage of teacher houses	=	86
% shortage of classroom	=	25
% shortage of school toilets	=	61
% shortage of school desks	=	16

5.2 Health:

Population per hospital	=	56,926
Population per bed	=	176
Population per doctor	=	5,693
population per dispensary	=	3,163

Under one year children immunisation coverage:

BCG	99.7%
DPT3	94.0%
Polio3	91.3%
Measles	99.8%

5.3 Water Supplies:

Rural coverage -	
Urban coverage	70.3%

5.4 Sanitation:

Access by population to toilet facilities

Rural Areas	=	95%
Urban Areas	=	96%

6.0 OTHER ISSUES:

6.1 Women groups:

Number	=	83
Members	=	629

6.2 Youth groups:

Number = 14
Members = 72

ANNEX 2 C2

BUKOKA RURAL DISTRICT 1996 SUMMARY:

1.0 GENERAL:

1.1 Location/borders:

Northeast corner of Kagera region

North - Uganda

East - Lake Victoria waters of Mara Region

South and South East - Muleba district

West - Karagwe district

1.2 Land Area/Water Area:

5,450 sq.km² or 19% of Kagera's land area

2,330 sq. kms. of water or 20% of Kagera's water area

1.3 Administrative Units:

Divisions = 6

Wards = 41

Villages = 161

1.4 Population:

1.4.1 Population Census 1988:

Total	=	343,956
Sex Ratio	=	93
Average household size =	4.5	
Annual growth rate	=	1.50%
Population density	=	63.1 per km ²
% Urban population	=	0%
Dependence Ratio	=	111.37 (113.58 in 1978)

1.4.2 Population Projection:

1998	2000 AD	Total
	399,620	411,790
Density (per sq. km)	73.3	75.6

1.4.3 Other Census:

	<u>1967</u>	<u>1978</u>
Total Population	225,620	296,462

1.5. Ethnicity (indigenous):

Bantu speaking Wahaya.

2.0 ECONOMIC INFRASTRUCTURE:

2.1 Roads:

938 kms. of road divided into 95 kms. trunk, 347 kms regional, 288.3 kms. district and 207.7 kms. feeder roads. Road surface is 5 kms. tarmac, 474.5 kms. gravel and 458.5 kms. earth.

2.2 Marine/Air Transport:

Kemondo marine port

2.3 Electricity (1988):

population covered 0.2%

3.0 BASIC SOCIAL INFRASTRUCTURE:

3.1 Health:

Hospitals	=	2
Health Centres	=	5
Dispensaries	=	53
MCH clinics	=	44

3.2 Education:

Pre-Schools

Number	=	8
--------	---	---

Enrolment	=	235
-----------	---	-----

Primary Schools

Number	=	209
--------	---	-----

Enrolment	=	58,990
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3.3 Water:

Rural water Supplies

	<u>Working</u>	<u>Not working</u>
Gravity schemes	5	-
Pumped schemes	2	15
Hand Pumped shallow wells	135	30

4.0 PRODUCTIVE SECTOR FACILITIES/ASSETS (Includes Bukoba Urban district):

4.1 Agriculture:

Area under cultivation (ha)	=	121,665
% of land under cultivation	=	22%
Potential traditional irrigation (Ha)	=	25,900
Area under coffee/bananas (Ha)	=	36,850
Area under Tea (Ha)	=	1,629

4.2 Livestock:

Number of indigenous cattle	=	109,687
Number of dairy cattle	=	5,031
Number of goats (1984)	=	63,750
Number of sheep (1984)	=	9,944
Number of pigs (1984)	=	503
Dips working	=	44
Dips not working	=	4
Dips not in use	=	35
Livestock Health Centres	=	3

5.0 SELECTED SOCIAL AND ECONOMIC INDICATORS:

5.1 Education (Primary):

Population per school	=	1,790
Pupils per 1000 population	=	152
Pupils per school	=	303
Pupils per classroom	=	60
Pupils per teacher	=	32
Pupils per stream	=	35
Streams per school	=	8.1
Enrolment sex ratio	=	102
% shortage of teachers	=	7% surplus
% shortage of teacher houses	=	85
% shortage of classrooms	=	31
% shortage of school toilets	=	84
% shortage of school desks	=	38

