

FOREWORD

This District Development Plan was prepared by the District Departmental Heads of various ministries under the co-ordination of the District Commissioner assisted by the members of the District Planning Unit. The plan drafts were discussed by members of the District Executive Committee and approved by the District Development Committee.

Rural Planning Department of the Office of the Vice President and Ministry of Planning and National Development provided overall guidance through seminars, formulation of the guidelines and was also responsible for editing and publication of the plan.

The Plan is divided into five chapters.

Chapter One: Provides background information on the district's natural and human resource base and potential.

Chapter Two: Provides a portrait of the people of the district, the way they earn their livelihood, and their standard of living. It presents social and economic levels of the district.

Chapter Three: Presents the major development constraints and the district's strategy for dealing with them in the 1994-96 plan period.

Chapter Four: Provides a situation analysis of HIV/AIDS of the District

Chapter Five: Lists in order of priority for each sector major projects and programmes which the DDC wishes to implement during the 1994-96 plan period.

Selection and prioritization of projects and programmes was the responsibility of the DDC. The drafting of the plan was guided by the Sessional Paper No. 1 of 1986 and other relevant national and sectoral policy documents.

Rural Planning Department
Office of the Vice President and Ministry of Planning and National Development

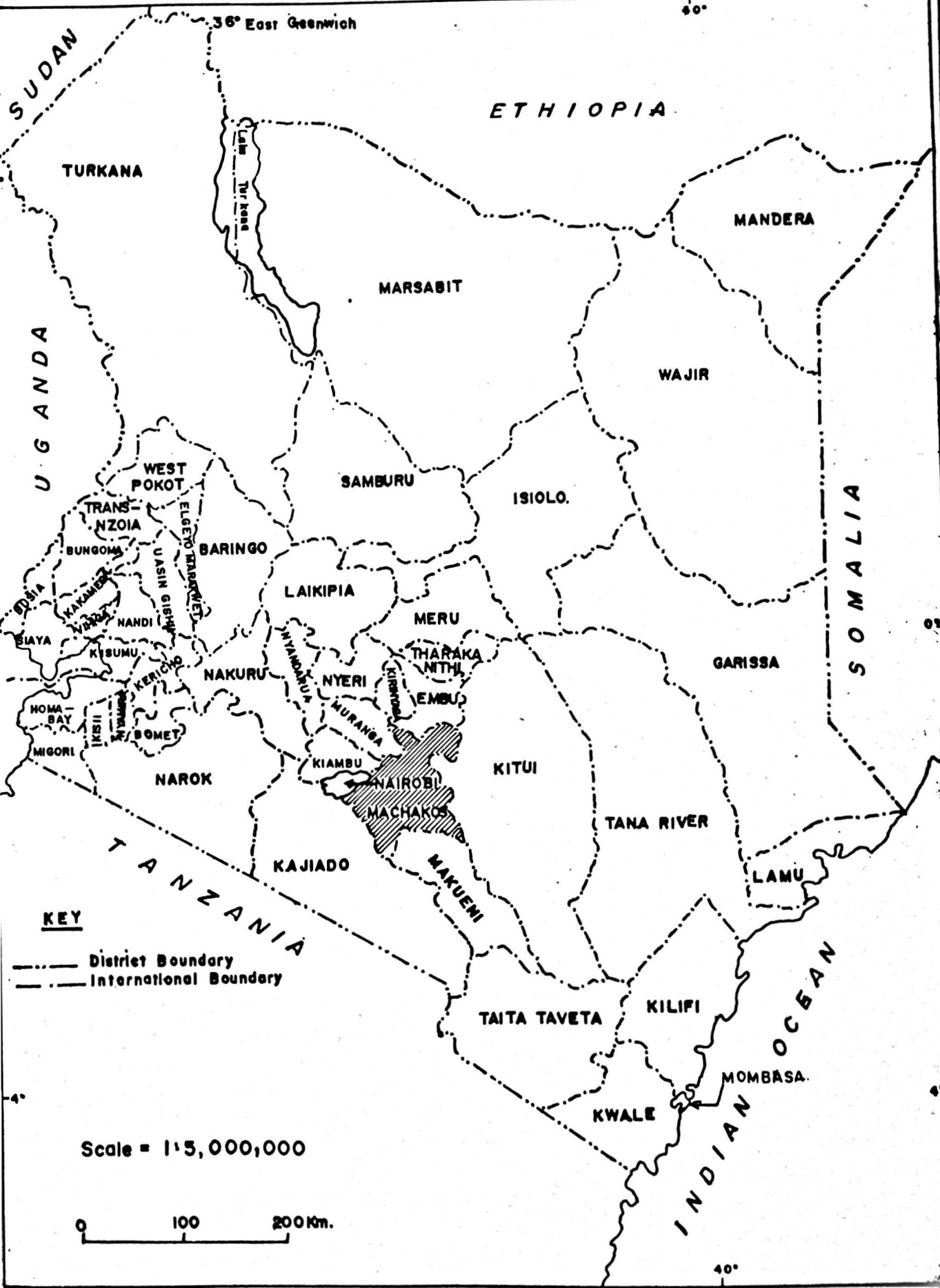
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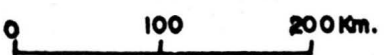
LOCATION OF THE DISTRICT



KEY

- District Boundary
- · - International Boundary

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CHAPTER ONE

DISTRICT PROFILE

PHYSICAL DESCRIPTION

Location and Size

Machakos District, one of the ten districts in Eastern Province, lies within the foreland plateau between the Eastern Rift Valley and Nyika plateau. It lies between latitudes 0° 45' and 1° 30' south of the Equator and longitude 36° 45' and 37° 45' east of the Greenwich Meridian. It borders Kitui District to the east, and Kajiado District towards the west. Towards the south it borders Makueni District, while Nairobi Province and Kiambu District are to the north-west. Towards the north-east, it borders Muranga and Embu Districts. The District has an area of 5,818 sq. km. which is subdivided into six administrative divisions as shown by Table 1.1.

Table 1.1

Area of the District by Divisions

Division	Area (Sq. Km)
Central	898
Kathiani	1069
Yatta	829
Kangundo	598
Mwala	794
Masinga	1630
Total	5818

Source: District Statistical Office, Machakos, 1993.

Topography and Geology

The topography of the district is varied. However, it consists mainly of a large plateau which is elevated to about 1,700m in the west and slopes to about 700m above sea level to the south.

The plateau is characterized by a series of hill masses of metamorphic rocks at the center between Athi-Kapiti plains in the west and Yatta in the north-east. The volcanic Kiima Mbogo (Killimambogo) or Oldonyo Sabuk Hill is the highest point in the district rising to about 2,144m. These hills act as a catchment area for many springs and streams in the district.

The overall drainage is from west to east. Most of the streams are seasonal with sandy deposits along their beds. There are a few permanent rivers or streams in Machakos District. All of them drain in to either Athi, Tana or Thika Rivers.

The crystalline rocks of the basement system occupy much of the district. The basement system comprises various types of precambrian sediments which were transformed into gneiss, schists, quartzites and marbles.

The rock formation of the district is divided into several groups. The precambrian rocks of the basement system which covers the greater part of the district; the tertiary sediments and the volcanics with miocene phonolites which are the oldest volcanic rocks and are found in Kapiti Plains in the north western part of the district and in the Yatta Plateau.

The topography of the district has had some impact on the development of the district. The hill massifs of Iveti, Mua and Kangundo not only act as catchment areas for numerous springs and streams which are sources of several small scale water projects, but are also relatively high potential areas for agricultural production because they receive relatively high rainfall in comparison with the low lying areas. Coffee is the major cash crop in the district and is grown along these hills. Horticultural crops such as tomatoes are also grown under irrigation in these hills. The low lying Kapiti Plains and Yatta plateau with relatively low rainfall are suitable for ranching activities.

The uneven nature of the topography has resulted in serious soil erosion, causing numerous gullies in some parts, especially where terracing has not been practised. It is with the idea of arresting the situation, that a lot of emphasis is being given to soil conservation activities. The hilly nature of the topography and the many gullies have also adversely affected development of the road network in some parts of the district.

Climate

Rainfall in the district varies with altitude. The high lying areas which include Mua, Iveti and Kangundo Hills have higher rainfall than the low lying areas, especially those in the rain shadow of the hills. They are dry most of the year. These include the whole of Yatta Plateau and Wamunyu in Mwala Division.

Total annual rainfall ranges from slightly over 1000mm in some of the highlands to slightly less than 500mm in the low lying areas. The rainfall has a bimodal pattern with a significant difference in distribution over different years as can be seen on Table 1.2. The long rains occur between March and May while the short rains fall from October to December, although it is not very reliable. Historical data indicates that in 4 out of 10 years there is a major drought in the district. The low lying areas with less rainfall are best suited for livestock and drought resistant crops.

Distribution of agricultural and livestock activities depends on the potential of a particular area. Coffee, the major cash crop is concentrated in the hill masses of Iveti, Mua and Kangundo which have higher and more reliable rainfall.

Table 1.2

Mean Monthly Rainfall

Month	Long term Monthly Mean	1988	1989	1990	1991	1992
January	33.3	69.8	84.9	54.7	14.1	19.7
February	23.9	7.1	17.8	27.7	3.7	1.0
March	84.9	142.9	21.4	255.0	73.8	16.5
April	196.0	218.9	229.1	246.9	98.6	271.3
May	63.8	28.6	98.4	77.5	61.6	40.0
June	17.5	15.6	2.7	3.1	1.7	-
July	2.8	1.9	1.0	0.7	6.8	-
August	4.1	4.4	6.5	1.6	9.5	-
September	6.7	20.7	12.1	8.9	2.2	-
October	68.5	38.9	104.8	74.8	57.5	-
November	183.2	214.9	173.1	226.7	149.7	-
December	98.4	89.5	97.5	117.6	104.3	-
Annual Rainfall	783.1	853.2	849.3	1095.2	583.5	-
Monthly Mean	65.3	71.1	71.1	91.3	48.6	-

Source: Meteorological Department, Machakos, 1993.

Note: Records for 1992 is only available for the first five months.

The Table 1.2 indicates mean monthly rainfall between 1988 and 1992. As shown in the table, the total rainfall (long-rains) received in 1988 was 390.4mm. The same figures fell to 348.9mm and 116.3 mm respectively in 1989. In 1990, there was an upward trend with total rainfall received going up to 570.44 mm with the mean monthly rain reaching 193.13mm. In 1991 these figures fell again to 234 and 78 mm. For the last five years, long term mean rainfall for long rains were exceeded only in 1990 which reflects on the vulnerability of rain-fed agriculture generally in the district.

Comparing the short rains over the same period, 1988 to 1991, the total amount of rain (short-rains) received in 1988 was 350mm with mean monthly rainfall of 116.7mm. In 1989, these figures fell to 343.3mm and 114.43mm respectively and again rose to 419.1mm and 139.7mm in 1990. In 1991 the total

amount of short rain received was 311.5mm with monthly mean of 103.83mm. The distribution of short rains over the years shows the same pattern as the long rains just described.

From Table 1.2, it is therefore clearly shown that there is not only big variation between long and short rains but also from one year to the other. This unreliability of rainfall makes it very difficult for farmers to plan their farming activities thus adversely affecting both agricultural and livestock production.

Temperature varies between 20° and 25° throughout the year. The coldest month is July and the warmest is October and March prior to the rains. Table 1.3 gives mean monthly temperatures from 1987 to 1991.

Table 1.3

Mean Temperatures (°C) from 1987 to 1991
Main Station - Machakos Dam - Altitude 1573

Month	1987	1988	1989	1990	1991
January	19.7	21.2	20.1	19.6	19.2
February	20.7	22.0	19.6	21.3	20.2
March	22.4	22.3	21.3	21.3	21.3
April	21.7	21.1	10.9	20.6	20.4
May	20.6	10.9	19.7	20.0	19.9
June	18.8	18.9	18.1	17.1	18.8
July	18.5	18.3	16.9	17.2	16.8
August	18.6	18.2	17.5	17.5	16.5
September	20.2	19.5	19.6	18.9	18.1
October	21.5	21.0	20.3	20.8	20.5
November	21.1	20.1	20.1	20.1	19.6
December	20.9	19.3	20.2	20.6	19.1

Source: Meteorological Department, Nairobi, 1993.

Note: The means are the established averages for given number of years.

Table 1.3 reflects the term monthly means calculated on the basis of 13 years of record upto 1991 for Machakos Dam (near Katumani Research Station - altitude 1573). As there is no data for any other station, it is not possible to make any comparison.

ADMINISTRATIVE AND POLITICAL UNITS

Machakos District is divided into six administrative divisions, which have been further sub-divided into 28 locations and 130 sub-locations as shown by Table 1.4.

Table 1.4

Administrative units by Division

Division	No. of Locations	No. of Sub-Locations
Central	4	21
Kangundo	5	29
Mwala	6	39
Kathiani	3	17
Yatta	6	12
Masinga	4	12
Total	28	130

Source: District Statistical Office, Machakos, 1993.

There are four local authorities in the district; Masaku County Council, Machakos Municipal Council, Mavoko Town Council and Tala Kangundo Urban Council, with a total of 66 wards.

Table 1.5**Political Units**

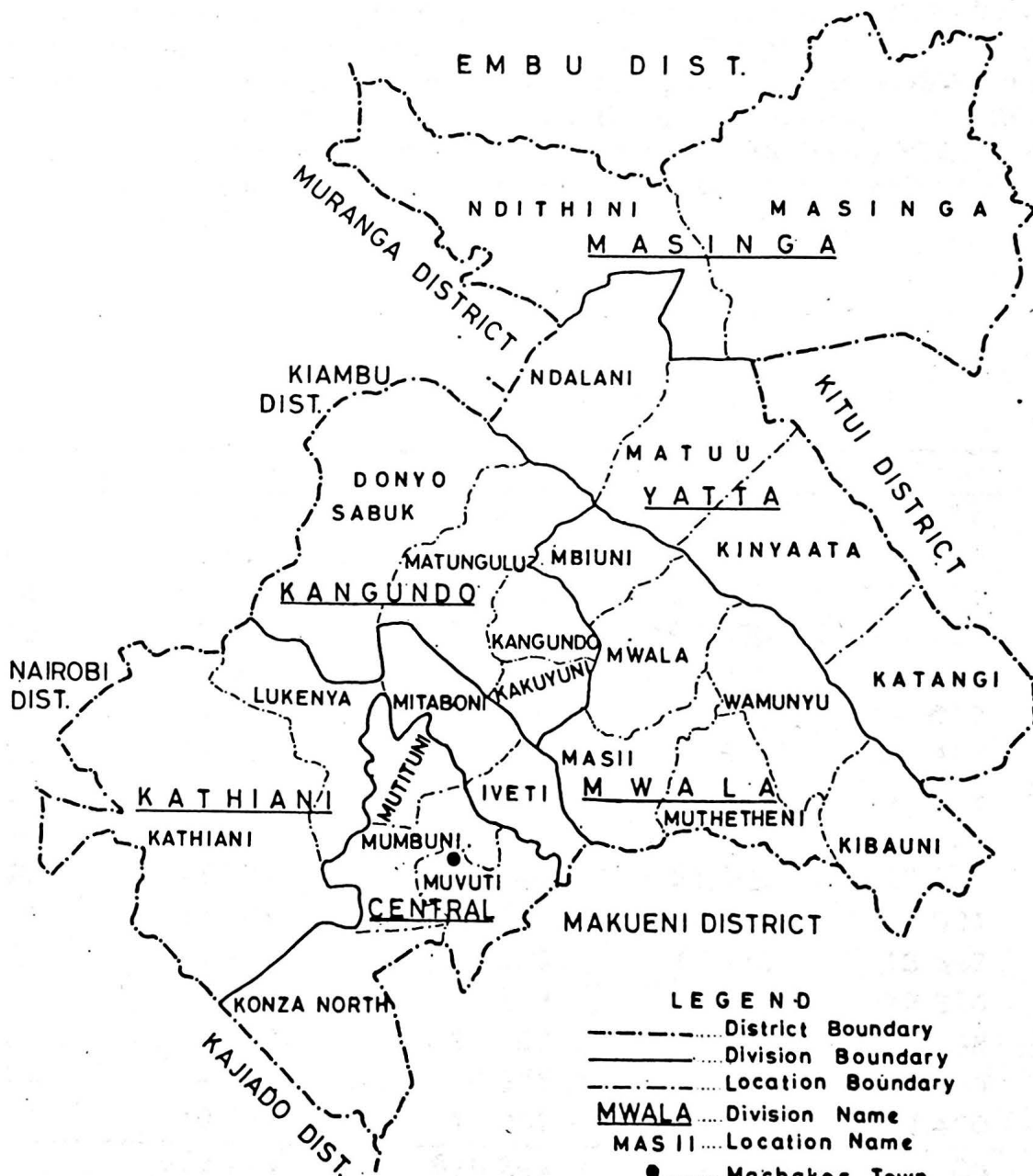
Name of Authority	No. of Wards
Masaku County Council	39
Machakos Minicipal Council	12
Mavoko Town Council	9
Tala Kangundo Urban Council	6
Total	66

Source: Masaku Local Council Offices, 1993.

Politically, the district is divided into six parliamentary constituencies namely; Central, Kangundo, Kathiani, Mwala, Yatta and Masinga. Their boundaries conform to the divisional ones and hence the number of constituencies is equal to the number of administrative divisions.

MACHAKOS DISTRICT

ADMINISTRATION BOUNDARIES



LEGEND

- District Boundary
- Division Boundary
- Location Boundary
- MWALA Division Name
- MAS II Location Name
- Machakos Town

0 6 12 18 24KM

DEMOGRAPHIC AND SETTLEMENT PATTERNS

Population Size

In 1979, the population of Machakos District (including Makueni District) was 1,022,522. Then, the population in the current Machakos District was 572,259. The inter-censal growth rate between 1969 and 1979 was 3.9%. This is expected to have come down to 3.09% by 1989 as a result of vigorous family planning campaigns supported by rising income levels. The population estimates and projections used in this plan therefore assumes a growth rate of 3.09% under constant mortality and fertility rates. Under these assumptions, the district population has risen to 876,242 in 1993 and is expected to rise to 903,318 in 1994 and to 960,006 in 1996 as depicted in Table 1.6. This growth assumes constant fertility and mortality rate.

Table 1.6

District Population Projection

Age Cohorts	1979	1993	1994	1996
0 - 4	105,401	161,389	166,376	176,817
5 - 9	99,521	152,387	157,096	166,954
10 - 14	81,968	125,509	129,387	137,507
15 - 19	66,219	101,395	104,528	111,087
20 - 24	44,943	68,817	70,944	75,396
25 - 29	35,180	53,868	55,532	59,017
30 - 34	27,121	41,528	42,811	45,498
35 - 39	20,510	31,405	32,375	34,407
40 - 44	18,800	28,786	29,676	31,538
45 - 49	13,876	21,248	21,904	23,279
50 - 54	17,341	26,553	27,374	29,091
55 - 59	11,116	17,020	17,546	18,647
60 - 64	7,388	11,313	11,662	12,394
65 - 69	8,338	12,767	13,162	13,988
70 - 74	4,163	6,375	6,572	6,985
75 +	10,374	15,882	16,373	17,400
Total	572,259	876,242	903,318	960,006

Source: Projection from 1979 Population Census.

Population Structure

Table 1.7 shows population projections by sex and age cohorts. It can be observed that in the age groups 0 - 4 years and 15 - 19 years, the ratio of females to males is almost 1:1. There is, however, a divergence from this ratio in the 20 - 54 age group where the number of males is less than females by a large margin. This is attributed to the fact that the male population in the age group migrate to other areas outside the district in search of gainfull employment.

From the 59+ group, it can be seen from the table that the ratio of females to males is close to 1:1. This phenomena is attributed to the fact that the males who had migrated outside the district have retired and have come back to stay with their families.

The percentage of the youthful population (0-14 years) to the total population in 1979 was 52% and the figure is expected to be the same in 1994 and 1996. Again, the percentage of people above 59 years to the total population in 1994 and 1996 is expected to remain the same as 1979 figure of 4% on assumption that fertility and mortality rates remain constant. Dependency ratio was 1:1.03 in 1979 and it is expected that the ratio will remain at 56% of the total population in age groups 0 - 14 years and 59+ in the years 1994 and 1996.

Table 1.7

Age/Sex Projections (1979-96)

Age Cohorts	1979		1993		1994		1996	
	M	F	M	F	M	F	M	F
0 - 4	50,811	54,589	77,802	83,587	80,207	86,170	85,240	91,577
5 - 9	47,977	51,544	73,463	78,924	75,733	81,363	80,485	86,469
10 - 14	39,515	42,453	60,505	65,004	62,375	67,012	66,289	71,217
15 - 19	31,923	34,296	48,880	52,514	50,391	54,137	53,553	57,534
20 - 24	21,666	23,277	33,175	35,642	34,200	36,743	36,347	39,049
25 - 29	16,980	18,220	25,969	27,899	26,771	28,761	28,451	30,566
30 - 34	13,075	14,047	20,020	21,508	20,639	22,173	21,934	23,564
35 - 39	9,887	10,623	15,140	16,265	15,608	16,768	16,587	17,820
40 - 44	9,063	9,737	13,877	14,909	14,306	15,370	15,204	16,334
45 - 49	6,690	7,187	10,243	11,005	10,560	11,345	11,222	12,057
50 - 54	8,360	8,981	12,801	13,752	13,196	14,177	14,024	15,067
55 - 59	5,359	5,757	8,205	8,815	8,459	9,088	8,990	9,658
60 - 64	3,562	3,826	5,454	5,859	5,622	6,040	5,975	6,419
65 - 69	4,020	4,319	6,155	6,612	6,345	6,817	6,743	7,245
70 - 74	2,007	2,156	3,073	3,301	3,168	3,404	3,367	3,617
75 +	5,000	5,372	7,656	8,226	7,893	8,480	8,388	9,012
Total	275,874	296,385	422,419	453,823	435,471	467,847	462,799	497,207

Source: Projections from 1979 Population Census.