5.2 Health:

Population per hospital	=	193,861
Population per bed	=	2,041
Population per doctor	=	96,930
Population per dispensary	=	7,315

Under one year children immunisation coverage (%):

BCG	=	87.3
DPT3	=	80.2
Polio	=	82.6

Measles = 79.9

5.3 Water Supplies:

Rural coverage = 27.4%

Urban coverage = -

5.4 Sanitation:

Access by population to toilet facilities

Rural Areas = 91%

Urban Areas = -

6.0 OTHER ISSUES:

6.1 Women Groups:

Number = 397

Members = 2,025

6.2 Youth Groups:

Number = 50

Members = 286

ANNEX 2D²

MULEBA DISTRICT 1996 SUMMARY

1.0 GENERAL:

1.1 Location/Borders:

Mid east of Kagera region.

North and North west - Bukoba Rural

East - Lake Victoria waters of Mwanza region

South - Biharamulo district

West - Karagwe and Biharamulo districts

1.2 Land Area/water Area:

2,499sq.kms. or 9% of Kagera's land area

8,240sq.kms. of water or 69% of Kagera's water area.

1.3 Administrative Units:

Divisions = 5

Wards = 31

Villages = 116

1.4 Population:

1.4.1 Population Census 1988:

Total = 274,447

Sex Ratio	=	94
Average household size =	4.9	
Annual growth rate	=	2.30%
Population density	=	109.8 per km ²
% Urban population	=	5%
Dependence Ratio	=	113.25 (112.36 in 1978)

1.4.2 Population Projections:

	<u>1998</u>	<u>2000 AD</u>
Total	345,419	361,679
Density (per sq.km.)	138.2	144.7

1.4.3 Other Censuses:

	<u>1967</u>	<u>1978</u>
Total Population	192,921	217,493

1.5 Ethnicity (indigenous):

Bantu speaking Wahaya

2.0 ECONOMIC INFRASTRUCTURE:

2.1 Roads:

614.1 kms. of roads divided into 96.5 kms. trunk, 149 kms. regional, 176.6 kms. district and 192 kms feeder roads. Road surface is 278.5 kms. gravel and 335.6 kms. earth.

2.2 Marine/Air Transport:

No major marine port. No Airstrip

2.3 Electricity (1988):

Population covered 0.6 percent

3.0 Basic Social Facilities:

3.1 Health:

Hospitals	=	3
Health centres	=	2
Dispensaries	=	31
MCH clinics	=	23

3.2 Education:

Pre - Schools

Number	15
Total enrolment	653

Primary Schools

Number	141
Total enrolment	42,389

3.3 Water:

Rural water supplies

	<u>Working</u>	<u>Not working</u>
Gravity Schemes	3	-
Pumped schemes	4	5
Hand Pumped		
Shallow wells	37	-

4.0 PRODUCTIVE SECTOR FACILITIES/ASSETS:

4.1 Agriculture:

Area under cultivation (Ha)	=	83,737
% of land under cultivation	=	34
Potential traditional Irrigation (Ha)	=	3,320
Area under coffee/bananas (Ha)	=	30,294
Area under Tea (Ha)	=	133

4.2 Livestock:

Number of indigenous cattle	=	31,018
Number of dairy cattle	=	1,438
Number of goats (1984)	=	52,951
Number of sheep (1984)	=	10,443
Dips working	=	25
Dips not working	=	2
Dips not in use	=	17
Livestock Health centres	=	4

5.0 SELECTED SOCIAL AND ECONOMIC INDICATORS:

5.1 Education (Primary):

Population per school	=	2,143
Pupils per 1000 population	=	129
Pupils per school	=	324
Pupils per classroom	=	55
Pupils per teacher	=	32
Pupils per stream	=	37
Streams per school	=	8.2
Enrolment sex ratio	=	102
% shortage of teachers	=	10
% shortage of teacher houses	=	86
% shortage of classrooms	=	24
% shortage of school toilets	=	62
% shortage of school desks	=	60

5.2 Health:

Population per hospital	=	109,904
Population per bed	=	502
Population per doctor	=	25,362
Population per dispensary	=	10,636

Under one year children immunisation coverage:

BCG	=	99.9%
DPT3	=	95.0%
Polio	=	93.6%
Measles	=	93.4%

5.3 Water Supplies:

Rural coverage	=	38.3%
Urban coverage	=	61.3%

5.4 Sanitation:

Access by population to toilet facilities:

Rural Areas	=	90%
Urban Areas	=	97%

6.0 Other Issues:

6.1 Women groups:

Number	=	180
Members	=	2,011

6.2 Youth groups:

Number	48
Members	233

ANNEX 2E2

BIHARAMULO DISTRICT 1996 SUMMARY:

1.0 GENERAL:

1.1 Location/Borders:

Southern east of Kagera region.

North - Muleba and Karagwe district

East - Mwanza region

South - Shinyanga and Kigoma regions

West - Ngara district

1.2 Land Area/water Area:

8,938sq.kms. or 31% of Kagera's land area

1,157sq.kms. of water or 10% of Kagera's water area.

1.3 Administrative Units:

Divisions = 5

Wards = 21

Villages = 84

1.4 Population:

1.4.1 Population Census 1988:

Total = 209,524

Sex Ratio	=	99
Average household size	=	5.8
Annual growth rate	=	2.30%
Population density	=	23.4 per km ²
% Urban population	=	7%
Dependence Ratio	=	110.39 (96.51 in 1978)

1.4.2 Population Projections:

	<u>1998</u>	<u>2000 AD</u>
Total	263,707	276,121
Density (per sq.km.)	29.5	30.9

1.4.3 Other Censuses:

	<u>1967</u>	<u>1978</u>
Total Population	73,301	165,580

1.5 Ethnicity (indigenous):

Bantu speaking
 Mainly Wasubi but also some Sukuma
 Wazinza and Warongo

2.0 ECONOMIC INFRASTRUCTURE:

2.1 Roads:

833 kms. of roads divided into 313.5 kms. trunk, 87.5 kms. regional, 202 kms. district and 530 kms feeder roads. Road surface is 111.5 kms. tarmac, 289.5 kms gravel and 432 kms. earth.

2.2 Marine/Air Transport:

One Airstrip and Nyamirembe
Marine port

2.3 Electricity (1988):

Population covered 0.3% percent

3.0 Basic Social Facilities:

3.1 Health:

Hospitals	=	1
Health centres	=	1
Dispensaries	=	30
MCH clinics	=	22

3.2 Education:

Pre - Schools

Number 9

Total enrolment 597

Primary Schools

Number 109

Total enrolment 31,000

3.3 Water:

Rural water supplies

	<u>Working</u>	<u>Not working</u>
Gravity Schemes	2	-
Pumped schemes	3	-
Hand Pumped		
Shallow wells	412	148

4.0 PRODUCTIVE SECTOR FACILITIES/ASSETS:

4.1 Agriculture:

Area under cultivation (Ha)	=	66,032
% of land under cultivation	=	7%
Potential traditional Irrigation (Ha)	=	1,190
Area under coffee/bananas (Ha)	=	1,735
Area under Tea (Ha)	=	NIL

4.2 Livestock:

Number of indigenous cattle	=	47,464
Number of dairy cattle	=	699
Number of goats (1984)	=	78,337
Number of sheep (1984)	=	9,283
Number of pigs (1984)	=	102
Dips working	=	13
Dips not working	=	-
Dips not in use	=	13
Livestock Health centres	=	3

5.0 SELECTED SOCIAL AND ECONOMIC INDICATORS:

5.1 Education (Primary):

Population per school	=	2,305
Pupils per 1000 population	=	123
Pupils per school	=	334
Pupils per classroom	=	86
Pupils per teacher	=	38
Pupils per stream	=	39
Streams per school	=	7.3
Enrolment sex ratio	=	122
% shortage of teachers	=	14
% shortage of teacher houses	=	86
% shortage of classrooms	=	47
% shortage of school toilets	=	73
% shortage of school desks	=	56

5.2 Health:

Population per hospital	=	251,715
Population per bed	=	1,798
Population per doctor	=	62,929
Population per dispensary	=	8,391

Under one year children immunisation coverage:

BCG	=	99.9%
DPT3	=	98.7%
Polio	=	99.9%
Measles	=	88.8%

5.3 Water Supplies:

Rural coverage	=	51.3%
Urban coverage	=	50.7%

5.4 Sanitation:

Access by population to toilet facilities		
Rural Areas	=	86%

Urban Areas = 93%

6.0 OTHER ISSUES:

6.1 Women Groups:

Number = 66

Members = 652

6.2 Youth Groups:

Number = 28

Members = 216

ANNEX 2F2

NGARA DISTRICT 1996 SUMMARY

1.0 GENERAL:

1.1 Location/Borders:

South western corner of Kagera region.