Table 1.8 shows population projection of primary and secondary school going children, female reproductive age and the labour force between 1979 - 1996. From the table it can be seen that the number of female children of school going age is slightly higher than that of their male counterparts. This is attributed to the higher proportion of females in the age group 0 - 14 years. The percentage of secondary school age children is expected to be 11% in 1994 and 1996. There is need to expand the existing educational facilities to accommodate the large proportions of school age children in the growing population.

The labour force population in 1979 was 255,107 and the figure is projected to be 390,620 in 1994 and 402,690 in 1994 and 427,961 in 1996. This situation presents serious employment problems and there is need to create more employment opportunities in the district and also promote income generating farm activities.

The number of female in the reproductive age is expected to rise during the plan period 1994-96 and so there is need to expand family planning services in the district to cover as many of them as possible.

Table 1.8

Population Projections On Selected Age Groups

Age Group	1979		1993		1994		1996	
	M	F	M	F	M	F	M	F
6 - 13 (Primary)	69,994	75,197	107,174	115,142	110,486	118,700	117,420	126,149
14 - 17 (Secondary)	27,057	29,068	41,429	44,509	42,709	45,885	45,390	48,764
15 - 49 (Female)		117,387	-	179,743	-	185,297	-	196,925
15 - 59 (Labour Force)	122,982	132,125	188,310	202,310	194,129	208,561	206,311	221,650

Source: Projections Based on 1979 Population Census.

Population Distribution and Density

Table 1.9 presents populations by divisions 1979-96. From the table, it is clear that the divisions in high potential zones have a higher population than the divisions in low potential zones. For example, Kangundo Division with an area of 598 Sq. km is a highly populated compared to Masinga Division which has an area of 1630 Sq. Km.

Table 1.10 shows population projections by divisions and sex 1979-96. The Table also shows the number of households by divisions in 1989. From the table, it can be seen that the number of females out number the males in all divisions and this is attributed to the fact that the males have moved to towns in search of employment. High potential areas have a high number of households for example Kangundo, Central and Kathiani Divisions. Mwala Division has more households despite being in a low potential area and this is attributed to its location in a low-land suitable for human settlement.

Table 1.9

Population Projections by Division

Division	1979	1993	1994	1996
Kangundo	128,572	196,869	202,953	215,689
Mwala	125,579	192,286	198,228	210,668
Central	85,891	131,516	135,580	144,088
Kathiani	79,974	122,456	126,240	134,162
Yatta	82,773	126,742	130,658	138,858
Masinga	69,470	106,372	109,659	116,541
	572,259	876,242	903,318	960,006

Source: Projections Based on 1979 Population Census.

Table 1.10

Population Projections by Division and Sex

Division	No. of Households (1989)	1979		1993		1994		1996	
		M	F	M	F	M	F	M	F
Kangundo	29,143	61,982	66,590	94,907	101,963	97,839	105,113	103,979	111,710
Mwala	24,403	60,539	65,040	92,697	99,589	95,562	102,666	101,559	109,109
Central	23,572	41,406	44,485	63,401	68,115	65,360	70,220	69,462	74,626
Kathiani	21,772	38,554	41,420	59,034	63,423	60,858	65,382	64,677	69,485
Yatta	18,762	39,903	42,870	61,100	65,642	62,988	67,671	66,940	71,917
Masinga	15,747	33,490	35,980	51,280	55,092	52,865	56,795	56,182	60,359
Total	133,399	275,874	296,385	422,419	453,824	435,471	467,847	462,799	497,207

Source: Projections Based on 1979 Population Census.

Table 1.11 shows population density by division, 1979-96. From the table, it is clear that Kangundo Division has the largest number of persons per Sq. Km. It will therefore will demand more attention from the DDC. The DDC will have to consider how "Wananchi" in Kangundo will be settled given the fact that the division is the smallest in terms of area and yet it has the highest population and density in the district.

Masinga, Yatta and some parts of Kathiani Divisions are sparsely populated but there are indications that the population density in those divisions will increase because of migration from other parts of the district especially Central and Kangundo Divisions.

Table 1.11

Population Density by Division

Division	Area (Sq. Km)	1979	1993	1994	1996
Kangundo	598	215	329	339	361
Mwala	794	158	242	250	265
Central	898	96	146	151	160
Kathiani	1,068	75	115	118	126
Yatta	829	100	153	158	168
Masinga	1,630	43	65	67	71
Total	5,817	98	151	155	165

Source: Computed from 1979 Population Census.

Migration

In the district, out-migrant population is dominated by males in the labour force i.e. 15-59 age group. Most of them migrate in search of job opportunities outside the district. There are also immigrants although their number is small. There is also migration within the district especially from high potential areas where the population is high. High population density has resulted in fragmentation of holdings into uneconomical sizes. This has forced people therefore move to sparsely populated divisions like Masinga and Yatta in search of land.

ECONOMIC POTENTIAL

Land and Soils

The district covers an area of 5818km². About 26% of this is classified as agricultural land while 74% is range land. Due to land pressure or availability of irrigation facilities, 10% of the rangeland is cultivated either through irrigation or rainfed systems. Table 1.12 shows the major types of soil found in the district.

Table 1.12

Distribution of Soils by Type and Area

Soil Type	Appro. area (Sq. Km)	% of Total District Area
Vertisols	11,417.5	24
Acrisols/Ferrasols	3,636.2	62
Planosols	431.4	7
Andasols + Lava	123.3	2
Others	209.6	5
Total	5,818	100

Source: Ecosystems 1981 - District Agricultural Office, Machakos

Vertisols are poorly drained, deep, greyish brown to black cracking clays. In some places they are bouldery and stony and in others they are sandy. They have moderate to high fertility.

Acrisols/ferrasols are deep, friable and excessively drained. They range from sandy clay loams to sandy clays. They also range from brown to dark red in colour and have moderate to low fertility. Planosols are imperfectly drained, moderately deep, dark greyish brown to black and very firm. They are of moderate to low fertility.

Cambisols are excessively drained to well drained, deep, dark red to dark yellowish, very friable sand clay loams to sandy clay. They are easily erodible forming deep gullies. In some places they have thick acid humic top soils. They are of various fertility.

Table 1.7

Agro-Ecological Zones

Main Zone	% District Area
II	3
III	9
IV	40
V	31
VI	17

Source: District Agricultural Office, Machakos, 1993.

Zone II: This zone has virtually no risk of crop failure. Rainfall is relatively high and more reliable (annual average - 1000mm). It covers an area of 185 km² in Iveti, Mua and Kangundo. The zone has high population density. The main land use activities in this zone are coffee, maize, beans, citrus fruits, dairy farming and forestry.

Zone III: Average annual rainfall is 850mm. It covers an area of 560km² and include lower elevation of Iveti, Kangundo and Mua. The predominant soils are cambisols and arenosols which are mainly of variable fertility and in some cases ranging from moderate to low fertjlity. Some parts are covered by unsuitable steep slopes. Crops grown in this region include coffee, maize, and wheat.

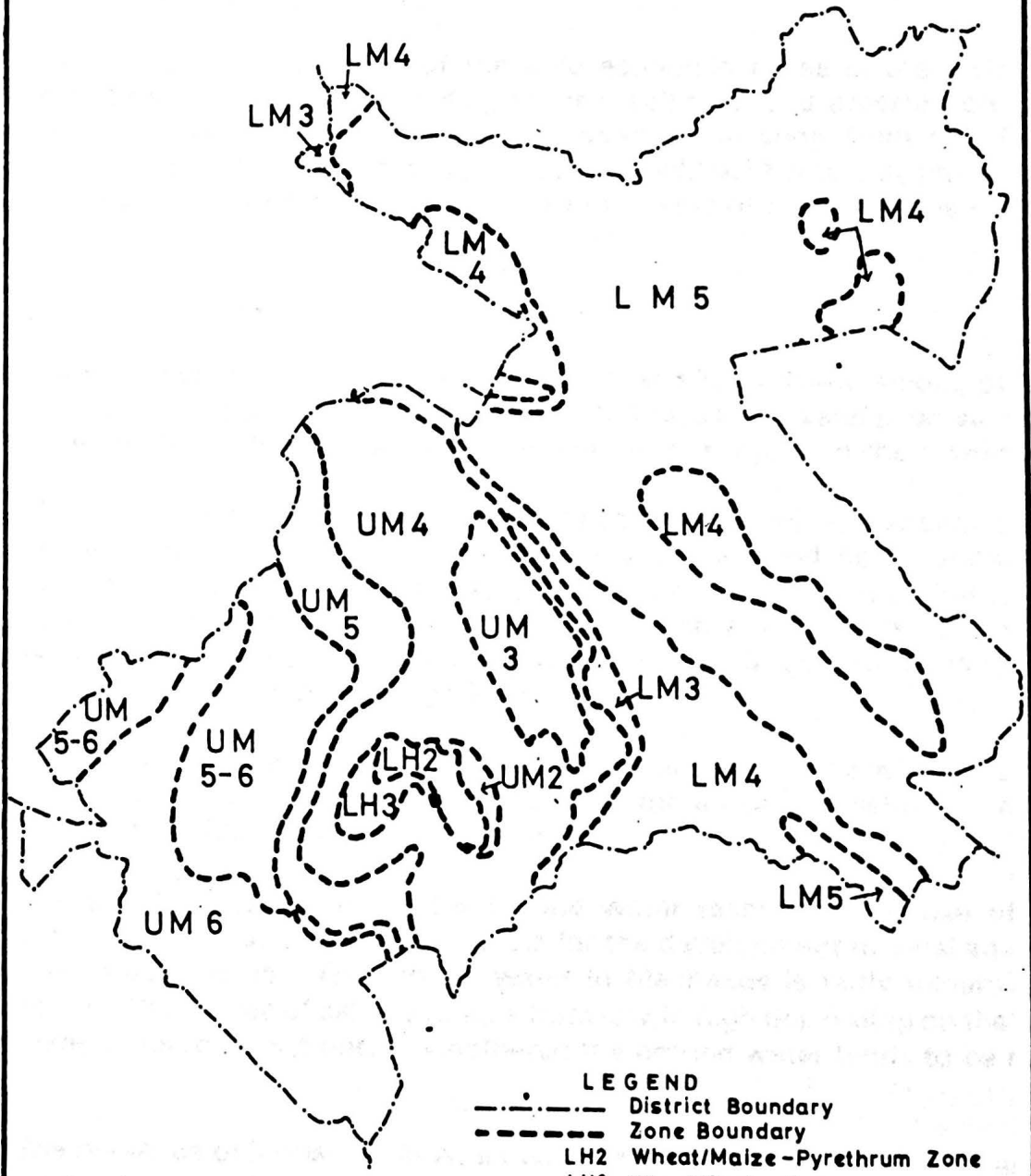
Zone IV: This zone covers a very large area of the district and form some parts of Mwala, Ndalani, Kinyatta and Katangi in Yatta, Kangonde and Ndithini in Masinga, parts of Mitaboni and Iveti in Kathiani, Kalama, parts of Mutituni in Central Division and part of Matungulu and Donyo Sabuk in Kangundo.

Average annual rainfall is 750mm. Reliability of rainfall is low and crop failures are common. Drought resistant crops are grown. Livestock activities (cattle and goats) rearing are undertaken. The soils are mainly arenosols, acrisols and ferrasols. They are generally shallow along the plateau and slopes of Donyo Sabuk.

Zone V: This covers most parts of Masinga and Yatta, parts of Mwala bordering the plateau and a small part of Kangundo and Mitaboni. This zone is arid and receives an average rainfall of 650mm per year. Drought resistant crops are grown; ranching activities are also undertaken. The soils are mainly acrisols, vertisols, planosols and arenosols of which 55% are of low fertility. Areas along Masinga Dam, Kangundo, Kithimani and Donyo Sabuk have moderate to high fertility. Some pockets in Lukenya Scheme have high fertility.

MACHAKOS DISTRICT

AGRO-ECOLOGICAL ZONES



- LEGEND**
- · — District Boundary
 - - - Zone Boundary
 - LH2 Wheat/Maize-Pyrethrum Zone
 - LH3 Wheat/Barley Zone
 - LM3 Main Cotton Zone
 - LM4 Marg Cotton Zone
 - LM5 Livestock-Millet Zone
 - UM2 Main Coffee Zone
 - UM3 Marg Coffee Zone
 - UM4 Sunflower/Maize Zone
 - UM5
 - UM6 Ranching Zone

Zone VI: This is a ranching zone with no rainfed agriculture. It covers the Kapiti plains. There is limited irrigation near Athi River. It receives an average rainfall of 500mm. The soils are mainly vertisols of moderate fertility with a small portion of moderate to high fertility coupled with saline soils.

The development potential of the agro economic zones in the district is determined by various factors including rainfall, soil type and pressure on land. The zones classified as high potential are already suffering from population pressure and the only avenue left is to increase the yield per hectare by introducing high yielding varieties of food crops suitable to the kind of climate in the district.

Water Resources

The main rivers in Machakos are Athi, Kaiti and Tana rivers, among others. The general drainage pattern is from west to east. There are several short seasonal streams. Periodically there is lack of adequate water supplies in the district.

The presence of hills like Iveti, Kanzalu range, Mua Hills, Kangundo Hills among others have led to the presence of many springs and opportunities for gravity water supply projects. Because of the intermittent nature of the rivers, there are few irrigation projects. Most of those which are there are very small. The presence of Masinga Dam creates a large potential for irrigation. Yatta furrow has created a good horticultural irrigation potential.

There are several water springs especially around Kangundo which are very productive and can be used as water sources for small populations. Major potential dam sites identified are at Wamunyu to Katwanyaa.

The district tends to have low ground water resources because of the basement rock systems. Some scope exists for the development of local aquifers in weathered basements. The ground water in Machakos is fairly mineralised, hence saline. The degree of salinity ranges from low to high depending on the rock types. Where the rocks are deeply weathered the ground water tends to be more salty.

The presence of industries in Athi River Town, especially tanneries has led to severe river water pollution, leading to frequent fish deaths. In Machakos and Athi River Towns, as well as other towns, lack of adequate town sewage disposal systems has led to severe river pollution.

Recently the government through aid from the Italian government initiated Kilimanjaro Water Supply at the cost of nearly one billion shillings. The project serves Kajiado and Machakos and part of Makueni District. It serves Machakos and Athi River Towns. There are plans to expand the Kilimanjaro Water Supply to cover some of the satellite towns around Machakos such as Mutituni. The Export Processing Zone in Athi river is being served by the Great Nairobi Water Supply.

Athi River Town being a major industrial town is being served jointly by Kilimanjaro Water Supply and Great Nairobi Water Supply.

Forestry

Machakos District consists of three major areas: High potential, medium potential and low potential areas. High potential areas are hill masses receiving high rainfall and where soils are suitable for forestry development. Forest exploitation activities are concentrated on these areas where fast growing exotic tree species are planted. Medium Potential areas are on the lower slopes of the hills and little forestry development takes place. Most of the other remaining areas of the district lie under the low potential area category.

Gazetted forest occupies 614.2 hectares out of which 300 hectares are under plantations of cypress sp., Eucalyptus sp., Pinus patula, Pinus radiata, Gravellia sp., and Juniperus sp. Protective forest cover an area of 92.7 hectares which is composed of mixed species and 45.0 hectares is under bush. There are other bushlands, woodlands and pockets of Accacia forests scattered all over the district which are individually owned. Most species on private land are indigenous and exotic species such as Eucalyptus, Cassia Siamea Croton Megalocarpus, Jacaranda, Mimosaefolia, Melia Azedirach among others.

Most of the timber consumed in the rural areas comes from the plantations. In 1991, about 700m³ of timber was extracted from the gazetted forest plantations. Other timber used in urban centres is brought from Kiambu and as far as Nakuru. The bulk of timber produced however comes from the neighbouring Makueni district. Production cost such as logging, skidding is very high because of the terrain and bad roads. Timber brought from other districts is therefore cheaper than timber produced in Machakos. The district is therefore a net importer. Employment in the last five years has been about 150 persons.

Problems affecting afforestation in the district have been erratic rainfall, inaccessibility of the forest areas, lack of adequate transport and inadequate labour force. Much more is cut than is planted, a problem facing the department in all parts of the country. Extension in this sector (forestry) is not very successful due to unreliable rainfall and lack of transport for the extension agents.

Improvement of both plantation development and forestry extension will have a direct impact on the economic status of the district. Poles, fuelwood and timber will be available at farm level and the plantations will be able to produce enough for the district.

Wildlife

OI Donyo Sabuk is the only National Park in Machakos district. It is 18.5km² and was gazetted in 1957. Besides the park being rich in buffalos and the scenic beauty of the hills, the area hosts rare medicinal plants such as the Aloe species, a traditional medicinal plant.

The Athi-Kapiti Plains stretching from Athi River to Emali (in Makueni District) has a lot of spillover of wildlife from neighbouring protected areas. It is rich in big cats and plain game. The areas undulating landscapes with its scenic beauty is a major tourist attraction. The Athi-Kapiti Plain is also famous for agricultural tourism (combination of livestock farming and game ranching). Indeed, the government policy is to encourage game farming especially in ranches where sub division is eminent. Ostrich farming has a lot of potential in this aspect. The areas along Tana River dams of Kamburu, Kiambere and Masinga has a lot of aquatic life (crocodiles and hippos). Gazetting of these areas could boost wildlife conservation in the district. Wildlife conservation is facing problems from poaching, settlement and encroachment into gazetted National Parks. Sub-division of ranches is also a major setback to wildlife conservation efforts.

Commercial Minerals and Materials

Machakos District is mainly endowed with mineral resources which are useful to the building and construction industry. For example, Machakos District rivers contain large quantities of sands. In fact over 70% of the sand consumed in Nairobi comes from Machakos District. However, due to excessive localised sand harvesting at certain rivers such as Kaiti and Thwake, there has been serious environmental problems which has led to the formation of institutions to control sand harvesting.

Apart from sand, the district has large quantities of building stones. This, together with the sand has made it possible for many people to put up good permanent residential houses. Around Machakos Town, there is plenty of stone quarries at Kathaana, Kimutwa and Athi River.

Around Athi river, there are large deposits of limestone which provide raw materials for Athi River Portland Cement. This factory is being expanded to meet the ever rising local demand.

The presence of several granite deposits around Machakos District has led to putting up of granite tiles making factory, and also industries which make chemicals such as calcium sulphate at Athi River Town.

Tourist Attraction

Machakos District is not well endowed with tourist attractions. Besides the Fourteen Falls (near Thika) with its scenic beauty and the aquatic life in the area and the Kali Hills near Machakos Town which has a deep gorge, the district has very little to offer in this aspect. The Kali hills have potential for rock climbing safaris.

However, Kambas are famous in handicraft making and traditional dancing. There is a thriving trade in handicrafts at Wamunyu. This is an area which the District Development Committee could concentrate on promoting. Establishment of cultural centres in the district could be a further boost to tourism in the area.

SUPPORTING DEVELOPMENT INSTITUTIONS

DDC and its Sub-Committees

The DDC is the foundation of the decentralised rural development strategy. The DDC is expected to have at least four sittings in any given year. It is charged with the task of monitoring development projects, reviewing of all on-going projects with an objective of ensuring proper and faster implementation, considering and prioritising new proposals submitted by the Divisional Development Committees, and endorsing the annual submission of project proposals to ministries in the annual annexes.

While discharging its duties, the Machakos District Development Committee has been very effective. This is manifested by the way wananchi have been actively involved in projects identification and implementation. Both departmental heads and elected leaders have actively attended and participated in DDC deliberations.

The DDC's role as a monitoring unit of the development projects would however, be strengthened by more frequent visits to projects. Effectiveness of the DDC has also been hampered by lack of funds. This is especially so when for instance a Divisional Development Committee identifies a very viable project. The project is then endorsed by the DDC but unavailability of funds hinders implementation.

District Executive Committee (DEC): Technical support for the DDC activities including preparation of plans management and implementation of projects, is provided by the DEC. The DEC also serves to promote inter-ministerial coordination of development activities in the district.

The principal functions of the DEC are; to make operational decisions within the guiding directions of the DDC, to coordinate and monitor implementation of all projects and activities in the district, to prepare and draft the District Development

Plans and the Annual Annexes for submission to the DDC and to prepare brief notes on all proposals and reports to be submitted to the DDC.

To discharge its duties effectively, the committee is expected to meet at least once in a month.

While the DEC members have regularly attended meetings and very often visited projects, the committee's effectiveness could further be strengthened by more active implementation. Like in the case of DDC there is need to have seminars with a view of training departmental heads.

Divisional Development Committees: The Divisional Development Committees are charged with the responsibility of assembling initial-project ideas, sorting out according to local priorities and forwarding them to the DDC for further review and assessment. Effectiveness of Divisional Development Committees have been hampered by; the workload in the DDO's office making it difficult for him to attend these committees and therefore the guidance is always lacking; while some ministries like Agriculture and Livestock have qualified officers, others have inadequately trained staff thus facing problems in identification and implementation of projects and programmes.

Locational and Sub-Locational Committee: The Locational and sub-locational Development committees represent the grassroots level community and are responsible for the discussions of community needs. At present, these bodies are not very effective. This is mainly because they lack basic skills in project planning and monitoring.

District Education Board (DEB): This is one of the main committees of the DDC. Most of the activities of the DEB are developmental and managerial in nature. This body is very active in the district especially in primary schools where its role in the development and management of these schools is noticeable. It works very closely with the DDC, the Boards of the schools and other project implementation agencies.

The DEB meets at least three times in a year and on average attendance is 75%. The board has 15 appointed members.