North - Karagwe and Rwanda

East - Biharamulo district

South - Kigoma region and Burundi

West - Burundi

1.2 Land Area/water Area:

4,428sq.kms. or 15% of Kagera's land area

1.3 Administrative Units:

Divisions = 4

Wards = 17

Villages = 70

1.4 Population:

1.4.1 Population Census 1988:

Total = 158,658

Sex Ratio = 91

Average household size =	4.5
Annual growth rate	= 3.90%
Population density	= 35.8 per km ²
% Urban population	= 5%
Dependence Ratio	= 114.56 (101.50 in 1978)

1.4.2 Population Projections:

	<u>1998</u>	<u>2000 AD</u>
Total	234,335	253,345
Density (per sq.km.)	52.9	57.2

1.4.3 Other Censuses:

	<u>1967</u>	<u>1978</u>
Total Population	96,322	107,917

1.5 Ethnicity (indigenous):

Bantu speaking Wahaya
Wasubi in Bushubi and Wahangaza in Bugufi

2.0 ECONOMIC INFRASTRUCTURE:

2.1 Roads:

773.8 kms. of roads divided into 87 kms. trunk, 262 kms. regional, 221.8 kms. district and 262 kms feeder roads. Road surface is 90.2 kms. tarmac, 262.0 kms gravel and 421.6 kms. earth.

2.2 Marine/Air Transport:

One Air strip

2.3 Electricity (1988):

Population covered 0.4% percent

3.0 Basic Social Facilities:

3.1 Health:

Hospitals	=	2
Health centres	=	2
Dispensaries	=	29
MCH clinics	=	25

3.2 Education:

Pre - Schools

Number	3
Total enrolment	222

Primary Schools

Number	77
Total enrolment	22,200

3.3 Water:

Rural water supplies

	<u>Working</u>	<u>Not working</u>
Gravity Schemes	7	2
Pumped schemes	3	3
Hand Pumped		
Shallow wells	163	30

4.0 PRODUCTIVE SECTOR FACILITIES/ASSETS:

4.1 Agriculture:

Area under cultivation (Ha)	=	44,182
% of land under cultivation	=	10%
Potential traditional Irrigation (Ha)	=	604
Area under coffee/bananas (Ha)	=	16,526
Area under Tea (Ha)	=	NIL

4.2 Livestock:

Number of indigenous cattle	=	18,043
Number of dairy cattle	=	882
Number of goats (1984)	=	90,367
Number of sheep (1984)	=	6,463
Number of pigs (1984)	=	749
Dips working	=	19
Dips not working	=	1
Dips not in use	=	17
Livestock Health centres	=	2

5.0 SELECTED SOCIAL AND ECONOMIC INDICATORS:

5.1 Education (Primary):

Population per school	=	2,198
Pupils per 1000 population	=	103
Pupils per school	=	296
Pupils per classroom	=	70
Pupils per teacher	=	27
Pupils per stream	=	36
Streams per school	=	8.1
Enrolment sex ratio	=	105
% shortage of teachers	=	1
% shortage of teacher houses	=	81
% shortage of classrooms	=	35
% shortage of school toilets	=	72
% shortage of school desks	=	63

5.2 Health:

Population per hospital	=	108,200
Population per bed	=	773
Population per doctor	=	36,069
Population per dispensary	=	7,463

Under one year children immunisation coverage %:

BCG	=	99.2
DPT3	=	79.2
Polio	=	78.3
Measles	=	74.2

5.3 Water Supplies:

Rural coverage	=	40.7%
Urban coverage	=	35.9%

5.4 Sanitation:

Access by population to toilet facilities

Rural Areas = 88%

Urban Areas = 93%

6.0 OTHER ISSUES:

6.1 Women Groups:

Number = 27

Members = 398

6.2 Youth Groups:

Number = 81

Members = 552

ANNEX 2 G2

KARAGWE DISTRICT 1996 SUMMARY

1.0 GENERAL:

1.1 Location/Borders:

North western corner of Kagera region.

North - Uganda and Bukoba Rural

East - Bukoba Rural and Muleba

South - Biharamulo and Ngara districts

West - Rwanda

1.2 Land Area/water Area:

7,558sq.kms. or 26% of Kagera's land area

158sq.kms or 1% of Kagera's water area.

1.3 Administrative Units:

Divisions = 4

Wards = 27

Villages = 101

1.4 Population:

1.4.1 Population Census 1988:

Total = 292,589

Sex Ratio	=	102
Average household size	=	5.2
Annual growth rate	=	4.20%
Population density	=	38.7 per km ²
% Urban population	=	2%
Dependence Ratio	=	115.99 (108.48 in 1978)

1.4.2 Population Projections:

	<u>1998</u>	<u>2000 AD</u>
Total	445,309	484,331
Density (per sq.km.)	58.9	64.1

1.4.3 Other Censuses:

	<u>1967</u>	<u>1978</u>
Total Population	94,407	185,013

1.5 Ethnicity (indigenous):

Mainly Bantu speaking
Wanyambo

2.0 ECONOMIC INFRASTRUCTURE:

2.1 Roads:

719.1 kms. of roads divided into 284.5 kms. Regional, 248 km district and 186.6km feeder roads. Road surface is 408.5kms. gravel and 310.6 earth.

2.2 Marine/Air Transport:

No marine port, One Air strip

2.3 Electricity (1988):

Population covered 0.4% percent

3.0 Basic Social Facilities:

3.1 Health:

Hospitals	=	3
Health centres	=	3
Dispensaries	=	40
MCH clinics	=	31

3.2 Education:

Pre - Schools

Number	21
Total enrolment	514

Primary Schools

Number	133
Total enrolment	43,326

3.3 Water:

Rural water supplies

	<u>Working</u>	<u>Not working</u>
Gravity Schemes	14	2
Pumped schemes	1	4
Hand Pumped		
Shallow wells	45	0

4.0 PRODUCTIVE SECTOR FACILITIES/ASSETS:

4.1 Agriculture:

Area under cultivation (Ha)	=	126,420
% of land under cultivation	=	17
Potential traditional Irrigation (Ha)	=	7,075
Area under coffee/bananas (Ha)	=	35,680
Area under Tea (Ha)	=	NIL

4.2 Livestock:

Number of indigenous cattle	=	77,543
Number of dairy cattle	=	2,457
Number of goats (1984)	=	58,895
Number of sheep (1984)	=	17,667
Number of pigs (1984)	=	554
Dips working	=	20
Dips not working	=	9
Dips not in use	=	18
Livestock Health centres	=	5

5.0 SELECTED SOCIAL AND ECONOMIC INDICATORS:

5.1 Education (Primary):

Population per school	=	2,345
Pupils per 1000 population	=	106
Pupils per school	=	333
Pupils per classroom	=	62
Pupils per teacher	=	38
Pupils per stream	=	38
Streams per school	=	8.5
Enrolment sex ratio	=	102
% shortage of teachers	=	28
% shortage of teacher houses	=	83
% shortage of classrooms	=	28
% shortage of school toilets	=	70
% shortage of school desks	=	42

5.2 Health:

Population per hospital	=	136,230
Population per bed	=	862
Population per doctor	=	40,869
Population per dispensary	=	10,217

Under one year children immunisation coverage (%):

BCG	=	99.9%
DPT3	=	99.9%
Polio	=	99.8%

Measles = 99.0%

5.3 Water Supplies:

Rural coverage = 27.5%

Urban coverage = 38.9%

5.4 Sanitation:

Access by population to toilet facilities

Rural Areas = 91%

Urban Areas = 97%

6.0 OTHER ISSUES:

6.1 Women Groups:

Number = 466

Members = 7,672

6.2 Youth Groups:

Number = 38

Members = 178

ANNEX 2H2

1.0 GENERAL INFORMATION ABOUT TANZANIA

Location: (29°E-41°; 1°S - 12°S)

Land Frontiers:

To the North:	Kenya and Uganda
To West:	Burundi, Rwanda and Zaire
To South:	Zambia, Malawi and Mozambique
To East:	Indian Ocean

AREA OF MAINLAND

Land area	881,289 Sq.Km.
Water area (Inland)	61,495 Sq.Km.
Tanzania area	942,784 Sq.Km.