District Agricultural Committee (DAC): The DAC is charged with the responsibility of enforcing the Agricultural Act with a view to promoting agricultural activities in the district. This body meets regularly. Attendance is about 90 % of the members. Field visits within and outside the districts and local public barazas have been held as some of the tools of training.

District Social Development Committee (DSDC): The committee in collaboration with social development workers (SDOs & CDAs) is charged with the responsibility of mobilizing communities to participate in the development of their areas; formation and registration of self help and women groups; supervision of self help groups, approval of projects undertaken by them; assisting groups in

project identification; assistance in management of group projects; education and training of group leaders through visits and seminars; selection and approval and disbursement of government grants to desiring self help and women groups.

District Environment Committee: Although this body is operational in the district, it has not been utilized fully. One of the problems facing this committee is lack of sensitization of the local community to environmental issues. Communication between this committee and the divisions/locations has also not been effective resulting in lack of agenda for discussions.

Land Use Planning Liaison Committee: This is a sub committee of the DDC which advises the main body on all matters relating to land and land utilisation in terms of management, planning and administration. The sub committee acts as a coordinating body on all aspects of land (especially the urban land) and all authorities that are concerned with land.

The committee meets once every three months and constantly conducts site surveys in areas that require special attention. Its deliberations are passed to the DDC for ratification before any action is taken.

District Planning Unit (DPU)

The Unit's objectives are to serve as a secretariat to the District Executive Committee for day to day coordination, planning and implementation work. Although all members have been deployed to the district, the DPU has not been very active except during the writing of the District Development Plan:

There is a spacious District Information and Documentation Centre (DIDC) which was constructed through the assistance of MIDP. The building also accommodates the District Population Officer and the District Industrial Development Officer. It is well furnished but has neither a computer nor a typewriter. The DIDC is understaffed as there is only one clerical officer who has attended a course of a library Assistant at the Kenya Polytechnic. However, this facility is under utilised as very few departmental heads use it. There is need to furnish the centre with more relevant reading materials.

Local Authorities

Masaku County Council: Some of the projects undertaken by the authority are: improvement of access road, provision of water, helping destitutes, assistance to women and other harambee projects, giving bursaries to needy and deserving students, provision of public utilities eg fencing of markets, building social halls, public toilets etc

Sources of funds for most of these projects come from service charges, grants from the Ministry of Local Government and grants from NGOs.

Municipal council of Machakos: The council has been able to achieve a lot in sanitation and public health, security lights, bus park construction, slaughter house and other social facilities.

The existing sewerage systems was constructed in 1972, but an extension to the treatment works was done in 1983. The system can cater for a population of 14,000 people. The existing sewage facilities are inadequate due to the increase in the town population. The council procured a refuse tipper in 1970.

The provision of street and security lights is vital. The existing facilities are inadequate and there is need of improving the system. The council intends to undertake street lighting project in the town as a cost of Ksh 2m.

The council has developed a bus park at a cost of Ksh 8m. There are also plans to provide an additional bus park to ease congestion at the existing bus park.

The council has developed the stadium. There are also plans to improve the social hall and the other facilities at the stadium.

The council has constructed a modern slaughter which was to be electrified under the 1989-93 Development Plan and this has been done.

Mavoko Town Council: Some of the activities undertaken by this authority include distribution of piped water, provision of social services assistance to self help groups, nursery schools and provision of bursaries, offering sanitary services including refuse collection and roads maintenance within the town. During the past plan period the council constructed an office block at a cost of Kshs 900,000 was completed; Kshs 50,000 was awarded as bursaries and over Kshs 60,000 was advanced to self help activities.

The EPZ Authority has also been working closely with the council. It has started construction of phase I of a storm drain and a new trunk sewer for the council and the Export Processing Zone. It has also commissioned construction of 24 sheds for manufacturing goods exclusively for export.

The council has embarked on a planned settlement scheme to cater for people who are living in slums.

Despite these achievements, there are constraints facing the town council. There has been either poor planning of the town or developers not adhering to the master plan of the town. There have been cases where very big plots have been allocated in the middle of the town.

Voluntary Agencies

Maendeleo ya Wanawake: Activities that are undertaken by this organization include Maternal Child Health Care, Family Planning, AIDS Control campaigns, and training programmes for women.

PRIDE is a voluntary organisation which gives loans to the existing jua kali enterprises through groups. No security is required. Each person who wants to benefit from loans should join four others to form what are called Enterprise Groups. Loans are given in stages starting with a Kshs 5,000/= maximum during the first stage. Every loan is repayable on weekly basis for a maximum of 50 weeks.

PRIDE started working in Machakos in 1991 and now has a client population of 200 of which 100 already have loans. Most of the funds for PRIDE come from financial institutions like Barclays Bank small sector loans, and USAID Rural Enterprise Fund. PRIDE identifies potential beneficiaries through holding barazas with chiefs and using the Social Services Department.

Anglican Church: Anglican church is involved in a lot of voluntary activities in the district. Their projects are mainly in areas of agriculture, social health and water. As far as water projects are concerned, they are mainly involved in the construction of water tanks. They construct two tanks for a group of 10 women. The women are taught how to construct water tanks using appropriate technology. The aim here is transfer of appropriate technology to the community. The church is also engaged in gravity water supply projects, an example being Kithangathini water supply.

Other activities that the Church is involved in are demonstration farms, like Kitanga Demonstration Farm at Mua Hills), seed distribution to farmers groups registered with the church at subsidized rates, creation of social groups, extension of credit to small groups, and health care.

The project is based at Kyeleni in Kangundo Division. It is a community based health care programme providing Training of Trainers (TOTs) to Community Health Workers and Traditional Birth Attendants (TBAs), research on health information system; community diagnosis, mobility and behavioural science; supplementing of community development activities eg dispensaries; supplementing income generating activities related to human health and nutrition, community based rehabilitation of the malnourished and disabled, curative, preventive, promotive health care, and distribution of contraceptives.

African Brotherhood Church (ABC): This church is also a community based organisation training community health workers, supporting income generating projects which are health related, constructing physical facilities related to health, and providing water and sanitation facilities.

African Inland Church: This church is involved in family planning services, construction of health facilities, and training of Community Based Health Workers.

Regional Authorities and Major Parastatals

Kenya Power and Lighting Co Ltd: Rural electrification services are a major catalyst in rural industrialisation and improvement of social economic status of the people. Towards this end, the government through its rural electrification policy has covered major town and market centres in Machakos District. These include Machakos Town and its environs, Athi River Town and its environs, Kangundo/Tala Urban council, and Matuu Urban Council and its environs.

National Cereals and Produce Board (NCPB): The NCPB is concerned with the procuring of foodstuffs from farmers which they can store and sell, either back to them when need arises or to others such as millers. In Machakos, there are NCPB depots at Machakos, Konza, Tala and Kithimani. There are many NCPB depots in Machakos District because it is a food deficit area. Machakos depot has a storage capacity of 60,000 bags while, Konza has a capacity for 400,000 bags because it is next to the railway line. Tala depot has a capacity of 56,000 bags and is underutilized, while Kithimani has a capacity of 80,000 bags and is also underutilized.

Industrial Credit and Development Corporation (ICDC): ICDC's primary function is to assist commercial and industrial organisations. It helps entrepreneurs to start new enterprises. In Machakos District, ICDC opened offices in 1986 and has a client population of 600 of which only eleven are dealing with industrial production. Much of these activities are concentrated in Machakos Town. They give three types of loans; Commercial, industrial and property loans. ICDC works closely with municipal councils and the district lands office to verify property ownership. They are unable to meet all the demands for loans, hence the need for more funds.

Tana and Athi River Development Authority (TARDA): TARDA engages in regional planning thus examines the resources in the area under its jurisdiction. In Machakos, it is mainly concerned with the development potential of Athi River. It seeks to identify possible water dams sites either for irrigation or hydroelectric power generation. So far TARDA has developed Kiambere, Kamburu, Masinga and other dams which are being used for hydroelectric power generation, irrigation and fishing. In fact, the development of the dams has led to increased fish production and consumption in Masinga, and Yatta Divisions.

TARDA is doing much to encourage horticultural development. It has already established a horticultural farm in Kibwezi in Makueni District which is doing much to promote growth of special crops like grapes. As a result of this horticultural production especially that concerning french beans, fruits and other crops for export has become popular in the northern part of Machakos especially along Athi River. TARDA has established animal multiplication in Emali which helps

farmers to select suitable animal breeds for livestock production. They have established nurseries at Masinga to encourage afforestation to reduce siltation of the dam.

Export Processing Zone (EPZ): Export processing Zone Authority is a parastatal under the Ministry of Finance which aims at promoting industries exclusively for export. These industries are placed in specially designated zones. In Machakos, the EPZ is located on Nairobi-Kajiado road on the side of Machakos. Already basic infrastructure like water, sewerage, electricity are being completed. Much has been done towards environmental protection because of its proximity to Nairobi National Park.

Kenya Industrial Estates: KIE promotes industrial development through one or a combination of the following strategies; provision of medium and long term finance to small industries and informal sector operators throughout the country; provision of technical services including assistance in preparation, implementation and management of enterprise; establishment and management of industrial estates and rural development centres and other aspects of industrial promotion.

Informal Sector Programme (ISP): The Informal Sector Programme is a rural credit programme that caters for the needs of Jua Kali business. This programme is accessible to Jua Kali owners/managers who would qualify for a loan to buy raw materials or purchase other equipment or machinery.

The maximum that can be borrowed is Kshs100,000/= but a first time borrower can borrow a maximum of Kshs.50,000/=. The rate of interest is 18% p.a. and the repayment period is 2-3 years.

The purpose of this study is to investigate the socio-economic profile of the population of the study area. The study is based on a survey of the population of the study area. The study is based on a survey of the population of the study area.

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CHAPTER TWO

SOCIO-ECONOMIC PROFILE

MAJOR ECONOMIC ACTIVITIES

PRIMARY PRODUCTION

This section portrays the farm and non-farm activities in the district. It points out both the similarities (or patterns) and the degree of variation of such activities.

Agricultural Sector

This is a complex sector characterised by diversity, just as individual farmers are diverse in their activities, and decisions. For instance the delineation of small scale and large scale farms is not definite but will depend on the farm size, intensity of production, the enterprise mix and many more factors. On the other hand, whether a crop is a cash crop or a food crop may just depend on whether it is sold or utilized for food at home. It is with this background that the following two tables, Table 2.1 and Table 2.2 attempt to show details of farmed area, number of households, holdings, crop mixes and co-operatives.

Table 2.1 presents a summary of the number of rural households and actual small holdings, main crop profiles by divisions, proportion of household with high value cash crops and number of members of producer co-operatives in the small farm sector.

in Table 2.1, where the number of rural households is given equal to that of small holdings, it is on the assumption that each household has one holding. This may not be the case, but the two are closely correlated.

The food crops considered major are those cropped in more than 500 ha per division. In order of importance maize is the chief crop, followed by pigeon peas, beans, cowpeas, green grams, sorghum and cassava.

The number of co-operative members given is for coffee societies except for the Marketing Division where 352 members of the cotton society are included. The main cash crop is coffee but if the marketing of cotton is improved, it can easily overtake coffee whose prices are comparatively low. Other cash crops are French beans, Asian vegetables e.g. chillies, Tundori, colocasia, Karella, Okra, Macadamia, Cassia and Citrus.

The Atri River location of Kariaini Division is agriculturally served by Central Marketing Division staff and hence the figures for Kariaini exclude it.

Table 2.1

Small Farm Sector

Division	Farm Area km ²	Rural HH	HH per Km	Small holdings (No)	Main Food Crops	Main Cash Crops	% of HH with high value cash crops	No. of Members in producer Co-ops.
Central	196.5	26354	36.3	27671	Maize Beans pigeon peas	Coffee Horticulture	1	8308
Kathiani	104.9	12779	71	12779	Maize beans pigeon peas	Coffee French beans citrus	5	5485
Kangundo	322	25000	42.6	28070	Maize Beans Pigeon peas Bananas Cow peas	Coffee Sisal Macadamia	5	23297
Mwala	354	22225	16.6	22225	Maize Beans Pigeon peas Cowpeas Greengrams	Coffee Citrus Cotton mangoes caster	1	3947
Masinga	606.	15500	12.9	14750	Maize Beans pigeon peas Greengrams	Coffee citrus cotton Mangoes	1	3947
Yatta	229	16000	13.5	16000	Maize Pigeon peas Beans Cowpeas	Asian Vegetables citrus French beans	2.2	59

Source: District Agricultural Office, Machakos, 1993.

In Table 2.1, where the number of rural households is given equal to that of small holdings, it is on the assumption that each house-hold has one holding. This may not be the case, but the two are closely correlated.

- The food crops considered major are those cropped in more than 500 ha per division. In order of importance maize is the chief crop, followed by pigeon peas, beans, cowpeas, green grams, sorghum and cassava.
- The number of co-operative members given is for coffee societies except for Masinga Division where 552 members of the cotton society are included.
- The main cash crop is coffee. But if the marketing of cotton is improved, it can easily overtake coffee whose prices are comparably low. Other cash crops are French beans, Asian vegetables e.g. chillies, Tundori, colocassia, Karella, Okra, Macadamia, Caster and Citrus.
- The Athi River location of Kathiani Division is agriculturally served by Central Division agricultural staff and hence the figures for Kathiani excludes it.

- The farm area considered is that under crops. This will keep changing depending on the weather conditions and marketing outlets. For instance the area under cotton has gone down drastically from about 10,000 ha in 1988 to just 135.5 ha. This has not resulted to a drastic increase of area under any other crop.
- The high value cash crops considered are french beans, Asian vegetables, citrus, macademia and pawpaws.

Table 2.2 presents the number and area of large farms, main crop profiles by division, proportion of the district cash crop output that comes from large sector and the number of employees (Permanent and seasonal) in large farm sector.

From Table 2.2, it should be noted that the farms mentioned are owned by any of the following:- Co-operatives, companies, individuals or institutions.

Table 2.2

Large Farm Sector

Division	No. of Farms	Total Area of the large farms (ha.)	Main Crop	% of HH with High Value Cash Crops	No. of Permanent employees	No. of Seasonal employees
Central	7	359.44	Coffee	16.3	35	140
Kathiani	1	25.00	Coffee	14.8	3	10
Kangundo	21	1915.95	Coffee	64.0	168	525
Mwala	1	12.14	Coffee	1.3	3	5
Yatta	7	133.00	Coffee	1.9	21	28
Masinga	11	14800.00	Coffee Maize Beans Pigeon peas	1.6	35	220

Source: District Agricultural Office, Machakos, 1993

Most of the large farms in the district are under livestock production but the ones mentioned in the table are mainly under coffee, maize, beans, citrus and pigeon peas. However, the ones for Masinga Division are mixed farms i.e. crops and livestock.

Livestock Sector

Over 85% of Machakos district is classified as rangeland within Agro-ecological zone (A.E.3) IV-VI. Livestock rearing is the major economic activity in the district with cattle and goats being the major livestock animals.

Small Scale Farm Sector: This sector is the most important contributor of most livestock products compared to the large scale sector (ranches). Average farm sizes is between 7 - 20 acres and farm families keep an average of 5 cows and 8 goats. Grazing lands are characterized with overgrazing, poor fencing, poor pasture and communal silted dams. These factors, contributes to reduced productivity in the livestock sector. The sector constitutes approximately 300,000 livestock units. Poultry, dairy and bee-keeping have of late become popular in this sector.

Table 2.3 presents a summary of the number of rural households and area of small scale livestock farms, main livestock reared and livestock products by division.

Table 2.3

Small Scale Farms (Livestock)

Division	Area Km ²	No. of Rural HH	HH per sq. km	Main Livestock Reared	Major Livestock Products
Central	1,069	26,354	24.7	Boran, Sahiwals, Friesians, Ayrshire, Zebu, Shoats, Poultry, Crosses	Meat, Milk, Hides & Skins, Eggs
Kathiani	727	12,799	17.6	-do-	-do-
Kangundo	598	25,000	41.8	-do-	-do-
Mwala	1,310	22,225	16.9	-do-	-do-
Masinga	1,135	16,124	14.2	Boran, Shawals, Poultry, Shoats, Crosses, Bees, Exotics	Meat, Hides & Skins
Yatta	1,135	16,124	14.2	-do-	-do-

Source: District Agricultural Office, Machakos, 1993.

Large Farm Sector - Livestock: Large scale farms can be categorised as: Co-operatives, Companies, Individuals and Institutional.

Co-operative farms have been decreasing while individual farms have been increasing. Poor management of the co-operatives have led to increasing number of individual holdings.

Table 2.4 presents the number and area of large scale livestock farms, main livestock reared by division and number of employees (permanent and seasonal) in large scale livestock farms.

Most of the farms are in Central, Kathiani and Mwala Divisions because of sparsely distributed population in some parts of those divisions and also the availability of ready markets for the livestock products.

Table 2.4

Large Farms (Livestock)

Division	No. of Farms	Total Area sq. km	Main Livestock	No. of Permanent Employees	No. of Seasonal Employees
Central	15	433.7	Poultry, Shoats, Borans, Shawals, Dairy Crosses, Exotics	450	100
Kathiana	17	306.3	"	510	140
Kangundo	6	108.3	"	180	50
Mwala	12	5.0	"	360	80
Yatta	8	44.6	Beef, (Sahiewals, Boran, Zebu) Shats, Poultry, Bees	240	60
Masinga	5	79.9		150	30

Source: District Livestock Production Office, Machakos, 1993.

Table 2.5 gives livestock population by division in 1992. Dairy cattle are mainly found in high potential divisions of Central, Kathiani, Kangundo and some parts of Masinga, where they are zero-grazed. Beef cattle are however kept in all parts of the district. The Shoats are mainly found in dry divisions of Masinga, Yatta and Mwala.

Table 2.5**Livestock Population by Division (1992)**

Division	Beef Cattle	Dairy Cattle	Sheep	Goats	Rabbits	Poultry	Pigs
Central	14,260	17,240	6,380	16,760	3,940	223,000	32
Kathiani	53,000	11,000	20,300	23,200	7,000	180,000	20
Kangundo	55,750	2,950	21,200	40,800	2,100	85,800	438
Mwala	38,699	400	23,140	58,330	2,000	94,110	-
Masinga	39,336	4,172	22,154	78,971	550	87,309	-
Yatta	37,300	420	19,200	54,000	300	89,000	-

Source: District Livestock Production office, Machakos, 1993.

Table 2.6 presents the district's livestock population over the years 1989-92. The trend of livestock population has been upward up to 1992 when more livestock was lost due to drought in that year.

Table 2.6**Livestock Population by Division (1992)**

Type	1989	1990	1991	1992
Beef & Dairy Cattle	306,699	318,863	288,863	261,740
Goats	260,552	263,809	269,347	261,725
Sheep	104,130	106,177	116,371	113,210
Poultry	801,092	857,480	888,698	862,219
Rabbits	10,107	11,545	16,460	18,590
Pigs	502	545	553	49

Source: District Livestock Production Office, Machakos, 1993.

Mass sale of livestock were made in 1992 due to drought. The local population depended on the sale of livestock for their livelihood. This was the cause of the low livestock population in 1992 as compared to the 1991 figure.

Pigs Production: This enterprise is becoming popular in the district. However, the potential in this area has not been fully exploited. The activity does

not rely on weather conditions as it is an indoor industry making it popular in the district.

Dairy Production: Due to decreasing land sizes, specialization and intensification of production activities has become important. Dairy farming in the form of Zero grazing, dairy ranching and stall-feeding is suitable in Kangundo, Central, Mwala and Kathiani Divisions, while stall-feeding and dairy ranching is found in Yatta and Masinga Divisions.

Table 2.7

Trend in Milk Production Over the Years 1988- 93

Year	Population	Milk (Kg)
1988	16,514	3,244,373
1989	18,452	2,818,606
1990	18,827	2,574,977
1991	35,606	1,340,249
1992	36,004	924,962

Source: District Livestock Office, Machakos, 1993.

Table 2.7 indicates that milk production dropped by more than 75% between 1988 and 1992. This drop in milk production was due to unfavourable weather condition.

Poultry Production: The National Poultry Development Project has in the past few years boosted this sector in terms of training and provision of raw materials. However, the project need to be re-evaluated since there are no other sources of funding for this activity in the district.

Bee Keeping: This activity is becoming increasingly popular because of low capital outlay required. The modern Kenya Top Bar Hives (K.T.B.H.) have become popular and easier to manage and have a higher output level compared to traditional long hives.

Table 2.8 presents the production of honey and bees wax in the district over the years 1988 - 92

Production Parameters (1988 - 1992) for Honey and Bees Wax

Year	K.T.B.H	Long-Hive (Number)	Honey (kg)	Wax (Kg)
1988	2,378	19,305	73,972	1,658
1989	2,471	19,305	74,047	1,755
1990	2,917	24,720	83,495	2,910
1991	3,197	20,978	91,871	3,698
1992	3,335	20,656	95,858	3,306

Source: District Livestock Production Office, Machakos, 1993.

From the table it can be seen that production of honey and bees wax has been increasing over the years and this is attributed to the introduction of modern K.T.B.H. which have higher output.

Hides and Skins Production: Since livestock rearing is the main activity in the district, there is significant production of hides and skins. Table 2.8 presents the production figures for hides and skins over the years 1989-92.

Table 2.9
Hides and Skins Production 1989 - 92

Year/Hides	1989	1990	1991	1992
Calves	81,158	85,328	72,010	71,582
Goat skins	184,723	194,955	173,074	126,111
Sheep skins	63,315	66,891	52,236	6,964

Source: District Veterinary Office, Machakos, 1993

The decreasing trend in the production of hides and skins production as shown in Table 2.9 is attributed to illegal trade into and outside the district, and favourable weather encouraging farmers to keep their animals rather than sell and the decrease of bandas and stores due to non-renewal of licences.