TANZANIA MAINLAND AREA BY REGIONS (SQ KM)

Total	942,784		
Arusha	84,567	Morogoro	70,799
Coast	32,407	Mwanza	35,248
Dodoma	41,311	Lindi	66,046
Iringa	58,936	D'Salaam	1,393
Kigoma	45,066	Rukwa	75,240
Kagera	39,627	Ruvuma	66,477
Kilimanjaro	13,309	Shinyanga	50,781
Mara	30,150	Singida	49,341

Mbeya	62,420	Tabora	76,151
Mtwara	16,707	Tanga	26,808

Population

TOTAL POPULATION AND LIFE EXPECTANCY FOR TANZANIA - BY REGIONS, 1967, 1978, 1988, 1996:

REGION	TOTAL POPULATION				LIFE EXP. 1988	
	1967 (No.)	1978 (No.)	1988 ('000)	1996** ('000)	M Yrs	W Yrs
Dodoma	709,380	972,005	1,234.9	1,472.5	57	58
Arusha	610,474	926,223	1,348.4	1,784.0	46	51
Kilimanjaro	652,722	902,437	1,106.0	1,703.5	50	50
Tanga	771,060	1,037,767	1,307.3	1,521.8	45	47
Morogoro	682,700	939,264	1,254.0	1,519.4	44	47
Coast	428,041	516,586	636.5	740.9	44	45
Dar es Salaam	356,286	843,090	1,357.6	1,945.7	47	49
Lindi	419,853	527,624	645.0	744.8	57	62
Mtwara	621,293	771,818	887.4	976.7	46	48
Ruvuma	395,447	561,575	781.4	1,001.3	46	48
Iringa	689,905	925,044	1,206.0	1,472.9	45	48
Mbeya	753,765	1,079,864	1,472.7	1,857.0	45	48
Singida	457,938	613,949	789.9	949.4	44	48
Tabora	502,068	817,907	1,033.8	1,232.6	46	50
Rukwa	276,091	451,897	693.3	954.7	44	47
Kigoma	473,443	648,941	857.8	1,047.6	48	50
Shinyanga	899,468	1,323,535	1,768.6	2,194.83	48	51
Kagera	658,712	1,009,767	1,358.8	1,659.5	54	55
Mwanza	1,055,883	1,443,379	1,874.4	2,270.9	53	54
Mara	544,125	723,827	968.6	1,202.0	48	51
Tanzania Mainland	11,958,654	17,036,499	22,582.4	28,252.2	49	51
Zanzibar North	56,360	77,017	97.1	119.0	46	47
Zanzibar South	39,087	51,749	70.2	91.8	45	50
Zanzibar Urban	95,047	142,041	208.4	290.4	46	52
Pemba	72,015	106,290	137.4	172.6	46	48
Pemba	92,306	99,014	127.7	160.4	45	50
Zanzibar Is.	354,815	476,111	640.7	834.2	46	49
Tanzania United Rep.	12,313,469	17,512,610	23,223.1	29,086.4	47	50

Note: The projections are based on the national Population Census of 1988, and the calculated growth rates since the 1978 census.

Source: Bureau of Statistics.

Land Use

	(Ha (millions))	Proportion
Small holder cultivation	4.1	5%
Large scale agriculture		1.1 1%
Grazing Land	35.0	39%
Forest and Wood Lands	44.0	50%
Other Lands	4.4	5%
Total	88.6	100%

Arable Land:

Arable Land (Ha)	3,634,000
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Lakes

Victoria	34,850 sq km
Tanganyika	13,350 sq km
Nyasa	5,600 sq km
Rukwa	2,850 sq km
Eyasi	1,050 sq km
Natron	900 sq km
Manyara	320 sq km

Mountain summits (metres above sea level)

Kilimanjaro	5,895
Meru	4,566

Climate

(a) Rainfall

Main rain season on the coast is between March and May and the second season is between October and December. Rainfall is well distributed throughout the year but there is a peak during March and May.