OTHER PRIMARY PRODUCTION ACTIVITIES

Fisheries

The activities of the Fisheries Department in the district are divided into three main ones; commercial fishing, fish farming and fish trading. Commercial fishing is mainly done in the Tana River dams i.e. Masinga, Kamburu, Gitaru and Kindaruma. However, commercial fishing along Athi River is minimal. This sector employs more than seventy five fishermen who earn their livelihood from fishing. Commercial fishing is mainly concentrated in Masinga Division.

Fish farming in the district is widespread and it is mainly for consumption within the district. By the end of the year 1991, the district had recorded a total number of 135 fish farmers and 28 fish traders. Most of the fishermen and traders are from outside the district. Local people have shown less interest in the fishing industry.

The demand for fish and fish products in the district is very high and the current production can only meet about 25% of the demand. The district has a high potential for fish farming in the numerous man made lakes along the Tana River and dams. About 80% of this potential has not been fully exploited due to concentration on agricultural production especially in food crops and livestock rearing. Table 2.10 presents the quantity and value of fish landed in 1987-92.

Table 2.10

Quantity and Value of Fish Landed (1987 - 1992)

Area	1987	1988	1989	1990	1991	1992
Kamburu	53,317	55,022	138,665	113,558	155,455	128,955
Ekelekele	32,006	54,413	112,422	346,619	359,663	201,304
Mananja	-	-	-	201,223	279,064	349,747
Total (Kg)	85,223	109,435	251,087	661,410	794,182	680,006
Value (Kshs)	1,706,340	2,148,700	5,020,140	13,228,800	15,883,640	13,600,120

Source: District Fisheries Office, Machakos, 1993

Total annual production has been rising from 1987 but showed a decline in 1992. This was due to the long drought season experienced almost the whole year.

Agro-Forestry

The district has been practising agro-forestry for a long time. More than 60% of the rural communities have consciously or unconsciously practised this method of land management. There is an on-going Dryland Agro-forestry Research Project being undertaken by Kenya Forestry Research Institute based at Katangi in Yatta Division. There are 30 farmers participating in the research. It is hoped that more farmers will be involved in future. Majority of farmers have at least planted multi-purpose trees in their compounds.

As the livelihood of most farmers is subsistence farming and keeping of livestock, fodder trees are grown to provide fuelwood, poles and timber. Some farmers have already realized the economic benefits of selling fuelwood, posts and poles to the local markets. However, it is difficult to estimate the income they derive from such sales as it is done informally. This acts as an incentive to other farmers to practice agro-forestry.

Extension work in the district is specifically aimed at providing technical know how on the right species of trees for the various areas. The local people are also shown how to raise their own seedlings which they later plant in their shambas. It can now be said that agro-forestry has continued to boost the rural economy of the district.

Forestry

Gazetted forest occupy 614.2 hectares out of which 300 hectares are under plantations of various tree species. Forest exploitation activities are concentrated in those areas where fast growing exotic trees species are planted. Table 2.11 shows production and value of timber extracted from the gazetted forest plantation in the years 1988-92.

Table 2.11

Production and Value of Timber Extracted 1988 - 92

	1988	1989	1990	1991	1992
Production (m ³)	2,451.44	1,570.63	2,011.29	120.58	636.78
Revenue to Gov,t Ksh.	571,878.00	461,393.85	569,707.35	350,086.40	185,787.70
A.I.A. Ksh.	165,870.40	131,773.00	161,722.00	223,268.85	199,119.20

Source: District Forest Office, Machakos, 1993.

From Table 2.11 it can be seen that the revenue accruing from timber production goes to the government. Gazetted forest are mainly found in Central, Kathiani and Kangundo divisions. In other divisions, forest reserves are minimal.

Sand Harvesting

Sand is one of the most important resources in the district. It is mainly used for construction within and outside the district. By late 1980s, over 90% of harvested sand from the district was marketed in Nairobi, about 60 km away and served by a tarmac road. Machakos will hence continue to be the main supplier of sand to the ready market in Nairobi which is expanding due to increased demand for housing.

The district is favoured with large quantities of good quality building sand as compared to districts surrounding Nairobi such as Kiambu, Muranga and Kajiado. The availability of sand in the district is occasioned by the nature of geological conditions prevalent in the district which is dominated by basement rocks overlain by volcanic rocks. This unique geological characteristic makes sand from the district one of the best for the building industry. Sand comes into the rivers through the process of erosion and even though the district has undertaken soil conservation measures seriously, some amount of sand has always found its way into the rivers. Since there is no substitute for sand in the building industry, sand from the district will continue to reach the major building industry market in Nairobi and other outlying areas.

Sand harvesting from the district has been concentrated along the Thwake catchment, which includes Thwake River amongst other rivers such as Ikiwe and Tawa. Another river that has become a major source is the Luuma River which passes through the drier parts of the district i.e. Masinga and Yatta Divisions.

The collection of sand from the rivers is done by sand businessmen who venture into the rivers after having paid a royalty which by mid 1993 stood at Kshs.8,000 (eight thousand shillings) to the local authorities every month. Once a sand merchant pays this fee, he can go to any river within the local authority's area of jurisdiction and use whatever method to harvest the sand. There is no limit on how many lorries should be licenced, and how many trips a sand lorry should make to Nairobi, the district's major sand market.

Serious environmental degradation due to sand harvesting has resulted in destroying the water sources which sometimes culminates into confrontations between the inhabitants and the sand harvestors with fatal consequences. The damage the sand lorries have done to the roads and to the terrain in some parts of the district itself testifies to how little revenue is being ploughed back into protecting the interests of the local people.

To bring accountability and good management of sand resource, and curb environmental problems and other related consequences related to sand harvesting,

the District Development Committee in 1987 endorsed the formation of sand cooperative societies but not been effective in controlling sand harvesting in the areas due to pressure from various interested parties who find this exercise lucrative.

COMMERCE, TRADE, MANUFACTURING AND OTHER SERVICES

The manufacturing concerns in the district are mainly concentrated in Athi River Town. Indeed, with the massive programme of Export Processing Zone (EPZ), this concentration is expected to increase in the first phase of the programme as 100 industries are expected to be established.

Table 2.12 show the distribution of industries in the district of which the heaviest concentration is in Athi River Town

Table 2.12

Distribution of Industries in the District

Classification	Name	Product	Town
Mining	E.A. Portland Cement	Cement,	Athi River
	Athi Chalk Tannery	Chalk & Dog	Athi River
		Chews	Athi River
	Athi Stores	Chalk	Athi River
Agro Based	Alpha Rama	Tannery	Athi River
	Bar Ar Tanneries	Tannery	Athi River
	Bawazir Tannery	Tannery	Athi River
	Kenchick Farm	Chicken Breeding	Athi River
Food Processing	Kenya Orchards	Fruit Juices	Machakos
	Honey Refining	Honey	Mutituni
	Eastern Flour Millers	Flour	Machakos Athi River
	Kenya Meat Commission	Meat, Cooking fat & Detergent	Athi River
Chemicals	Nova Chemicals	Farm Chemicals	Athi River
	Machakos Ways	Candles	Machakos
	Plaza Industries	Detergent	Athi River
Construction	Gal-sheet	Iron Sheets	Athi River

Source: District Industrial Office, Machakos, 1993.

Table 2.12 covers only a few industries. Industrial developments are unevenly distributed in the district with Athi River Town being the focal point of the district. Mac. M. Ileri (1992) in his study found out that Athi River Town attracted many industries due to:-

- **Cheap Flat Land or no Settlements:** This reduces the capital cost in the initial stages.
 - **Accessibility:** The town is located on the Nairobi - Mombasa Highway. It is also served by the Nairobi-Mombasa railway line. The nearness to the Jomo Kenyatta International Airport is also a factor. Electricity and telephone facilities that are essential ingredients for industrial growth and development are also available.
 - **Nearness to Market:** The town has an advantage of manufacturing market oriented products given its proximity to Nairobi - a major consumer of these products - makes it an attractive industrial centre.
 - **Government Policy:** The export Processing Zone will continue having a great impact towards the industrial development of this town. As already mentioned, the town is earmarked for the development of 100 industries in phase I of this programme. The government has given incentives, infrastructural support, and tax reduction for investors in this area.
- As table 2.12 shows, the rest of the district including the main Machakos Town has none or few manufacturing concerns. Several factors contribute to lack of these concerns in other major towns namely:-
- **Lack of Constant Water Supply:** Until recently, Machakos Town had no sufficient water for industrial development. Many industries located in the town had closed down due to this problem. With the completion of the Nol-Turesh water supply some industries will be revived.
 - **Transportation Problems:** The main towns of Machakos, Kangundo, Matuu and Masinga, are poorly connected to the rural and urban centres that are major markets for industrial products. The hinterlands that supply raw materials to some of the industries are also poorly connected to the market.
 - **Climate:** The district is semi-arid, hence no sufficient raw materials for the agro based and food processing industries.

Table 2.13 shows the growth of the manufacturing sector from 1988 - 1991.

Year	Total	Manufacturing	Construction	Other
1988	1,118	248	1,118	870
1989	1,237	240	1,237	997
1990	1,237	254	1,237	983
1991	1,187	189	1,187	998

Source: Ministry of Commerce and Industry, Machakos, 1993.

Table 2.13

Growth in Manufacturing Sector (1988 - 1991)

Year	1988	1989	1990	1991
No. of Industries	13	16	17	39

Source: Ministry of Commerce and Industry, Machakos, 1991.

Note: This includes Makueni District

Table 2.13 shows an upward trend in the setting up of manufacturing concerns in the district. It should however be noted that many of these industries are located in Athi River Town.

Trade

Trading activities within Machakos District includes distribution, wholesale and retail. Wholesale and retail trade is concentrated in the major towns such as Machakos, Athi River, Kangundo, Tala, Matuu, Masinga, Wamunyu and Katangi. The distribution trade is mainly by parastatals for instance KNTC, NCPB, Kenya Breweries, KCC, and KGGCU. It should however be noted that individual business men are also involved in distribution mainly as agents of these parastatals or large corporations like Kenya Breweries. Trading activities mentioned above also include the hotel industry. Machakos Town also acts as the major distribution centre for other main towns of the district. Nevertheless, Matuu Town on the Nairobi-Garissa highway is rapidly becoming a major distribution, wholesaling and retailing centre in the district.

The trading sector has not been performing well over the years. According to the available records, the industrial and commercial sector the is experiencing a downward trend as Table 2.14 shows:

Table 2.14

Licences Issued 1988 - 91

Year	Wholesale	Retail	Hotel	Garages	Others	Total
1988	245	6,987	1,705	12	117	9,066
1989	240	6,546	1,620	20	129	8,515
1990	264	1,779	1,597	15	157	9,813
1991	189	5,339	1,118	11	180	6,837

Source: Ministry of Commerce and Industry, Machakos, 1993.

The above analysis shows that this sector had an insignificant and erratic growth, in Machakos district. According to Tumbo (1992) several factors have contributed to this phenomena including:

Increase of Taxes: Taxes from the local government have pushed some traders out of their businesses. In Tumbo (1992) study, 27% of the traders in Machakos Town singled out taxation as a major hinderance to the expansion of their businesses.

Lack of working capital: Several financial institutions in the district such as I.C.D.C. assist the development of trade and commerce through lending to this sector. The funding however revealed that financial institutions like I.C.D.C. did very little lending to this sector. See Table 2.15.

Table 2.15

Industrial Credit and Development Corporation

Year	No. of Applicants	Amount (Kshs)
1989	41	3,000,000
1990	50	5,410,000
1991	5	280,000
1992	-	-

Source: I.C.D.C., Machakos, 1993.

Duplication of business types: This is mainly observed in retail trade. Severe competition has thrown some traders out of business.

Poor management skills: This is serious because most traders do not have any training hence keep no business records. Studies conducted in Machakos Town show that 50% of the traders do not keep business records. It should however be noted that training organizations like the Chamber of Commerce and Industry have done little on management training due to lack of funds. In fact they organized no seminar in 1992.

Table 2.16 indicates the number of seminars held.

Table 2.16
Chamber of Commerce and Industry Seminars

Categories of the enterprise	1989	1990	1991	1992
Large scale	-	-	-	-
Medium scale	2	1	1	-
Small scale (Formal)	2	2	1	-
Small scale (Informal)	-	-	-	-
Total	4	3	3	-

Source: Ministry of Commerce and Industry, Machakos, 1992.

Despite the expansion of the small scale informal enterprises the sector is experiencing some problems.

- The entrepreneurs indicate that they are also heavily taxed. Those with kiosks and stalls indicated a range of taxes between Kshs. 2,000 and 3,000. Heavy taxes are detrimental to savings and investment.
- Lack of credit facilities was indicated by entrepreneurs as a major problem. This has made some operators to seek financial assistance from informal markets whose interest rates are above the official ones. Some financial institutions consider the sector a risky area for lending and only a few financial institutions for example Kenya Commercial Bank (KCB) assist the sector.
- In some markets, the informal sector enterprises operate illegally. There is harassment by local authorities to the operators of such businesses.

EMPLOYMENT

Labour Force

Table 2.17 presents the district population projections and levels of expected labour force participation in 1979, 1994 and 1996. The figures have been derived on the basis of overall growth rate of 3.09% being the 1979/89 inter-census growth rate and on the assumption of constant fertility and mortality rates. The 1979 population figures for the district are estimates of the administrative units which follow the current district boundaries. The district's active labour force has been derived as 92% of the age group 15-59 years. The participating labour force is therefore estimated at 368,162 and 391,682 for 1994 and 1996 respectively.

Table 2.17

Projected Labour Force

	1979	1994	1996
Population	572,259	909,679	967,671
Population (15-59 years)	251,742	400,176	425,687
Labour force (92% participation)	231,603	368,162	391,632

Source: Computed from 1979 population census and Prof. Oucho's 1993 population projection.

According to Table 2.17, the labour force participation is expected to rise from 231,603 in 1979 to 368,162 and 391,632 in 1994 and 1996 respectively, representing an average annual growth rate of 3.9%. Out of the total population about 43% are estimated to be within the labour force (15-59 years) in 1994 and 96, indicating high degree of dependence.

Distribution of Labour

The majority of the people in the district, live in the rural areas and therefore contribute to agricultural production.

Table 2.18 summarizes the employment profile of the district by giving the actual distribution of employment by sector.

Table 2.18

Employment Profile of the District

	1989	1994	1996
Labour force	342,889	400,176	425,687
<u>Agricultural Labour</u>			
Small farm	207,853	220,082	227,784
Large farm (Permanent)	205	270	274
(Seasonal)	900	960	996
Other Rural Self-Employment:	170	300	600
Fishing			
Wage Employment:	170	300	600
Main towns			
	13,265	15,000	18,000
<u>Urban Self-Employment:</u>			
Commercial/Business	6,535	7,500	9,000
Informal Sector	1,500	2,500	5,000

Source: District Statistics Offices, Machakos, 1993.

Agricultural labour in small farms is provided by members of the family and therefore an increase in households will increase agricultural labour in small farms. Permanent labourers on large farms are expected to remain almost the same over the next plan period because of the subdivision of large farms. Seasonal employees in those farms will increase because of the increasing unemployment situation in the urban centres.

Self employment in other rural sectors is expected to go up in the 1994-96 plan period, for example in the fishing sector. Although fishing in the district is mainly concentrated in Masinga Division, people in other divisions are engaging in fish farming due to increased demand for fish.

The main towns in the district are Machakos and Athi River. Wage employment in these towns will rise, to about Kshs.18,000 by the end of the 1994-96 plan period. The increase is expected in the Export Processing Zone

(EPZ) in Athi River Town. The EPZ proposes to establish about 100 firms in Athi River Town and therefore provide wage employment.

Urban self employment in commercial business sector in the district in 1989 is reflected in the number of trade licences issued to traders in that year. This number is expected to go up in the 1994-96 plan period as most people join the business community due to unemployment problems in the main towns. The government policy of promoting rural enterprises is also expected to have an impact on the number of people involved in commercial and business activities.

Self employment in the informal sector is gaining popularity in the district due to government policy on Jua Kali e.g. construction of Jua Kali sheds which has encouraged more artisans to invest in this sector. Already, there are three Jua Kali sheds in the district and the local authorities are also involved in settling people involved in informal sector such as hawkers, saloons, vegetable vendors and barbers.

Conditions of Employment

In the district, women participate in development activities but the extent of their participation may be limited by such factors as tradition, household demands, access to income or credit facilities and other resources. These limitations are especially notable in the main towns. Otherwise women dominate all levels of rural labour. According to the 1986 urban labour force survey conducted by Central Bureau of Statistics, women's labour force participation was 59.1% compared to 81% by males in urban centres. The survey revealed that although women labour force participation was increasing gradually it remained low compared to that of men due to the factors enumerated above.

Urban population in the district is insignificant implying that the greater portion of the district labour force is engaged in rural based activities. Females contributed most of the labour required for food production and other non-economic activities. It is now clear that the majority of people in the district live in the rural areas and this trend is likely to continue in the next plan period. The plan will seek to assist as much as possible the creation of as many rural based employment opportunities in the district through the government and other institutional programmes.

SOCIAL AND ECONOMIC INFRASTRUCTURE

Health Facilities

Tables 2.19 and 2.20 show the category and number of health facilities in the district, number of beds and the funding source.

Table 2.19

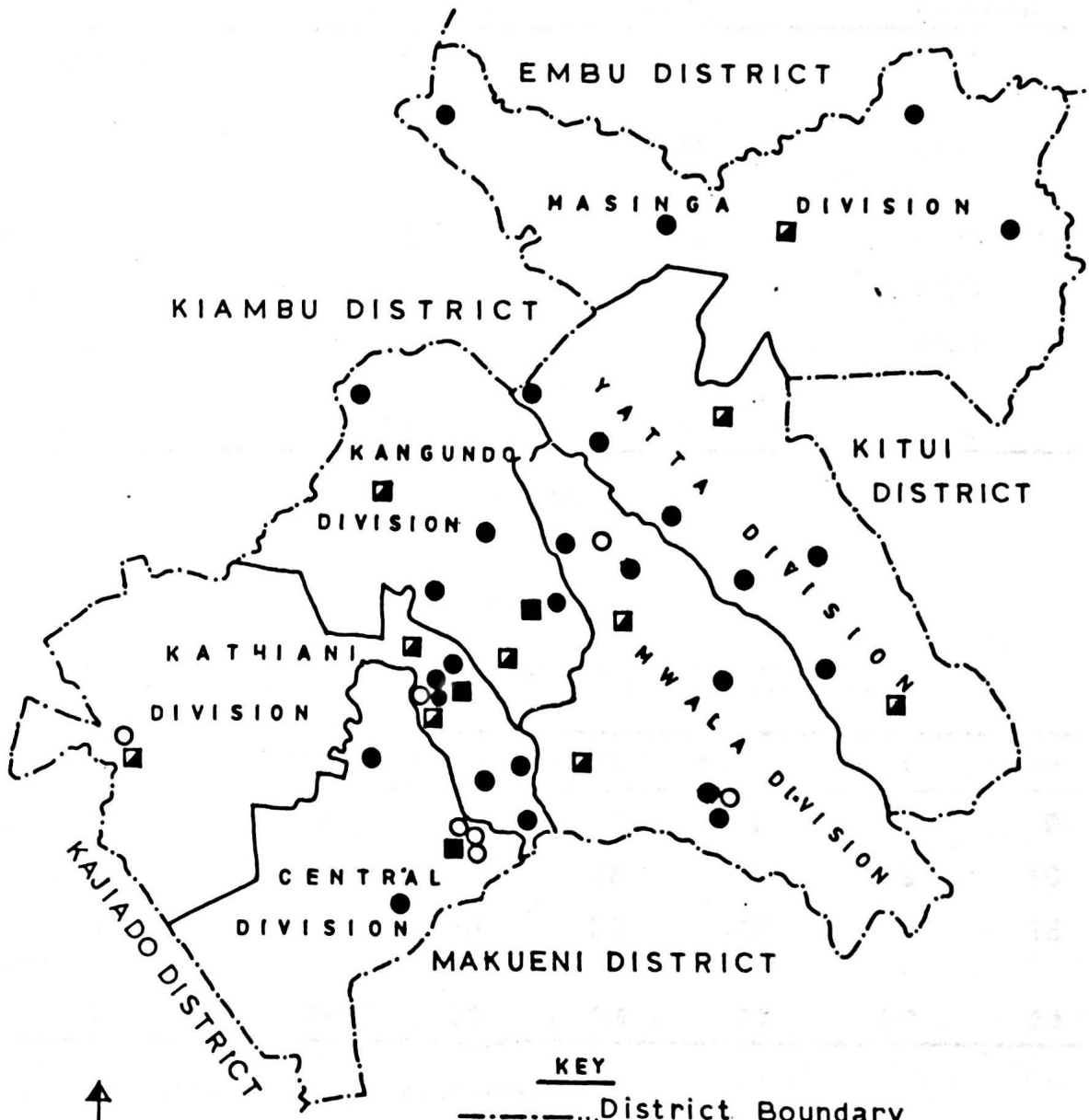
Distribution and Utilization of Health Facilities by Division

Division	Health		Sub-Health		Dispensaries	Utilization
	Hospital	Centres	Centres			
Central	4	Nil	4		5	High
Kathiani	1	4	1		3	Moderate
Mwala	Nil	3	4		4	Moderate
Yatta	Nil	2	2		4	Moderate
Kangundo	1	Nil	3		5	High
Masinga	Nil	1	4		2	Moderate

Source: Ministry of Health, Machakos, 1993.