Average maximum temperature (degrees centigrade)

	Jan.	Apr.	July	October
Dar es Salaam	31.6	30.1	28.6	31.3
Arusha	28.9	25.3	21.1	27.3
Dodoma	31.4	28.4	26.0	30.2

Average minimum temperature (degrees centigrade)

	Jan.	Apr.	July	October
Dar es Salaam	23.3	22.9	18.3	31.3
Arusha	12.2	16.9	12.6	27.3
Dodoma	19.2	13.5	16.2	30.2

Gross Domestic Product at factor cost (billion Shs.) 1992.

At current price	688.0
At constant prices	32.2
GDP growth rate at 1976 prices 1985-92	3.69%
Per capita	27,355
At current price	27,355
At constant price	1,280

1.2 SOCIAL SERVICES

HEALTH FACILITIES

YEAR	HOSPITALS	RHC	DISPENSARIES
1960	98	22	975
1980	149	239	2,600
1990	173	276	3,014

Education: Enrolment rates 1995 compared with other East Africa countries

COUNTRY	GROSS ENROLLMENT	
	PRIMARY	SECONDARY
KENYA	94	28
UGANDA	76	20
TANZANIA	67	13

1.3 NATIONAL PARKS

National Parks (area in sq km)

PARK	LOCATION AND PARTICULARS
(i) SERENGETI NATIONAL PARK	<p>LOCATION: At the border of Arusha & Mara Region, about 32 km from Arusha town</p> <p>AREA SIZE: 14,763 square km. It is the largest and oldest Park in Tanzania having been established under the British Colony in 1951. It contains the greatest and most spectacular concentration of plain animals left any where in Africa.</p> <p>MAJOR ATTRACTIONS: Wildebeest about 1.7 million, Lions 3,000. About 35 species of animals and 500 species of birds, Buffalos, Chetah, Leopards etc.</p>
(ii) LAKE MANYARA NATIONAL PARK	<p>LOCATION: Some 125 Kilometres South West of Arusha town. It was officially established and gazzetted as a National Park in 1960.</p> <p>AREA: Lake Manyara National Park covers a total area of 320 square kilometres, 230 kilometres constituting Lake Manyara itself.</p> <p>MAJOR ATTRACTIONS: The Rift Valley edge on the West with the vast lake underneath. Natural forest with many natural rivers and springs. Tree-climbing lions, various species of animals plus about 360 species of birds, Elephants, Hippos, Leopards, Baboons etc.</p>

<p>(iii) TARANGIRE NATIONAL PARK</p>	<p>LOCATION: South of Arusha town along the Dodoma Highway. It was established in 1970.</p> <p>AREA: Tarangire National Park covers some 2,600 Square kilometres.</p> <p>MAJOR ATTRACTIONS: Tree climbing pythons, zebra, kongoni, elephant, buffalo, waterbuck, gazettes and oryx.</p>
<p>(iv) ARUSHA NATIONAL PARK (MOMELA)</p>	<p>LOCATION: The Park is located between Mount Meru and Mount Kilimanjaro. Formally Ngudoto National Park until 1967. Was commissioned as National Park in 1960.</p> <p>AREA: The park covers some 137 square Kilometres.</p> <p>MAJOR ATTRACTIONS: Ngurdoto Crater, Lake Momella, Mount Meru and the Natural Momela Forests. There are many species of Animals and birds. The most common being African elephant, colobus and velvet monkey, hippo, duicker and a number of bird species.</p>
<p>(v) KILIMANJARO NATIONAL PARK</p>	<p>LOCATION: The Kilimanjaro National Park which derived its name from Mount Kilimanjaro is part and parcel of the Mountain. It was established in 1973.</p> <p>AREA: The boundaries of the Park include the natural forest under and around the Mountain. It covers some 760 square Kilometres.</p> <p>MAJOR ATTRACTIONS: Mount Kilimanjaro with its three peaks Shira (3,962 metres) Mawenzi and Kibo (5,149 and 5,895 metres respectively) above sea level form the largest part of the Park's attraction. There are also various species of Animals, plants and birds.</p>