- Central** - The facilities are highly utilized due to the better facilities and specialized services available. Communication is also good in the division.
- Kathiani** - Moderate utilization of facilities due to inadequate specialised services and poor communication.
- Mwala** - Moderate utilization of facilities due to under-staffing although the facilities are good.
- Yatta** - The health facilities are good but under-staffing and poor communication network has led to moderate utilization.
- Kangundo** - The facilities are highly utilized because they are good although specialized services are inadequate.
- Masinga** - Facilities are moderately utilized because of poor infrastructure and staffing.

MACHAKOS DISTRICT HEALTH FACILITIES



KEY

- District Boundary
- Division Boundary
- Hospital
- ▣ Health Centre
- Dispensary
- Private Hospital / Clinic

Table 2.20

Classification of Health Facilities

Category of Health Facilities	Total Number	Number of Beds	Project Financier
Provincial General Hospital	1	507	GOK
Sub-district Hospital	2	341	GOK
Other Hospitals	2	217	Private
Health Centres	10	93	NGO
Sub-Health Centres	18	4	NGO
Dispensaries	23	Nil	NGO

Source: Ministry of Health, Machakos, 1993.

Table 2.21

Trend levels in the Provision of Health Facilities (1987 - 92)

Health Facilities	1987	1988	1989	1990	1991	1992
Hospital	6	6	6	8	8	6
Health Centre	17	18	18	18	19	10
Sub-Health Centres	27	29	39	45	45	18
Dispensaries	28	29	33	37	39	24

Source: Ministry of Health, Machakos, 1993.

Note: 1987-91 figures include the facilities which are now in Makueni District.

Education Facilities

Table 2.22 shows the distribution of education facilities i.e. pre-primary, primary, secondary, Youth Polytechnics, Farmers Training Centres, Family Life Training Centres and Teachers Training Colleges by division.

Table 2.22

Distribution of Education Facilities by Division 1992

Division	Pre-Primary	Primary	Secondary	Youth Polytechnic	Farmers T.C	Family L.T.C.	Teachers T.C.
Central	108	69	23	7	1	-	1
Kathiani	90	79	17	5	-	-	-
Mwala	240	186	34	10	-	-	-
Yatta	119	110	15	4	-	-	-
Kangundo	161	130	26	6	-	-	-
Masinga	108	88	10	3	-	-	-
Total	826	662	125	35	1		1

Source: District Education Office, Machakos, 1993.

Most of the institutions in Central, Kangundo and Mwala Divisions are over-utilized because of high population in these divisions. However, the institutions in Yatta and Masinga Divisions are moderately or under-utilized because of low population. In Kathiani Division, most of the institutions are moderately utilized because the facilities are quite adequate as compared to the other divisions.

Table 2.23

Provision of Education Facilities in the District 1987-92

Type	1987	1988	1989	1990	1991	1992
Pre-Primary	782	793	784	789	820	826
Primary	569	543	579	615	639	662
Secondary	109	123	126	126	126	125
Youth Poly.	20	18	21	23	35	35
F.T.C.	1	1	1	1	1	1
Teachers T. College	1	1	1	1	1	1

Source: District Educational Officer, District Youth Training Office, Machakos, 1993.

From the above table it can be noted that 9 pre-primary schools closed down by the end of 1988. The reason was the decrease in pupil population as pupils were attracted to the better established neighbouring pre-primary schools. However, the general trend has been upward.

Three secondary schools have closed since 1990 as a result of lack of pupils in the catchment area and the existence of better established neighbouring institutions.

Youth Polytechnics figures include both Government and Non-governmental assisted polytechnics. The polytechnics have shown an upward trend although two closed down at the end of 1989 due to poor enrolment.

When the district was split to form Makueni District, the Family Life Training Centre which used to be in the district went to Makueni District.

Table 2.24

Student Enrolment in Primary Schools by Division 1987-92

Division	1987	1989	1990	1991	1992
Central	34,897	30,458	30,759	31,420	31,599
Kathiani	21,542	28,295	28,964	29,509	25,425
Mwala	47,189	51,803	52,835	53,458	52,752
Yatta	54,952	32,264	33,786	35,055	33,575
Kangundo	47,226	50,016	51,029	52,220	42,831
Masinga	*	220,393	226,084	231,426	30,216

Source: District Education Office, Machakos, 1993.

*Masinga was within Yatta Division

Students enrolment rate in primary schools has increased by about 2.5% in all the divisions over the years 1987-92 as shown in Table 2.24. For 1993, the student teacher (Untrained) ratio is 112:1 while the student teacher (trained) ratio is 46:1. The drop out rate in primary schools is minimal in the district. However, in some dry divisions like Masinga, Yatta and Mwala it is about 0.6% in a year. Enrolment rates are higher than drop-out rates hence the upward trend in enrolment.

Table 2.25

Students Enrolment in Secondary by Divisions 1987-92

Division	1987	1988	1989	1990	1991	1992
Central	4,948	8,399	7,849	7,458	7,906	7,813
Mwala	6,293	6,423	6,529	8,321	8,296	7,848
Yatta	3,063	3,067	2,204	1,966	2,068	2,199
Kangundo	5,768	6,590	8,707	8,406	,625	77,835
Kathiani	2,074	2,515	3,453	3,496	3,622	3,547
Masinga	.	.	2,027	2,175	2,357	1,886
Total	22,146*	26,994*	32,769	31,822	31,874	31,128

Source: District Education Office, Machakos, 1993.

Note: *Masinga Division was within Yatta Division

From Table 2.25, it can be seen that students enrolment has shown an upward trend up to the end of 1989 when the figure dropped slightly to almost a steady figure of between 31,000 and 32,000 pupils. Masinga Division had the highest drop out rate at approximately 20%, while Yatta had the highest rise approximately 6.3% between 1991 and 1992. The drop in 1992 was partly attributed to the drought that had covered the whole district throughout the year.

Table 2.26

Staffing of Secondary Schools (Trained Teachers): 1992

	Graduate Teachers	Approved Teachers	Diploma Teachers	SI Teachers	PI Teachers
Female	192	5	137	6	1
Male	273	58	256	33	30
Total	465	63	393	39	31

Source: District Education Office, Machakos, 1993.

Table 2.27

Staff of Secondary Schools (Untrained Teachers) 1992

	Graduate	'A' Level Teachers	'O' Level Teachers	Others
Female	33	131	-	3
Male	127	370	-	37
Total	160	501	-	40

Source: District Education Office, Machakos, 1993.

It should be noted that there has been an overlap existing in the P1 grade as these are actually on the primary school pay roll. Some of the 'A' level untrained teachers are also being deployed to teach in the primary schools currently. The 1992 student teacher ratio was 19:1.

Youth Polytechnics: The polytechnics are producing craftsmen who are working within the district. The craftsmen form 'Jua Kali' businesses and by opening workshops and small business, they contribute towards economic development of the district.

Table 2.28

Enrolment in Youth Polytechnics: 1987-92

Type	1987	1988	1989	1990	1991	1992
Government assisted	1,088	759	1,158	968	965	965
Non-Govern. assisted	863	824	861	1,187	1,673	1,673
Total	1,951	1,583	2,019	2,155	2,638	2,638

Source: District Youth Office, Machakos, 1993.

Youth polytechnics have good enrolment rates. Most of the trainees are primary school leavers. Many of these polytechnics are not adequately equipped. The staffing position in government assisted Youth Polytechnics is fairly good unlike the non-government assisted polytechnics which are not properly staffed.

Roads

Table 2.29 gives a breakdown in kilometres of classified and unclassified roads per division.

Table 2.29

Distribution of Classified and Unclassified Roads
By Division 1993

Division	Classified Roads (Km)	Unclassified Roads (Km)
Central	297.6	-
Kathiani	242	11
Yatta	239.5	20
Mwala	329.2	22
Kangundo	251.2	39
Masinga	321.6	29
Total	1,682.4	121

Source: Public Works Office, Machakos, 1993.

Category 'A' Roads in Central, Kathiani, Yatta and Masinga Divisions have heavy traffic as they are international trunk roads. Other categories of roads which are classified, are moderately utilised in all the divisions. There are no unclassified roads in Central Division.

In all the other divisions, unclassified roads are moderately utilized because they lead to small market centres and institutions.

Utilization levels for different roads depend on several factors:

- The social economic activities of the areas being served by these roads.
- The condition of the roads. Better roads have more traffic.
- The centres being linked by these roads. For instance, international trunk roads are heavily used by pass through traffic.

MACHAKOS DISTRICT

ROADS

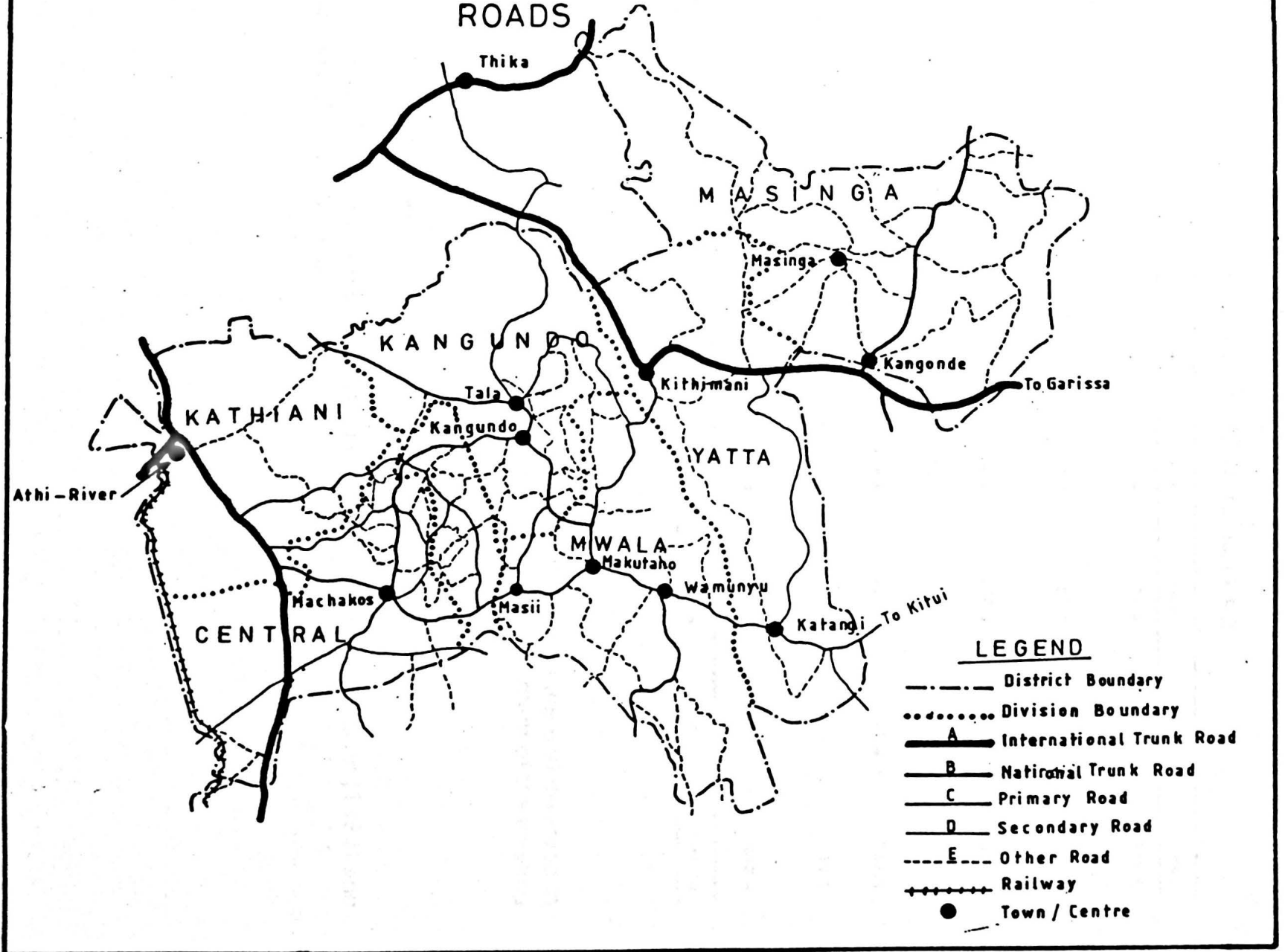


Table 2.30**District Roads (1987-1992) in km**

Type of Road	1987	1988	1989	1990	1991	1992
International Trunk Roads (A)	111.4	111.4	111.4	111.4	111.4	111.4
National Trunk Roads (B)	37.7	37.7	37.7	37.7	37.7	37.7
Primary Roads (C)	276.2	276.2	276.2	276.2	276.2	276.2
Secondary Roads (D)	290.7	290.7	290.7	290.7	290.7	290.7
Minor Roads (E)	734.4	734.4	734.4	734.4	743.4	734.4
Government Access Roads (C)	19.1	19.1	19.1	19.1	19.1	19.1
Rural Access Roads	212.9	212.9	212.9	212.9	212.9	212.9
Total (Km)	1,682.4	1,682.4	1,682.4	1,682.4	1,682.4	1,682.4

Source: Ministry of Public Works, Machakos, 1993.

Yatta Division and Ndithi Location of Masinga Division are under-served in relation to need. What is required in the other areas is improvement of the existing network.

Water supplies

Table 2.31 shows the distribution of water facilities by division (1992) and the level of their utilization.

Table 2.31

Water Facilities by Division (1992)

Division	GOK	Self-help	Others	Utilization Remarks
Kangundo	-	10	4	Under-utilized because of management problems by the community
Mwala	4	9	8	The GOK projects are over-utilized. Others are under-utilized because of management problems by the community. Some require rehabilitation.
Kathiani	3	7	4	GOK schemes under-utilized as some require extension. Others require rehabilitation as they are not operational because of management problems by the community.
Central	2	6	2	GOK schemes moderately utilized. Self-help schemes require rehabilitation as they are not operational because of management problems by the community.
Yatta	1	11	1	GOK schemes over-utilized. Others under-utilized because of management problems by the community.
Masinga	-	3	6	Some of the self-help schemes are not completed and funds are required to complete the remaining works.
Total	10	46	25	

Source: District Water Office, Machakos, 1993.

Government run schemes are the main water projects in the district. Self-help and other schemes include dams, boreholes, springs, wells etc.

Table 2.32**Trend Levels in the Provision of Water Facilities**

Maintaining Agency	1987	1989	1992
GOK	8	8	8
Self Help	46	46	47
Others	25	25	25
Total	79	79	80

Source: District Water Office, Machakos, 1993.

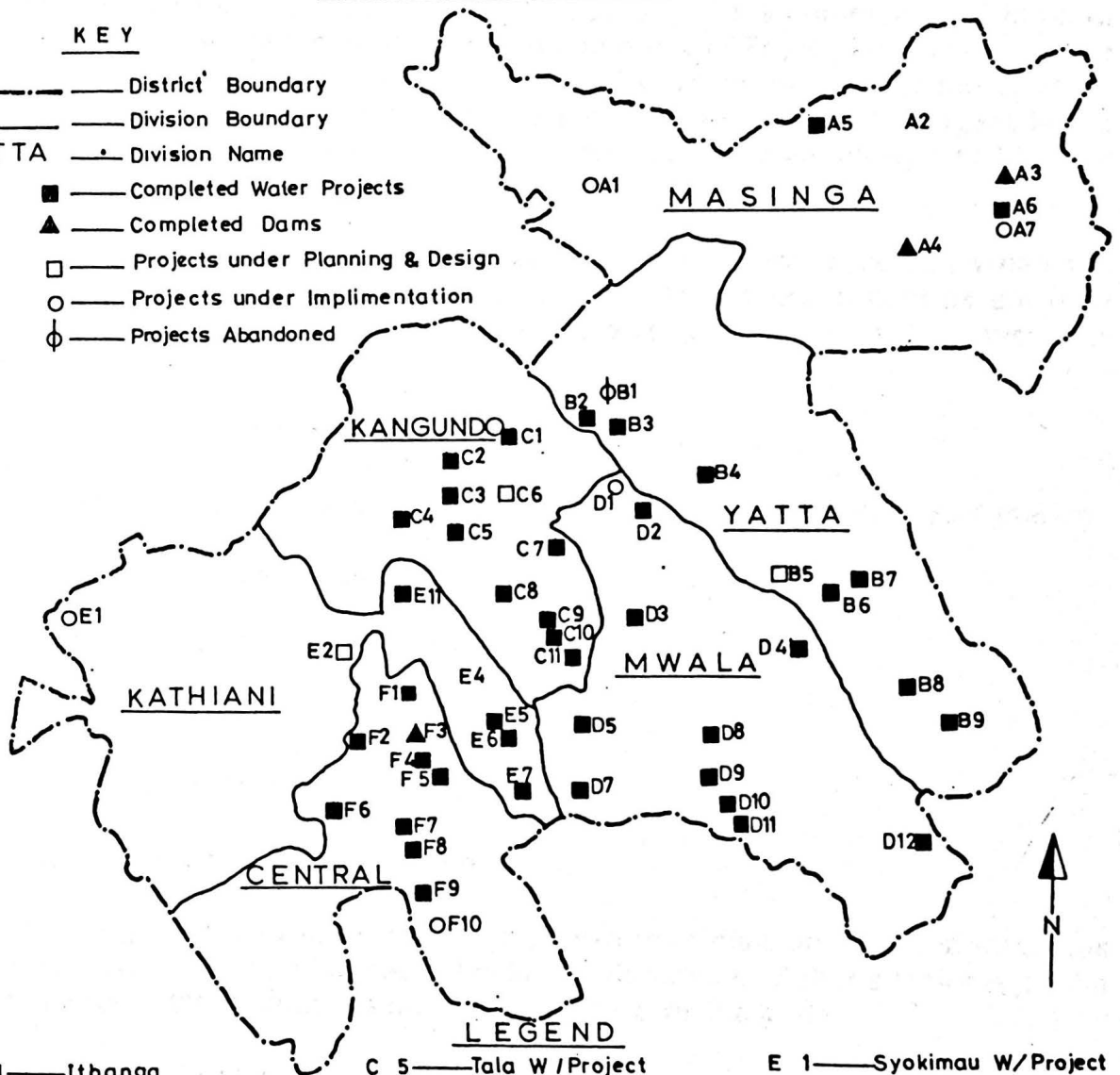
Note: These schemes are located in the new Machakos District excluding those of Makueni District.

MACHAKOS DISTRICT

WATER RESOURCES

KEY

- District Boundary
- Division Boundary
- YATTA — Division Name
- Completed Water Projects
- ▲ Completed Dams
- Projects under Planning & Design
- Projects under Implimentation
- ⊕ Projects Abandoned



LEGEND

- | | | |
|-----------------------------|--------------------------------|----------------------------|
| A 1— Ithanga | C 5— Tala W /Project | E 1— Syokimau W/Project |
| A 2— Masinga Ekarakara | C 6— Kwakimoli/Katuanyaa | E 2— Kavililia W/Project |
| A 3— Thatha Dam | C 7— Kikambwani W/Project | E 3— Mitaboni W Project |
| A 4— Kangonde Dam | C 8— Matetani W/Project | E 4— Metuma Kwamuthanga |
| A 5— Masinga W/Supply | C 9— Kangundo W/Project | E 5— Kisekini W/Project |
| A 6— Kithioko " | C 10— Kwamangu W/Project | E 6— Kwambunga W/Project |
| A 7— Ilenthi | C 11— Manyatta W/Project | E 7— Muoni Phase II |
| B 1— Ndalani W/Project | D 1— Kwamutula W/Project | E 8— Kathiani W/Project |
| B 2— Makutano Ndalani Canal | D 2— Mbiuni W/Supply | E 9— Kaviani W/Project |
| B 3— Yatta Ndalani Canal | D 3— Siathani W/Supply | E 10— Kaseve W/Project |
| B 4— Matuu W/Supply | D 4— Wamunyu W/Supply | F 1— Mutituni W/Project |
| B 5— Kinyongo Dam | D 5— Masii W/Supply | F 2— Mui W/Project |
| B 6— Kinyatta W/Supply | D 6— Muindi Memorial Roof Cat. | F 3— Muoni W/Project |
| B 7— Ikombe W/Supply | D 7— Kithangaini W/Project | F 4— Katheka W/Project |
| B 8— Kakuyuni W/Project | D 8— Kionyweni W/Project | F 5— Scott Theology W/P |
| B 9— Mekilingi W/Project | D 9— Muthetheni W/Project | F 6— Kitanga Lanjala W/P |
| C 1— Kinyui W/Project | D 10— Kyethivo W/Project | F 7— Machakos W/Supply |
| C 2— Kisuokuoni W/Project | D 11— Miu W/Project | F 8— Kiima Kimwe W/Project |
| C 3— Sengani W/Project | D 12— Kibauni W/Project | F 9— Kimutwa W/Project |
| C 4— Nguluni W/Project | | F 10— Lumbwa W Project |

Electricity

Availability of power supply in rural areas is a major catalyst in the enhancement of social and economic development of the communities. In order to achieve this, the Government through the Ministry of Energy has for a long time embarked on an aggressive rural electrification programme all over the country. The Kenya Power and Lighting Company Ltd. is the government's agent in the implementation of this programme, while the funds are availed through the Ministry of Energy.