<p>(vi)MIKUMI NATIONAL PARK</p>	<p>LOCATION: It is situated some 216 km along the Dar - Zambia Highway. It was established in 1964.</p> <p>AREA: Mikumi National Park which borders with Africa's largest Game reserve, the Selous is the third biggest National Park after Serengeti and Ruaha National Park and covers 3230 sq km.</p> <p>MAJOR ATTRACTIONS: The plains surrounding River Mkata which are rich in flora and fauna are by themselves a wonderful scenarial. The common animals found in the park include zebra, buffalos, elephants, Hippos, lions and the Impalas.</p>
<p>(vii)UDZUNGWA NATIONAL PARK</p>	<p>LOCATION: This Park is located South of Mikumi National Park along the Mikumi-Ifakara Highway. The Park was established in 1992.</p> <p>AREA: The Park which derives its identity from the famous Udzungwa mountain has an area of 1990 square kilometres.</p> <p>MAJOR ATTRACTIONS: Its unique species of Fauna and Flora which called for its declaration as a National Park. The Udzungwa Mountains and Forests are a good source of Rivers and springs, one of them being the famous Kilombero River, which constitutes the essential part of the multi-hactoral its total Kilombero Sugar Plantations. Additional attractions: Lions, Buffalos, Giraffes etc.</p>

<p>(viii) RUAHA NATIONAL PARK</p>	<p>LOCATION: The name Ruaha, is derived from the Hehe word "Luvaha" meaning a river.</p> <p>AREA: Park covers an area of 12,950 square kilometres, the second largest in the country. Ruaha National Park which was established in 1964 is situated some 130 km west of Iringa town.</p> <p>MAJOR ATTRACTIONS: The Ruaha River by itself is an attraction, leave alone some hundreds of species of Flora which surround it. Besides there are a lot of Crocodiles, Hippos, Elephants etc.</p>
<p>(ix) KATAVI NATIONAL PARK*</p>	<p>LOCATION: It is located in Mpanda District, Rukwa Region. It was established in 1974.</p> <p>AREA: The Katavi National Park which is about 40 kilometres South -East of Mpanda town covers an area of 2,253 square kilometres.</p> <p>MAJOR ATTRACTION: Lakes Chala and Chada plus other springs and rivers whose waters feed into lake Rukwa constitute a unique environment. Animals in the park include zebra, sable, eland, leopard, buffalo, lion, antelops etc. Animals like, Buffalos, Elephants, Zebras and BushBucks are a good attraction to visitors.</p>
<p>(x) MAHALE NATIONAL PARK</p>	<p>LOCATION: Located some 120 south of Kigoma town along the shores of lake Tanganyika, Mahale National Park is yet another attraction in Tanzania's Natural Heritages.</p> <p>AREA: Mahale nation Park has about 1,613 square kilometres and was gazetted in 1948.</p> <p>MAJOR ATTRACTIONS: Chimpanzees are a major attraction. Also there is a good number of monkey species including red colobus monkeys. It is estimated that there are 700 Chimpanzees in Mahale and 15 species of monkeys whose habits tally with those of the Chimps.</p>

<p>(xi) GOMBE NATIONAL PARK</p>	<p>LOCATION: Gombe National Park is situated 16 km north of Kigoma town in western Tanzania. It is a narrow strip of mountainous country bounded in the east by the eastern rift valley escarpment and by lake Tanganyika in the west</p> <p>AREA: Covering some 52 square kilometres. National park, was commissioned in 1968.</p> <p>MAJOR ATTRACTIONS: Ever green forests and primates. These include Chimpanzees, Baboons, blue monkey red tails and red colobus.</p>
<p>(xii) RUBONDO NATIONAL PARK</p>	<p>LOCATION: The Park which form park of a number of archipelagos in Lake Victoria covers some 240 square Kilometres. it was established in 1977</p> <p>MAJOR ATTRACTIONS: The Chimpanzees. But other attractions include, Hippos, Giraffes, and Elephants. the absence of man-eaters such as Lions & Leopards ensures a safe walk in Rubondo Park even some fishing activities with boats under Park wardens are carried out.</p>
<p>(xiii) NGORONGORO</p>	<p>LOCATION: It is situated west of Arusha town some 230 kms.</p> <p>AREA: The park covers 8320 sq km</p> <p>MAJOR ATTRACTION: Wildebeest, Lions, Buffalos, Leopards, Variety of birds species, Giraffes, elephants etc</p>