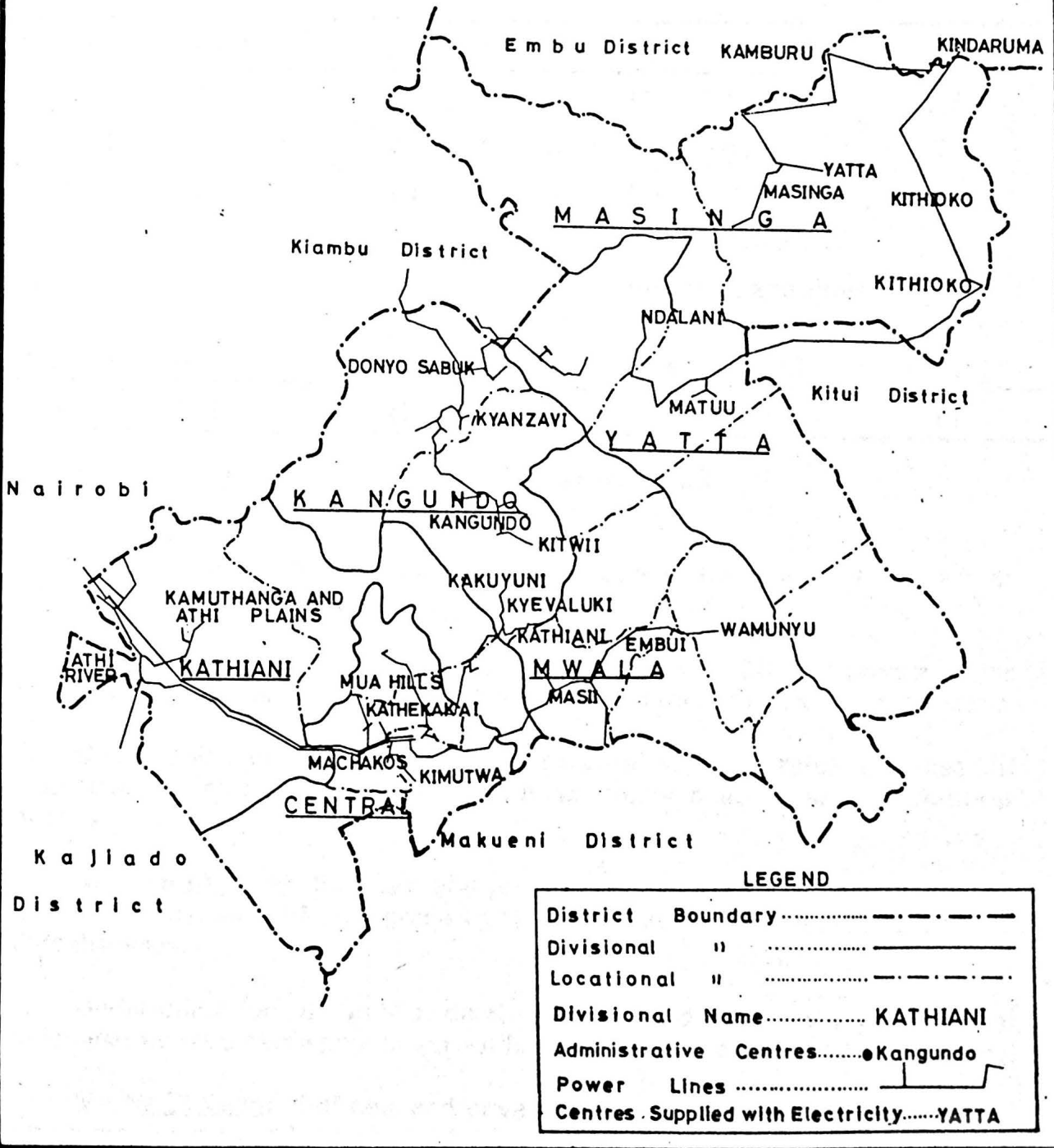
While the first priority was to reach all District Headquarters when the programme was initiated, a number of other rural and urban centres are now connected to the grid. The following are the major centres so far covered in Machakos District.

- Machakos Municipality and its environments.
- Kangundo/Tala Urban Council and its environs including Kakuyuni market.
- Matuu/Ndalani/Sofia markets.
- Masii, Vyulia, Makutano and Wamunyu markets.
- Masinga Market.
- Athi River town council and its environs.
- Kathiani market and its environs.

It is significant to note that all administrative division headquarters have been connected to the grid except Mwala and Kithimani. Still the majority of the rural markets in the district are not yet connected to the grid.

Utilization in most of the market centres is normal and there is scope for more utilization with the expansion of industries and the informal sector.

MACHAKOS DISTRICT ELECTRICITY GRID



Cattle Dips

Table 2.33 presents the distribution of cattle dip facilities by division.

Table 2.33

Distribution of Cattle Dip Facilities by Division

Division	GOK	Self-help	Other agency (Private)	Total
Central	22	-	1 (GOK Farms)	23
Kathiani	12	2	6 (Ranches)	20
Mwala	39	10	1 (Musau Mulinge)	50
Yatta	19	2	1 (GOK Farm NYS)	22
Kangundo	26	-	9 (Ranches and Private Farms)	35
Masinga	5	13	3 (Private Farm)	21
Total	123	27	21	171

Source: District Veterinary Office, Machakos, 1993.

The dipping facilities available in the district and their intensity of use is as follows;

Central Division: 100% dipping rate (normal) in GOK and private farms because of high grade cattle which are highly susceptible to tick borne diseases.

Under-utilization of public dips (22.23% dipping rate) because of predominantly Zebu cattle which are not so highly susceptible to tick-borne diseases.

Kathiani Division: Self-help and private ranching dips have 100% dipping rate (normal) because of high grade cattle which are highly susceptible to tick-borne diseases.

Under-utilization of public dips. 12-22% dipping rate because of predominantly zebu cattle population not highly susceptible to tick borne diseases.

Mwala Division: Self help and private dips are 100% utilized (normal) due to high grade cattle while the public dips are under-utilized (19.4% dipping rate) because of predominantly zebu cattle population not susceptible to tick borne diseases.

Yatta Division: 100% dipping rate in GOK and private farms because of high grade cattle populations which are highly susceptible to tick-borne diseases.

Public dips are under-utilized, 7.4% dipping rate, because the cattle population is mainly zebu and the area is dry bringing with it shortage of water and sometimes even famine.

Kangundo Division: 100% dipping rate (normal) in private farms because the cattle are high grade and therefore highly susceptible to tick borne diseases.

Public dips are over utilized (268% dipping rate) because some of the dips are co-operative on company ranches where there are high grade cattle susceptible to tick borne diseases. Dippings are also carried out more than once a week thereby occasioning over-dipping.

Masinga Division: Most of the self help dips do not operate owing to disinterest by members. 100% dipping rate on private farms.

Under-utilization of public dips as the cattle population is mainly zebu and the area is dry with problems of water for use in dips.

Table 2.34

Comparative Lack of Dipping Facilities

Division	No. of Dips	Deficiency
Mwala	50	27
Kangundo	35	15
Central	30	2
Kathiani	26	8

Source: District Veterinary Office, Machakos, 1993.

Note: The column on "Deficiency" indicates the number of additional dips each division requires.

At present the Government is handing over the management of dips to the local communities.

Co-operatives

Co-operative societies have and will continue to play an important role of improving the living standards of members in the district. These societies provide education to the members, mobilize savings and provide credit facilities and also streamline the marketing of members produce. Table 2.36 gives the number of co-operative societies by division (1992).

Table 3.36

Number of Cooperatives Societies per Division (1992)

Type of Co-operative	Central	Kathiani	Yatta	Kangundo	Mwala	Masinga	Total
Coffee	3	2	-	6	1	1	13
Cotton	1	-	1	-	6	2	10
Dairy	1	1	-	-	-	-	2
Fisheries	-	-	-	-	-	1	1
Multipurpose	1	-	-	6	-	-	7
Horticulture	-	-	1	1	-	-	2
Housing	4	4	-	-	-	-	8
Ranching	2	1	-	3	-	-	6
Consumer	1	1	-	-	-	3	3
Wattlebark	1	-	-	-	-	-	1
Handcrafts	1	-	-	-	2	-	2
Jua Kali	1	-	1	1	-	-	3
Sand Harvesting	-	-	-	-	1	1	2
Stone Cutting	-	-	1	1	-	-	2
Total	16	9	4	18	10	8	62

Source: District Co-operative Office, Machakos, 1993.

Table 2.37

Annual Turn-Over of Co-operatives in the District (1988 - 92)

Type of Society	Share Capital (Kshs.)	1988	1989	1990	1991	1992
Coffee	4,622,992	299,748,965	341,900,000	341,900,000	212,815,480	390,351,250
Cotton	2,484,466	13,879,976	14,000,000	14,000,000	10,675,260	2,435,292
Dairy	264,875	-	3,707,400	3,707,400	3,389,128	280,829
Multipurpose	9,482,750	5,720,663	5,760,000	5,760,000	18,286,841	5,002,000
Horticulture	33,280	-	6,294,400	6,294,430	-	6,000,000
Housing	498,267	-	-	-	-	-
Ranching	22,142,941	-	24,230,000	24,230,000	33,254,616	23,600,000
Handcrafts	111,890	23,152,713	2,059,477	2,059,477	2,059,477	-
Consumers	515,926	1,650,729	220,835	220,835	220,835	-
Wattlebark	1,397,444	142,300	-	-	-	-
Jua Kali	61,900	1,261,645	-	-	-	-
Fisheries	2,780	-	-	-	-	-
Sand Harvesting	9,480	-	-	-	-	-
Machakos District Co-operatives Union	1,979,180	1,979,180	57,943,636	95,195,572	88,738,747	58,070,523

Source: District Co-operative Office, Machakos, 1993.

From Table 2.37 it can be noted that the turnover in all the coffee societies has shown a decline. This is attributed to decrease in overall coffee production in the district caused by the fall in the market prices for coffee worldwide.

Cotton production has gone down drastically since 1990 due to the fall in prices decreasing the members' purchasing power. Most of cotton growing areas are now in Makueni District.

Ranches have also been affected due to the sub-division of the farms to members. Apart from three, all the other ranches have already given plots to their members and hence annual production per society cannot be measured.

Most of the other types of co-operatives are not very active especially those of housing, horticulture, sand harvesting, fisheries and Jua Kali.

Savings and Credit Co-operative Societies: Due to their urban nature, the majority of these are located in Athi River and Machakos Townships.

There are 26 SACCO societies with a total share capital of Kshs.162,926,981 in the district. The general trend based on the annual turnover figures for all SACCO societies for the past six years has been on the increase.

Table 2.38

Annual Turnover for SACCOs - 1987-92 (Kshs)

<u>Year</u>	<u>Annual Turnover (Kshs.)</u>
1987	5,043,262
1988	6,209,207
1989	8,939,314
1990	11,627,292
1991	13,581,810
1992	16,533,271

Source:District Co-operative Office, Machakos, 1993.

The upward trend of turnover over the years is attributed to the rise in share capital as the members continue to save hence more capital for the societies to venture into many business activities.

Other Marketing Facilities.

Livestock Holding and Auction Facilities: The district has only one holding Ground, that is, the Athi River Holding ground. However, there are several livestock marketing centres in the district. In Mwala Division, the facilities are located at Mwala, Masii and Wamunyu; In Kathiani Division Kathiani and Kangundo; Masinga Division at Kithyoko and Masinga and in Yatta Division at Matuu and Kithimani.

The utilization of these facilities is low and this however is attributed to the ban imposed on movement of animals due to outbreak of foot and mouth disease.

Cereals and Produce Board Stores: Machakos District has 3 grain stores. Machakos Integrated Development Programme (MIDP) constructed stores for co-operative societies especially in cotton growing areas of the district.

There was a decline in cash crop production between 1991 and 1992 due to unfavourable weather conditions during that period. However, the period coincided with the sharp increase in prices of the crops due to the rise in production costs in that period hence high value was recorded for most crops.

Coffee is mainly produced in the high potential areas of Kangundo, Kathiani and Central Divisions. Little is produced in Yatta and Masinga Divisions. Cotton is produced in the dry low lying areas of Yatta, Mwala and Masinga Divisions. Macadamia is mainly grown in coffee areas and marketed through coffee societies. Castors is produced in Central, Yatta, Mwala and Masinga Divisions. Asian vegetables are mainly produced in Yatta along the furrow. Fruits are mainly produced in dry areas of Mwala, Kangundo and other divisions depending on variety. The income earned from the various cash crops goes to the farmers who grow the crops in the respective divisions. For example, income earned from coffee goes to the coffee farmers in Kangundo, Central and Kathiani divisions. Income earned from the Asian vegetables mainly goes to farmers who grow these vegetables along the Yatta Furrow in Yatta Division.

Table 2.40 presents the food crop production and values for the years 1989-92.

Table 2.40

Food Crops Production and Values 1989 - 92

Food Crops	Year	Production (Bags)	Values (Kshs.)
Maize	1989	128,800	41,216,000
	1990	129,570	45,349,500
	1991	97,860	39,633,300
	1992	131,800	112,098,000
Beans	1989	215,476	129,285,600
	1990	216,400	151,480,000
	1991	85,402	70,029,640
	1992	286,925	308,444,375
Pigeon Peas	1989	10,295	3,603,250
	1990	11,375	7,735,000
	1991	11,375	7,735,000
	1992	11,692	16,368,800
Roots Crops (Cassava and Sweet Potatoes)	1989	508	1,905,000
	1990	641	2,402,750
	1991	602	2,257,500
	1992	570	2,257,000
Sorghum	1989	6954	2,781,600
	1990	7015	4,910,500
	1991	7120	6,230,000
	1992	9387	8,542,170
Millet	1989	5148	3,346,200
	1990	5400	4,910,500
	1991	4210	3,852,150
	1992	6312	6,627,600
Green Grams	1989	7560	4,536,000
	1990	7714	7,714,000
	1991	7390	8,498,500
	1992	7888	15,776,000
Cow Peas	1989	57530	18,984,900
	1990	57821	32,379,760
	1991	58900	45,379,760
	1992	70240	108,872,000

Source: District Agricultural Office, Machakos (1993)

The value of meat production shown in Table 2.41 implies that some income from meat sales goes to farmers who keep beef cattle in the district and the rest goes to the owners of butcheries.

Milk Production: Dairy farming is widespread in the district although it is more intensive in Kangundo, Central, Kathiani and Mwala Divisions. Table 2.42 gives the trend of milk production and value in the district over the years 1988-92.

Table 2.42

Milk Production and Value 1988 - 92

	1988	1989	1990	1991	1992
Production (Kg)	3,244,373	2,818,605	2,574,977	1,340,249	924,962
Income (Kshs)	12,032,840.00	12,333,522.10	11,180,699.00	6,474,027	7,388,359.70

Source: District Veterinary Office, Machakos, 1993.

Honey and Bees Wax Production: Bee-keeping in the district, is mainly done in the dry parts of the district like Yatta, Masinga and Mwala Divisions. It is also becoming popular in other divisions. Table 2.43 gives the trend in honey bees wax production and value in the years 1988-92.

Table 2.43

Honey and Bees Wax Production and Value 1988 - 92

	1988	1989	1990	1991	1992
Honey Production (Kg)	73,792	74,047	83,495	91,871	95,858
Bees Wax Production (Kg)	1,658	1,755	2,910	2,910	3,306
Value of honey and bees wax (Kshs)	7,800,250	8,562,526	1,920,958	1,920,958	6,015,960

Source: District Livestock Production Office, Machakos, 1993.

Food crops are grown district wide mainly for subsistence. It should be noted that the values recorded for most food crops are not necessarily what the farmers earned. Most of the food crops are basically grown for subsistence and very little find its way to the markets. The values of the crops were calculated on the basis of prevailing market prices of the respective crops over the years.

Livestock Production Values: The values of livestock production are an indication of income going to livestock farmers in the district. Table 2.41 presents meat production and value by division over the years 1989-92.

Table 2.41

Meat Production and Values 1989 - 92

Division	Year	Production (Tonnes)	Value (Ksh.Million)
Yatta	1989	449	15.7
	1990	505	20.2
	1991	583	26.2
	1992	616	30.8
Masinga	1989	193	6.8
	1990	216	8.6
	1991	259	11.7
	1992	198	9.9
Central	1989	1476	51.7
	1990	1658	66.3
	1991	1934	87.0
	1992	1654	82.0
Kathiani	1989	610	21.3
	1990	685	27.4
	1991	777	35.0
	1992	1454	72.7
Kangundo	1989	160	51.6
	1990	180	7.2
	1991	209	9.4
	1992	246	13.3
Mwala	1989	320	-
	1990	360	14.4
	1991	426	19.2
	1982	364	18.2

Source: District Livestock Production Office, Machakos, 1993.

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Value of honey and bees wax (Kshs)	7,800,250	8,562,526	1,920,958	1,920,958	6,015,960

Source: District Livestock Production Office, Machakos, 1993.

Poultry Production

In 1992, 50 million eggs were produced whose value was Ksh.120 million. 706,941 kg of birds were also produced with a value of Ksh.38 million.

Wage Earnings

Table 2.44 gives the district formal sector employment and wage earnings in 1986-1990. In 1986 the formal sector employed 22,752 persons earning a total of K£20,334,544 giving an average earning of Kshs.1,489 per person. Employment in the formal sector increased by 14% between 1986 and 1990 while average earnings rose from Kshs.1,489 in 1986 to Kshs. 2,315 in 1990. On average the formal sector in the district employs about 13,527 persons earning appropriately K£15,488,536 or about Kshs.1,053 per person.

According to Tables 2.44 and 2.45 urban employment (Machakos and Athi River) was 58% of the total employment in all sectors.

Wage employment and earning figures shown in Table 2.44 are extracted from the 1991 Statistical Abstract. The statistical abstract shows figures for the former Machakos District before it was split to create Machakos and Makueni Districts. A total of 1,116 establishments were covered in the two districts of which 516 fall in Machakos District. This implies that 55% of the establishments are in Machakos district. This ratio is applied to generate employment and wage earning figures contained in Table 2.44 for the new district.

Table 2.45 summarises main town wage employment by industry in 1989-90. It indicates that community, social and personal services employed the highest number representing 40.2% of the total employed workforce, followed by manufacturing employing 34.6%. Mining/Quarrying and Finance employed the least accounting for only 0.1% and 1.2% respectively.

Table 2.45

District Main Town Wage Employment by Industry 1986 - 90

Industry	1986		1987		1988		1989		1990	
	Machakos	A/River	Machakos	A/River	Machakos	A/River	Machakos	A/River	Machakos	A/River
Construction	531	-	543	-	690	-	699	-	703	-
Manufacturing	-	10	-	10	-	10	-	12	-	23
Trade	1879	2494	1864	2439	3356	1938	3319	1991	3221	2013
Transportation	24	-	25	-	18	-	20	-	32	-
Services	895	50	965	51	981	24	811	18	797	17
Education	585	38	535	45	528	44	508	55	513	67
Health	489	36	978	37	1502	-	1523	35	1527	39
Other	135	2	152	12	177	12	174	14	160	16
Total	5879	569	5957	567	4877	422	4598	488	4637	547
Total	10417	3199	11019	3161	12129	2450	11652	2613	11590	2722

Informal Sector

There are about 2,000 people who are self-employed in the informal sector in the district's main towns i.e. Machakos Town, Athi River, Matuu and Tala/Kangundo. There are three Jua Kali Sheds in the district i.e. in Machakos town, Athi River and Tala which cater for 816 Jua Kali artisans respectively. Most of the people involved in informal enterprises are found in urban centres. These include hawkers, vegetable vendors, barbers, salon operators, shoe-shiners, kiosk operators etc. Income earned in this sector varies with the type of activity and so it is not easy to give data on income earned in this sector.

Distribution of Income

This section is partly covered under Agriculture/Livestock production values. It is evident from table 2.45 that most wage earners in the district are in the main towns. This implies that the manufacturing industry is the main employer of wage earners in the district. Construction and transport industries are also large employers of wage earners in urban areas. In rural areas, the agricultural sector is the main employer of wage earners. Table 2.46 presents average incomes in various types of occupation in the district's main towns over the years 1988-90.

Table 2.46

Machakos District Main Towns Average Incomes 1988 - 90 (K£)

Year Industry	1988		1989		1990	
	Machakos	A/River	Machakos	A/River	Machakos	A/River
Agriculture & Forestry	1017	-	603	-	724	-
Mining & Quarrying	-	530	-	1292	-	1413
Manufacturing	1174	654	1696	1696	1160	1166
Electricity & Water	3656	-	2385	-	2569	-
Construction	937	833	1187	1189	1054	1041
Wholesale & Retail Trade, Restaurants Hotels	2971	1963	2323	2324	2263	2266
Transport & Communication	1239	-	2433	2434	2349	2362
Finance Insurance & Business Services	3624	2767	3583	3586	3955	3963
Community Social & Personal Services	1662	901	1461	1461	1540	1543

Source: Statistical Abstract, 1991

OTHER ASPECTS OF WELFARE

Infant Mortality Rates (IMR)

Machakos district infant mortality rate (I.M.R.) has declined from 66 deaths per 1000 live births in 1986 to 60 in 1990, compared to the national rates of 81 and 75 in the same period.

Table 2.47 gives five year I.M.R. trends in a few selected districts and national levels for comparison purposes.

Table 2.47

Infant Mortality Rates for Selected Districts (per 1000)

District	1986	1987	1988	1989	1990
Machakos	66	64	63	61	60
South Nyanza	110	107	105	102	99
Kiambu	45	44	43	41	40
Busia	104	103	100	98	96
Kitui	87	85	83	82	81
Baringo	105	103	100	98	96
Nairobi	45	44	43	41	40
National	81	79	77	76	75

Source: C.B.S. Population Census and Demonstration Projections in 1980 - 2000

Table 2.47 indicates that I.M.R. are lowest in Nairobi followed by Kiambu and highest in South Nyanza and Baringo in the period under consideration.

The low rates in some areas may be attributed to availability of health facilities and better nutritional status of the population. According to inter-census data the National I.M.R. has declined steadily by as much as 18% between 1979 and 1989. But despite the national decline there are wide geographical disparities as can be inferred in Table 2.47.

Factors that positively affect infant mortality rate include a marked reduction of deaths due to general reduction of immunizable diseases e.g. measles, whooping cough, tuberculosis, polionelitis, diphtheria and tetanus.

The general reduction of immunizable diseases occurred as a result of strengthening of the immunization programme through Kenya Expanded Programme of Immunization (KEPI).

Disease Incidence

Table 2.48 shows disease incidence in the district over the years 1987-91. The major diseases in the district follow the order shown in Table 2.47. The significant increase in disease incidence increase between 1987 and 1991 can be attributed to population increase, lack of clean drinking water in most parts of the district and pollution especially in Athi River. Air pollution in that town has a bearing on diseases of the respiratory system. Malaria is mainly common in Yatta and Masinga Divisions due to presence of stagnant water, i.e. Yatta canal and Masinga dams, which form breeding grounds for mosquitoes.

Table 2.48

Number of Reported New Cases by Major Diseases (1987 - 91)

Diseases	1987	1988	1989	1990	1991
Malaria	397989	381456	364477	364430	475125
Respiratory Diseases	310008	259277	299249	250465	330320
Skin Diseases	115577	109799	116436	100978	162728
Diarrhoea	74973	77050	68898	55597	65977
Intestinal Worms	57848	52790	55208	49631	63892
Urinary Tract Infections	31048	33769	38331	35098	46352
Eye Infections	31836	28677	44755	26709	35764
Pneumonia	26966	23683	30584	22610	27765
Ear Infections	39707	21033	26534	19695	26935
Rheumatism Joint Pains	25624	24792	27219	19182	23633

Source: Medical Officer of Health, Machakos, 1993

The major diseases in the district are malaria, diseases of the respiratory system, diarrhoea and intestinal worms, in that order as recorded in various health institutions in the district and presented in table 2.48. The table indicates a significant increase in general diseases between 1987 and 1991.

According to morbidity statistics contained in the 1991 statistical abstract, the first three major national diseases are malaria at 24.33% disease of the respiratory system at 21.38%, and diseases of the skin at 6.52%. Machakos District on the other hand had malaria at 35.8%, 27.89% for disease of the respiratory system and 10% for skin diseases.

Nutrition

One notable indicator that has been picked to help assess nutritional status of the district is growth monitoring of children attending clinics in various health institutions. Table 2.49 shows data on children growths as recorded in the health institutions in the district in 1991.

Table 2.49

Children Growth Monitoring 1991 by Number Attending Clinics

Station	Normal Weight	Under Weight	Total	Under Weight (%)
Mechakos Gen. Hospital	37648	4162	41810	10
Kathiani	10330	970	11300	9
Mwala Health Centre (HC)	4214	179	4393	4
Mitaboni H.C.	5895	508	6403	8
Mesii H.C.	7971	309	8280	4
Thinu	6003	974	6977	14
Matuu	9901	166	10067	2
Athi River H.C.	1575	678	2253	30
Katangi S.C.	8032	436	8468	5
Mesinge S.H.C.	24763	1462	26225	6
Kola S.H.C.	5244	243	5487	4
Matungulu Dispensary	4014	158	4172	4
Kithimani Dispensary	2248	546	2794	20
Muthetheni Dispensary	77	40	117	34
Miu Dispensary	4804	881	5689	15
Mbiuni Dispensary	6449	156	6605	2
Mukuyuni Dispensary	7147	353	8500	5
Katulani S.H.C.	6705	360	7065	5
Kithyoko S.H.C.	6006	186	6192	3
Mua Dispensary	3685	4	372	1
Kisiikini Dispensary	3889	364	4153	6
Ndithini Dispensary	4225	1474	5696	26
Kyeleni S.H.C.	1418	102	1520	7
Kitheui H.C.	1069	176	1245	14
Itheeni Dispensary	271	64	335	19
Wamuyu S.H.C.	1219	133	1352	10
Kakuyuni S.H.C.	95	1	96	1
Keeni S.H.C.	4627	1106	5733	8
Total	176211	1106	192299	

Source: Medical Officer Health, Machakos, 1993.

The weight data, desegregated by health institution shows high incidence of under weight children in Muthetheni with 34%, Athi River 30% and 26% in Ndithini. The percentage of underweight children in the district was 8% in 1991. It is expected that there are many unknown cases which have not yet been reported. When people do not receive adequate amount of nutritious foods, they normally suffer from malnutrition which some cases lead to death. When intake and balance of these essential nutrients are improper, growth and development diseases and the risk of nutritional disorders increases.

The data must be interpreted carefully because the weights are subject to seasonal variations in food availability by zones and may depend partly on when the measurements were taken.

Due to inadequate food supplies in the district most of the times, malnutrition usually common among children and expectant mothers thus affecting their health. Poverty, especially in the dry parts of the district, limits the inhabitants' purchasing power to supplement poor harvests hence malnutrition occurs. The 1987 statistics show that 29.3% of children in the district had stunted growth mainly due to malnutrition.

Pockets of Rural and Urban Poor (Destitutes)

The poor in the district include landless rural dwellers and the unemployed and urban dwellers usually living in slums. This last category of the poor is minimal in the district. They are mainly found in major urban centres like Machakos and Athi River. In rural areas the most vulnerable members of the family are the women and children due to social/cultural constraints or biological limitations. Many women together with their children cannot move far from home in search of work because they have household responsibilities.

In the district, most of the destitutes are children. These are children who are in "especially difficult" circumstances which encompasses street children, disabled children, child workers, AIDS orphans, children of imprisoned mothers and neglected children. Table 2.50 summarises the number of such children in the district over the years 1989, 1991 and 1993.

Table 2.50

Neglected Children and in "Especially Difficult" Circumstances

	1989	1991	1993
Number of neglected children	32	39	17
Number of children "especially in difficult" circumstances	154	66	78
Total	186	105	95

Source: Department of Social Services, Machakos, 1993.

Note: 1993 figures are for the first quarter of the year.

Family Planning

Table 2.51 presents the number of women visiting family planning delivery points in the district in 1988 - 1992.

Table 2.51

Number of Women Visiting Family Planning Delivery Points in the District

Year	First Visits	Re-visits	Total Visits
1988	6751	41,378	48,129
1989	8385	54,432	62,817
1990	5786	43,567	49,353
1991	4917	43,427	48,344
1992	2998	35,458	38,456

Source: MOH/District Population Office, Machakos, 1993.

The data in table 2.51 indicates that total visits rose from 48,129 in 1988 to 62,817 in 1989. There was sharp decrease of numbers visiting delivery points after 1989. Figures for the first visits dropped from 8385 in 1989 to only 2998 in 1992. Some of the factors causing low levels of visits to family planning delivery points are enumerated below.

- In 1987 low contraceptive use can be attributed to fewer service delivery points (SDPS)
- High resignation rate of the Enroled Community Nurses (ECNS) trained in family planning.
- Inadequate supplies of family planning devices particularly from 1991 onwards has impeded the smooth implementation of the Family Planning Programme.
- Social/cultural factors preference for male children reduces family planning impact among families.
- Rumours about family planning methods such as side effects, misconceptions e.g. about vasectomy etc, are keeping away the people from Family Planning Clinics.
- Delivery of family planning services are skewed in favour of women and are promoted by women hence men are not adequately involved in the programme.
- Religion in some areas particularly where the Catholic faith is predominant e.g. Kangundo and Yatta is a draw back to family planning efforts.
- Communities are not sufficiently involved in population and family planning of programmes at the village level.
- Poor infrastructure does little to facilitate contacts with remote areas of the district.

Literacy (Adult Education)

Tables 2.52 and 2.53 display the enrolment by gender of adult education learners in the district from 1988 through 1992. The data reveals that the majority of the learners were females representing 93% of the total enrolment in 1988-92. The reasons for the low level of male registration are that the district male literacy rate is high, others lack time and interest. A large number of males are also sensitive about mixing with the opposite sex in the literacy classes. The above reasons were revealed by the Kenya rural literacy survey conducted by CBS in 1988. According to the survey the district literacy rate has increased significantly by 4.87% from 53.6% in 1980/81 to 58.47% in 1988 compared to the national

rates of 47% in 1980/81 which rose to 54% in 1988. The literacy tests were based on three languages English, Kiswahili and their mother tongue.

Table 2.52

Adult Education Learners by Division 1988 - 92

Division	1988			1989			1990			1991			1992			Totals 1988-92
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Kangundo	102	1014	1116	94	1065	1159	47	645	692	61	675	736	76	707	783	4486
Mwala	76	1033	1109	84	956	1040	77	965	1042	75	921	996	68	855	953	5140
Central	88	977	1065	62	610	672	60	590	650	40	535	575	31	418	449	3411
Kathiani	60	825	835	60	777	837	58	672	730	43	598	641	32	535	567	3660
Yatta	24	837	861	52	814	866	56	1024	730	55	863	918	31	323	354	4079
Masinga	25	997	822	71	1138	1209	50	1005	1080	31	614	645	35	339	374	4105
Total	375	5483	5858	323	5360	5783	348	4901	1055	305	4206	4511	373	3207	3480	24881

Source: District Adult Education Office, Machakos, 1993.

Table 2.53 presents the number of adult education teachers by division in the years 1988/92. The table also gives the teacher/pupil ratio over the years. Adult education is more popular in Kangundo and Mwala Divisions as depicted by the high teacher/pupil ratio and also the high enrolment rates in those divisions. Enrolments rates in other divisions are relatively low compared to these two divisions although they are also catching up. Remoteness of some divisions like Masinga and Yatta may be the cause of enrolment in such areas.

Table 2.53

Adult Education Teachers in Service 1988 - 92

Period	Kangundo	Mwala	Central	Kathiani	Yatta	Masinga	Teachers	Pupils	Teacher/ Pupil Ratio
1988	32	42	28	22	24	12	160	5858	37
1989	33	41	30	22	24	12	162	5783	36
1990	26	44	33	26	27	15	171	5249	31
1991	25	45	33	26	26	15	170	4511	27
1992	36	46	37	26	26	15	185	3480	19

Source: District Adult Education Office, Machakos, 1993.

Food Availability Data

The District has an average precipitation of 800mm and 500mm in the hill masses and low lands respectively in a year. Precipitation reliability is about 60%. This implies that the district is generally hot and dry most of the time resulting to low cereals and pulses yields. During excessive rains, cereals and pulses are also damaged by water logging and leaching of the soils which are infertile and poorly drained. Drought also affects livestock production hence low yields of livestock products like milk and meat.

The government together with international donors and other charitable organizations usually assist the famine stricken areas with relief food such as maize, beans and oil/cooking fat.

In normal situations, the district produces sufficient food to feed its population. In times of drought the district food needs are met by importation of food from surplus districts through the National Cereals and Produce Board. Table. 2.54 presents the needy population requiring relief food by divisions and location.

Table 2.54**Needy Population requiring relief food by division and location
(i.e famine prone areas)**

Division	Location	Needy Population
Masinga	Ekalakala, Masinga	40,000
Yatta	Katangi, Kinyatta, Matuu	45,000
Kangundo	Kanyanzave, Kangundo, Part of Matungulu, Masii, Methetheni, Wamuyu, Kibauni	30,000
Mwala	Iveti, Mbee, part of Mitobani	45,000
Kathiani	Iveti, Mbee, part of Mataboni	40,000
Central	Kiima Kimwe, Kasinga, Kathekakai, Katelembe, Konza, Kyumbi Misakwani	40,000
Total		240,000

Source: District Development Office, Machakos, 1993.

Table 2.54 therefore reveals that there are usually food shortages in the district during the dry seasons. During the rainy season, the population mentioned in the table realises good harvests particularly maize and so there are no food shortages in such seasons. The famine season in the district is characterised by malnutrition especially among children and pregnant mothers.

In and Out-migration in the District

According to the 1979 population census, the population of Machakos was 1,022,522. There were 155,088 out-migrants compared with 44,418 in-migrants. This migrant population was dominated by working age of 20-65 years who did it in search of gainful employment.

Within the district the people have tended to migrate from densely populated high potential areas where population is dominated by working age of 20-65 years.

Status of Women

Adolescent Mothers and School Dropouts: The data on adolescent mothers and school drop-outs is not readily available but the social and economic implication of this problem is a national issue which requires a national attention. The current street children problem can mainly be attributed to the adolescent mothers and school dropouts. This problem is mainly felt in the major towns of the district mainly Machakos, Athi River, Kangundo and Matuu.

Adolescent mothers are a result of teenage pregnancies. Lack of dialogue between parents and youth, especially on information and guidance on sexuality is the cause of teenage pregnancies. The youth who drop out of school are usually involved in drug abuse, prostitution and other criminal acts. In the district, sand harvesting has to some extent increased school dropouts among the youth who finds this trade more attractive than schooling. Youth from poor families also drop out of school due to inability to raise school fees.

With the trend of cases whereby women are increasingly becoming heads of households, the women are being forced to look for gainful employment in areas such as hawking or becoming involved in other informal sector activities. The major drawback has however been lack of credit facilities for the women who traditionally are not entitled to own land.

Women who are heads of households are either single, widowed, divorced or the male head lives in another area. The majority of female headed households are to be found in the main urban centres in the district, such as Machakos, Athi River and Matuu. The women who head these households tend to be employed in the informal sector. They work long hours in order to feed their families. Because they have very few assets, they usually find it difficult to obtain suitable housing.

Although most women who head households work very hard their incomes are limited and not always certain.

Landless Rural Poor: With the socio-economic changes which have brought about changes in the land tenure system where individual ownership of land is the norm, together with the population pressure, many people have become landless. The problem is more pronounced in the rural areas where agriculture is the main economic activity.

The problem of landless rural poor is generally widespread in the district and the most vulnerable group is women and children. In Akamba society, women are not allowed to own land.

Maternal and Pre-natal Care: Maternal and Pre-natal care involves prevention and treatment of the major causes of maternal deaths, like haemorrhage, sepsis and anaemia. Some of the underlying factors are deficiency disorders, too many

or frequent births, poor health or nutritional status during pregnancy, the persistence of harmful traditional practices together with inadequate or unskilled care before, during or after delivery. The Maternal Child Health and Family Planning activities aim to reduce both maternal mortality by increasing women's access to high quality health services.

Women Groups: In 1992 the district had 1218 registered women groups as shown in Table 2.55.

Table 2.55

Number of Women Groups by Division in 1992

Division	No. of Women Groups
Kathiani	250
Yatta	165
Masinga	68
Central	149
Mwala	328
Kangund o	258
Total	1,218

Source: Ministry of Culture and Social Services, Machakos, 1993.

Table 2.56**Economic Activities Undertaken by Women Groups in the District in 1992**

Economic Activities	Women Groups
Constructing of Shops/Houses	49
Poultry keeping	67
Handicraft	255
Posh mill (Purchasing/Operate)	18
Goat keeping	34
Three planting	143
Brick making	156
Bee keeping	5
Brick	17
Merry go round (construction)	119
Home improvement (Welfare activities)	128
Soil conservation	161
Tie/Dye/Embroidery	56
Construction of water tanks	10
Total	1,218

Source: Ministry of Culture and Social Services, Machakos, 1993.

The projects undertaken have included a whole range of income generating activities, from keeping poultry to making handcrafts. To a large extent, such projects, even though women themselves manage them, have in fact increased their workloads and created more demands on their time.

The women groups receive assistance from NGOs, development agencies voluntary organisations and relevant GOK departments in form of technical assistance and material support.

CHAPTER THREE

STRATEGY FOR DEVELOPMENT 1994-1996

MAJOR CONSTRAINTS TO DEVELOPMENT

In the foregoing, natural and human resource base potentials existing in the district have been given. Social and economic levels of development have been discussed.

This chapter deals with the key constraints hindering exploitation of the existing potentials in the district.

Inadequate Water Supply: Most of the district have inadequate water supplies as there are few permanent rivers or streams. Most of the rivers or streams are intermittent and some even dry up completely during extended drought periods. Given the arid nature of the district, it is not possible to undertake irrigation activities. Existence of very few permanent rivers means that people walk long distances in search of drinking water for watering their animals.

Water pollution in some of the permanent rivers especially Athi River, Mwanyani (near Machakos Town) has further aggravated the problem of supply of drinking water in some areas.

As there are very few permanent rivers in the district, efforts have been made to construct water pans and dams in many parts of the district. However, as this water is static, they provide havens for water borne diseases which lowers labour productivity.

Rock formation in some parts of the district has resulted in water being slightly saline.

Low Land Productivity: Low productivity has been due to the following factors:

- Poor farming methods i.e. use of unsuitable crops, lack of fertilizers and poor animal breeds etc.
- The land tenure system in the district is another factor contributing to low productivity. Most parts of the district are only suitable for range land farming. The sub-division of ranches has resulted in small uneconomic farm units.
- In some cases there has been under-utilization of some ranches and co-operative farms. This can be attributed to either poor management or lack of capital.
- Agricultural and livestock sectors have suffered from low adoption rate owing to research findings not reaching the farmers on time. Some extension messages are also not easily understood by the farmers leading to low productivity.

- Late arrivals of agricultural inputs such as fertilizers leads to farmers not applying them on their farms.

Environmental Degradation: Due to the topography found in the district coupled by population pressure especially in high potential areas, there has been a major problem of soil erosion in many parts of the district, thus reducing soil fertility.

As was pointed out in Chapter 1, most of the river beds in the area have a lot of sand deposits. However, these sand deposits act as water reservoirs. Over harvesting of sand along the river beds has led to almost drying up of some rivers e.g. Thwake, thus leading to shortage of water for both human and livestock consumption.

Air pollution especially in the busy industrial town of Athi River is likely to have negative effects on labour productivity, at least in the long run.

Poor Communication Network: About 70% of roads in the district are not all weather roads thus becoming impassable during the wet seasons. This affects marketing of agricultural and livestock products especially in Yatta and Masinga Divisions.

Inaccessibility of markets due to poor communication has led to wasting of farm produce e.g. fruits such as mangoes especially in the remote parts of the district.

Prevalence of Pests and Diseases: Existence of pests such as the Great Grain Borer affects production of maize, while rust and blight affects vegetable production. CBD, leaf rust and stem borer affect coffee while foot and mouth diseases have greatly affected livestock production all leading to negative effects on the productivity of the district.

Prevalence of epidemic diseases e.g. malaria, diarrhoeal diseases, schistosomiasis in Masinga and Yatta Divisions have also affected labour productivity.

Poor Marketing Facilities: Inadequate storage facilities especially in areas where there are no NCPB stores, e.g. in Mwala and Masinga Divisions makes it difficult for farmers to market their produce.

At farm level, lack of suitable storage facilities has resulted in farmers disposing their produce at very low prices at harvest time but buying the same products at exorbitant prices later.

There has been exploitation of horticultural and livestock farmers by middlemen in absence of organized co-operative societies in the horticultural growing areas e.g. Yatta Division. In other areas mismanagement of co-operatives

has led to their collapse as was the case with the Machakos District Co-operative Union.

Inaccessibility to Credit Facilities: Farmers or entrepreneurs who would like to take credit are unable to do so due to lack of collateral security i.e. title deeds in many parts of the district have not been adjudicated. There is also lack of awareness of availability of credit facilities.

High default rates by persons who take loans from financial institutions e.g. Industrial Credit and Development Corporation (ICDC), Kenya Industrial Estates (KIE) limits funds for further lending.

Inadequate Supply of Electricity: Lack of electricity in some divisional headquarters such as Mwala and Kithimani have tended to discourage promotion of Jua Kali activities.

Inadequate Education Facilities: Inadequate laboratory and science equipments which are basic requirements in the 8-4-4 education system, has adversely affected performance in both primary and secondary schools. Development, among other things, depends on the quality of human resources and hence lack of educational facilities will, in the long run, lead to low productivity in the district as there will be lack of educated and skilled manpower available locally.

DEVELOPMENT STRATEGIES FOR 1994-96 PLAN PERIOD

Water Supply: To improve on water supply in the district, the DDC will embark on, first and foremost, rehabilitating the existing water supply systems e.g. dams and bore-holes especially in Kangundo Division with a view of maximizing their utilization.

Sand harvesting along the river banks will be regulated so that more water can be trapped in the river beds. Construction of surface dams along the rivers especially Thwake River, will help make water available for domestic use and for other economic activities.

Afforestation will be undertaken as this will protect water catchment areas and thus lead to constant water flow from the numerous streams and springs in the district.

Rain water harvesting will also be encouraged through the construction of roof water catchments and harvesting of storm water by building small water dams. Sites for the construction of these dams should be identified while the people should be encouraged to sink boreholes.

The quality of water should also be improved especially along the Yatta Canal through public health campaigns through barazas, seminars, etc. The DDC

should further explore the possibilities of tapping more water from both the Athi and Tana Rivers.

Land Productivity: This will be done by improving public awareness on the use of modern farming methods such as on the use of fertilizers, improved crop varieties and animal breeds, establishing of demonstration farms and holding of agricultural shows not only at the district but also at divisional levels.

The land tenure system will be improved through faster land adjudication and sub division of farms by the communities will also be discouraged. Instead they will be encouraged to minimize on the utilization of the ranches and co-operative farms through diversification of economic activities on the ranches by encouraging game farming as well as close monitoring of the co-operative farms by the DDC with a view of ensuring optimum output of these enterprises.

In addition, methods will be devised to improve dissemination of research findings to the farmers. Such methods should include closer supervision of extension officers to ensure their regular visits to the farmers. Furthermore, there should be more farm demonstrations on research findings by Extension Officers so that farmers understand practically the importance of such messages. Attempts will also be made to ensure timely arrival of agricultural inputs so that farmers can use them on time.

Environmental Conservation and Management: Afforestation all over the district will be undertaken as well as soil conservation measures such as terracing and gully rehabilitation. The people in the district will also be encouraged to destock so that overgrazing which results in soil erosion can be minimized.

Sand harvesting will also be controlled all over the district so as to protect the environment. Water and air pollution will be monitored and controlled through the District Environment Committee.

Pests and Diseases: Control of pests and diseases will be done by improving the extension services in agricultural and livestock sectors. This will be done through

- encouraging dipping and vaccination of animals and use of pesticides on crops;
- intensification of dissemination of health education information and also improving drug/vaccine distribution to health facilities with the communities being encouraged to participate in all aspects of the health programmes.

Marketing Facilities: The existing co-operative societies will be strengthened through training of both members and managers of the societies. The DDC will be urged to request for the review of the Co-operative Act with a view to recovering the misappropriated funds from the co-operative societies. Efforts will also be

made to make the cooperative societies more competitive by making their services more efficient. This should therefore check interventions by middlemen.

Storage facilities will be improved by the construction of food stores in Mwala and Masinga and the construction of a fish cooling facility at Masinga.

Accessibility to Credit Facilities: Land adjudication will be carried out so that farmers can use their title deeds to obtain credit from these institutions. Seminars to improve entrepreneurial skills will also be undertaken and these should also create awareness on available credit facilities within the district.

Electricity Supply: The DDC will request the K.P & Co. Ltd to extend the electricity grid to areas of potential growth particularly in market centres like Mwala and Kithiani, and in the coffee growing areas with a view of servicing coffee factories and surrounding areas.

Educational Facilities: With a view of improving provision of educational facilities in the district, the DDC will be called upon to create and promote public awareness about the Governments policy on cost-sharing in running educational institutions.

Efforts will be made to discourage the mushrooming of schools and closing down of others which are currently under-utilized.

DISTRICT SPECIFIC OBJECTIVES AND TARGETS

Agriculture and Livestock Production

Objectives: To expand hecterage under irrigation.

Targets: Increase existing 2960 ha under irrigation to 3410 ha within the plan period.

Objectives: Improve output of cash crops and food crops during the plan period.

Targets: Increase coffee yields from 5kg per tree to 8 kg per tree through introduction of improved varieties and better crop husbandry practices. Increase food crops (i.e. maize and pulses) yields from 15 bags per ha to 25 bags per ha through intensive extension and effective monitoring and control of pests and diseases outbreaks. Increase oil crops hecterage from current 240 ha to 400 ha through Rural Oil protein production and processing project.

- Objectives:** Educate farmers and stockists on safe and effective use of pesticides.
- Targets:** Train about 24,000 farmers and all stockists operating within the district during this plan period.
- Objectives:** Ease congestion in coffee factories and reduce their operating costs thus ensuring higher returns to the farmers.
- Targets:** Electrify coffee factories through loans from SCIP II.
- Objectives:** Increase milk, egg, honey and bees wax production.
- Targets:** Increase milk yield from 18 kg to 19 kg per animal through new dairy breeds and establishment of fodder demonstration plot in every sub-location. Increase eggs production from 60 to 150 eggs per bird in a given laying cycle through improvement of local birds with assistance of National Poultry Development Project. Increase honey and bees wax production from the current 30 kg and 2 kg to 40 kg and 3 kg per hive respectively through introduction of Modern Kenya Top Bar Hives (KTBH)
- Objectives:** Organize livestock markets of as to stabilize livestock marketing prices.
- Targets:** Provide 6 weigh bridges to the major markets i.e Tala, Mwala, Masii, Wanyu, Mutuu and Katangi.

Commerce, Trade and Manufacturing Sector

- Objectives:** Promote indigenous entrepreneurs and their commercial activities.
- Targets:** Request that the minimum loan ceiling be raised from Kshs.20,000 to Kshs.30,000 and the maximum ceiling from Kshs.50,000 to Kshs.60,000. Hold 6 seminars with a view of educating the traders on better management practices. Construct 2 open air markets within the residential neighbourhoods in Athi River and Machakos towns so as to provide suitable working places.
- Objectives:** Expand the manufacturing sector with emphasis on promotion of industries based on utilization of locally available raw materials.

Targets: Establish one vegetables/Fruit processing factory in Athi River and a chalk making factory at either Athi River or Machakos. The DDC to encourage establishment of a wine processing plant and a brick and tile making factory in Machakos Town. Start at least three small scale honey refinery factories in three major towns. Establish one animal feeds manufacturing firm in Machakos Town which will utilize the products of existing flour mills both in Machakos and Athi River.

Objectives: Promotion of Jua Kali activities particularly in metal fabrication, woodwork, open air garages etc.

Targets: Construct 5 Jua Kali sheds in four main towns and markets centres i.e. Athi River, Matuu, Tala, Masii and Masinga (One in every town). Hold at least 3 Jua Kali Exhibitions during the plan period with a view of educating the Jua Kali operators on availability of credit from such organizations as the KIE, Rural Enterprises Fund and Voluntary Agencies.

Objectives: Enhance and promote existing cottage industries such as wood-curving and basket weaving.

Targets: Establish one shed in Machakos Town which will accommodate these operators and to organize these operators into a co-operative movement with a view of facilitating marketing of their products.

Human and Social Resources

Objectives: Have the number of schools that can be easily managed by the parents in terms of physical facilities and other educational provisions e.g. books, etc.

Targets: Each class to have at least 20 pupils (in scarcely populated areas e.g. Masinga, Yatta, Southern part of Mwala); Densely populated areas e.g. Kangundo and Central Divisions to have a Maximum of 40 pupils.

Objectives: Encourage community involvement and participation in their health activities and also increase their health literacy rate.

Targets: Achieve 75% local community health literacy rate through preventive Primary Health Care Programmes. Establish at least 25 community health centres and

Establish at least 25 community health centres and achieve 65% level of local community training through the Bamako Initiative Programme where the community will be responsible for diagnosing and dispensing their own health problems.

Objectives: Improve accessibility of health facilities.

Targets: Establish at least one dispensary per division in both Yatta and Masinga division where the facilities are sparsely distributed. Upgrade Matuu Rural Health Demonstration Centre to a Sub-District Hospital.

Objectives: Decentralize drugs/vaccine distribution.

Targets: Create three extra stores at Kathiani, Kangundo and Matuu and provide two more vehicles for distribution.

Objectives: Improve earth roads to all weather roads to facilitate communication to markets and other social/welfare facilities.

Targets: Gravel and tarmac 120 km and 30 km of roads respectively; construct 5 bridges in the plan period.

If resources are mobilised and used optimally, the major development constraints will be removed during the plan period. However, this calls for the cooperation and coordinatin within the district by the major actors. These include the government bodies, the NGOs, volunteer groups, churches and concerted efforts of the local community.

CHAPTER FOUR

SPREAD AND IMPACT OF HIV/AIDS

INTRODUCTION

HIV and AIDS

Acquired Immune Deficiency Syndrome (AIDS) is the name given to the fatal clinical condition that results from long-term infected with HIV (Human Immunodeficiency Virus). Being infected with HIV does not automatically mean that a person has AIDS or is ill. It does, however, mean that a person can transmit HIV to someone else. HIV gradually disables and important part of the body's immune system. It's main target are cells in the blood called "T-helper cells" which HIV invades and eventually destroys. These cells normally help protect the body from attack by infection. As the immune system is progressively damaged, a person becomes increasingly vulnerable to a range of infections. The average time of progression from infection with HIV to the on set of AIDS (as defined by WHO and US Centre for Disease Control in 1987) - the incubation period - is approximately 10 years. Some people stay healthy for a much shorter period than this, but few develop AIDS within the first three years of infection. Researchers estimate that others may be infected with HIV for up to 20 years before the onset of serious illness.

It is not known exactly why some people stay longer than others after infection with HIV. One reason is thought to be that HIV mutates frequently into slightly different forms, some of which appear to be more harmful or to replicate more quickly than others. Another possibility is that people who already have a weak immune system, as the result of other infections such as malaria, tuberculosis or malnutrition, may succumb more quickly to the effects of HIV infection.

HIV/AIDS Situation in Kenya

In Kenya the first AIDS case was recognized in 1984 and by the end of the same year 7 more cases were identified. In 1985, the Health to advise the National AIDS Committee was established by the Ministry of Health to advise the Ministry in all matters pertaining to AIDS Control but despite all the effort made, the epidemic continues unabated. AIDS became a notifiable disease in 1987.

Since 1990 the HIV prevalence rates have been rising rapidly from 3.3% in 1990 to 4.4% in 1991 and 5.6% in 1992. The Kenya National AIDS Control Programme estimates that the prevalence rate might rise to over 7.5% by the end of 1993. The urban prevalence rate is estimated to rise to 14 - 15%. It is thus estimated that for every 18 adults in Kenya, one is infected with the HIV virus. In urban centres one in every 9 adults is infected. Since the epidemic started in the country a cumulative number of over 39,000 AIDS cases have been reported to the National AIDS Control Programme by the end of August 1993. However, it is estimated that the actual number of AIDS cases is over, it is estimated that the actual number of AIDS cases is over 120,000. This is based on the experience of under-reporting of case in the country. It is estimated that only about 3/1 of the cases ever gets reported to the National AIDS Control Programme. Since there is

no cure for AIDS, this disease threatens the social and economic well being of this country.

Over 70% of the AIDS cases are aged between 15-49 years. These are men and women of reproductive age and are expected to contribute more to the economic development of the country. In Kenya the sex ratio of the AIDS cases is 1:1. Most of these cases are in urban and peri-urban centres. The main provinces most affected are the Coast Province, Nyanza, Western and Nairobi Province. However, there is no single district which is spared from this scourge and the infection continues to spread.

Modes of Transmission

Sexual Transmission: The majority of new HIV infections are transmitted through unprotected heterosexual intercourse. It is estimated that this mode accounts for about 80% of all HIV infections.

Although the probability of transmitting HIV in a single act of intercourse can be quite low, a number of factors increase the risk of infection dramatically. The most important are the presence of a sexually transmitted diseases (STD), such as syphilis, chancroid or herpes virus. A significant number of Kenyan adults do suffer from STDs and many have a number of sexual partners. As a result most new HIV infections are due to heterosexual contact. Programmes designed to slow the spread of HIV will need to focus on reducing transmission through sexual contact.

Blood Transfusion: Transfusion with infected blood will almost always transmit HIV. However, in Kenya most blood for transfusion is screened for HIV, therefore, only a few new infections are due to blood transfusion.

Perinatal Transmission (Mother to Child): Many children are infected perinatally, that is, they receive the infection from their infected mothers during pregnancy, at the time of birth or through breast milk. About 30-40% of babies born to infected mothers will themselves be infected. The other 60% may not be infected but are at risk of becoming orphans when their parents die from AIDS.

HIV has been isolated from breast milk, and small-scale studies indicate that some mother-to-infant transmission occurs through breast feeding. However, in view of the immunological, nutritional, psychological and child-spacing benefits of breast feeding, as well as risks associated with bottle-feeding, WHO recommends that breast feeding should remain standard advise to pregnant women, including those who are known to be HIV infected, where primary causes of infant deaths are infectious diseases and malnutrition.

Transmission through Unsterile Surgical and Skin-Piercing Instruments: Infection with contaminated needles and syringes, as well as exposure to other non-sterile skin-piercing instruments, may play a role in HIV transmission. This

reflects the interplay of at least four factors: Patients strong preference for injections, medical services excessive reliance on parenteral treatment (through injections), the high prevalence of HIV infection among non-symptomatic and ill persons in some areas leading to unsuspected contamination of needles and other instruments with HIV, and the lack of adequate sterilization practices, compounded by financial and other practical constraints.

PREVALENCE OF HIV/AIDS IN THE DISTRICT

Reported Cases and Trends

The first reported HIV/AIDS cases in Machakos occurred in June 1989. During that month 4 males and 5 females tested HIV positive. By December of the same year, a total number of 42 people (including both males and females) had tested positive. Since the first reported case in June 1989, the number of cases testing positive has assumed alarming proportions.

The total number of positive cases in 1990 was 169 and by the end of 1992, the figure had risen to 443. In 1993, (up to September) 318 people had tested positive.

Table 4.1

Reported Cases and Trends of HIV/AIDS

Year	Male	Female	Total
1989	22	20	42
1990	78	91	169
1991	139	125	264
1992	117	226	443
1993	145	173	318
TOTAL	601	635	1,236

Source: Ministry of Health, Machakos District, 1993

Table 4.1 presents the HIV/AIDS reported cases from 1989-93 for Machakos District. The table shows that females and males are affected in about equal proportion.

Statistics show that more cases are reported during the months of April to June. These are usually the cold months in the district and therefore, the diseases

of the respiratory system are common during the period thus people going to seek treatment for these diseases are diagnosed as having AIDS. Also the respiratory diseases like flu, cough, TB etc., are closely related to HIV/AIDS.

Table 4.1 gives the trend of HIV/AIDS cases over the years 1989-93. From the table it can be seen that the cases are almost doubling every year and by the end of the year 1993, the cumulative number of reported cases will be over 1,236 and will far exceed the district's current hospital bed capacity of about 1,162.

Regional Distribution of the Diseases in the District: It has not been possible to come up with a breakdown of cases per division as most cases reported in the area have their origins outside the district, for example Mombasa and Nairobi. However, the majority of the patients are found in Machakos Town and its environs, and in all towns along the Mombasa highway. Many cases have also been reported around Wamunyu in Mwala Division.

In the towns along the major highways, the high incidence of AIDS could be due to long distance truck drivers/touts operating between Mombasa and border towns, such as Busia, Migori and Malaba. Because of the nature of their work, they normally stop in the towns along the routes they operate and where commercial sex has thrived all along.

The high number of HIV/AIDS cases in Machakos Municipality can be attributed to the presence of people with better-paid jobs and greater skills and who can spare money on leisure activities.

Socio-Cultural Factors Responsible for the Spread of the Disease

The nature of the AIDS epidemic can be related to the cultural values, traditions and norms embedded in African cultures. Some of them are linked to demographic factors such as age and sex distribution, morbidity and mortality patterns and increasing urbanization while others are linked to the cultural institutions of marriages, sexual practices and child bearing practices.

Some of the socio-cultural values and practices which could aggravate the spread of the disease in the district include:

- Initiation rites and traditional healing which are widely practised amongst the Akamba community. Usually some surgical tools which are not sterilized are used on more than one person.
- Another factor which can promote the spread of HIV in the district is polygamous practices which have been common. This trend is however declining due to economic changes.
- Traditionally, like in many other African societies, wife inheritance in case of death of a husband was practised in the area. It was also

culturally accepted for age mates to share wives. These practices have virtually died out but definitely pose a lot of dangers in the spread of Sexually Transmitted Diseases (STDs).

- So far HIV/AIDS cases have been kept confidential by health authorities thus in a case where a husband or wife's death is due to AIDS, a re-marriage is likely to take place by either the widow or the widower. In case one was infected with AIDS, definitely he/she will pass it on to the new partners. More often than not, re-marriages do take place among the Kamba communities.
- Commercial sex remains the major contributor to the spread of the HIV/AIDS disease in the district given that the highest concentration of HIV/AIDS cases are found in major towns such as Machakos and other towns along the major highways where long distance truck drivers make their stops. It is in these towns where you come across many ladies practicing commercial sex.
- About 70% of sand used in the construction industry in Nairobi comes from Machakos District. Sexually transmitted diseases which include HIV/AIDS have been common in those rural towns where sand harvesting is taking place.
- With steady decay of moral values in the modern society, premarital and extra-marital sex have become the order of the day.
- As it was shown in chapter one of this Plan, there is substantial out-migration of labour force (age group 15-59 years) outside the district. This group is normally in search of gainful employment in major towns like Nairobi and Mombasa. However, they periodically return to their rural homes. The chances of spreading STDs or AIDS in case one has been infected is therefore very high.

SOCIO-ECONOMIC EFFECTS OF THE DISEASE

It is now increasingly recognized that AIDS constitutes a development problem as its effect reaches far beyond the health sector into the social economic and cultural spheres of the district. Some of the effects are enumerated below.

Labour Force

Perhaps one of the most adverse effects of the disease is on labour force of the district. Because HIV is most prevalent in the most productive age group (20-49) years, the disease and the death it brings will have serious implications for the District economy in terms of loss of incomes, savings, investments, malnutrition etc. Indications suggest that people who contract HIV have incomes 30% higher

than the national average. It is also estimated that the highly-skilled and well educated work-force is largely employed in sectors which cumulatively contribute up to 73% of the annual GDP.

Bed Occupancy

AIDS patients typically suffer through a long period of serious morbidity before death. They now occupy about 20-30% of hospital beds on average, and as many as 60% of the beds in the worst affected areas. Health resources in Kenya are likely to be shifted from preventive to curative care.

Orphans

It is estimated that there could be close to 1 million orphans due to AIDS by the year 2000. Due to this large excess of AIDS orphans, Kenya's traditional coping mechanisms of integrating orphans into extended families will no longer be adequate to meet orphan's needs for education, health, clothing and nutrition. It is estimated that about 240 children in the district are orphaned every year, although it is not possible to tell the number that could be attributed to parents dying from HIV/AIDS.

Infant Mortality

AIDS does not affect only the sexually active population. Children too are among it's victims. It is estimated that about 30% of the children born to women who are HIV positive will become HIV positive themselves. Most of these children will die before reaching the age of five. AIDS in Kenya is projected to raise the death rate for children under five to about 189:100 live births - a level which prevailed in the 1960's.

CONTROL AND MANAGEMENT OF HIV/AIDS

GOK Policy Statements on AIDS

The unprecedented AIDS epidemic which has now become a major problem to society is, if not checked, likely to undermine achievements made in the country over the last thirty years of independence. It is with this in mind that the Government has adopted a multi-sectoral approach in the control of AIDS. The following are the government policy statements on AIDS.

- That people have a right to have all the relevant knowledge about AIDS and related infections and problems.

- That through information and education, people will be helped to make informed decisions in adopting life styles that do not favour transmission and spread of AIDS.
- The AIDS and related infections have the potential to cause the fiscal, social and moral problems of immense dimensions. Government will organize and mobilize appropriate resources individuals, families and communities.
- That health workers need to be given available information on AIDS and related infections and the necessary resources to enable them deal with AIDS and problems associated with it.
- That there being no prophylaxis or cure for AIDS, health education is the major means of combating spread of the disease. Government will therefore mobilize substantial resources for health education.
- That the Ministry of Health alone will not stop the spread of AIDS. It will therefore adopt an active multi-sectoral policy of co-ordination and collaboration with other Government Ministries, departments and Non-governmental Organizations.
- Sexual intercourse being the commonest mode of spread of AIDS virus the Government will mobilize resources for Family Life Education and advocate on education on safer sexual behaviour among potentially high risks populations. Condom promotion will be intensified among high risks population.
- That because of the association between sexually transmitted diseases and AIDS, the Government recognizes the need for early diagnosis and treatment of STD as an important strategy in control of AIDS. The control of sexually transmitted diseases will be an integral component of AIDS control.
- That counselling services will be developed at all health delivery points and at community levels to minimize personal and social impact of AIDS.
- That HIV positive women need education and counselling to be able to make informed decisions with regard to present and future pregnancies. The Government will train health care workers to be able to offer better services to women suffering from AIDS and those who are HIV positive.
- That the Government encourages early diagnosis of HIV infection through voluntary testing with informed consent. The Government will make HIV testing facilities available and accessible to all Kenyans.
- That unlinked anonymous testing at specialized clinics will only be undertaken for the purpose of HIV surveillance.

- That to prevent transmission by blood transfusion, screening of all blood for transfusions is mandatory.
- That the Government will promote rational use of blood and blood products through the training of health care workers.
- That the number of orphans is expected to increase over the years as a result of deaths from AIDS. The Government will review the laws and policies concerning orphans with the view to ensuring their continued well being and integration in the society.
- That the Government is against all forms discrimination against people with AIDS and their families.
- As the cost of hospitalization of AIDS patients is increasingly over burdening the scarce health resources, more emphasis will be placed on community based management of AIDS cases.

CONSTRAINTS

Social Behavioral Changes

Despite the Government's effort to create awareness of the disease, it is evidently difficult to change social behavioral patterns of individuals. Social relationships that increase the spread of the disease have therefore not changed much. A number of these people may be HIV positive without knowing it. By the time their conditions is correctly diagnosed, they will have spread the diseases to many other unsuspecting people.

Inadequate Public Awareness of the Impact of HIV/AIDS

It is evident all over the district that there is high level of public awareness on the modes of transmission and methods of prevention of HIV/AIDS. This awareness has been created through aggressive campaigns by government extension workers, NGOs etc.

However, there is general lack of knowledge of the impacts of HIV/AIDS. There has been a tendency of people assuming that they are immune to the disease. It is difficult to state exactly why there is that apathy but perhaps not until a close relative or close friend has died due to HIV/AIDS, people will take a different attitude towards the disease.

Public awareness on the impact of HIV/AIDS can be boosted through consideration of the following factors.

Household Incomes: A lot of household income is directed towards caring of the HIV/AIDS patient through purchase of drugs as well as hospitalization which is very expensive instead of investing the money in more productive uses like paying school fees etc. This could lead to children dropping out of school thus creating a vicious circle of poverty. The nutrition standards of the family could be adversely affected due to lack of money.

Productivity: As shown earlier in this chapter the most vulnerable group to HIV/AIDS is the 20-49 age group which is also the most productive. The impact of HIV/AIDS will be felt in form of reduced labour force thus affecting the productivity of the country in general.

Psychological Depression: Although the Government policy is to integrate HIV/AIDS victims in the society, such a victim automatically becomes psychologically depressed. This state not only affects ones productivity but also brings about psychological depression particularly due to the negative attitude that the community will have towards a HIV/AIDS victims.

Orphans

With the alarming spread of HIV/AIDS in the district as stated earlier in the Chapter, it will not be possible for the orphans to be absorbed into the extended families system; neither will orphanages manage to absorb all orphans left behind by HIV/AIDS victims.

Machakos District having one Children's Orphanage will not cope up with this glaring problem and hence more resources will be required to put up more orphanages.

Existing Cultural Practices

As pointed earlier in this chapter, some of the existing socio-cultural practices in the district have assisted in the spread of HIV/AIDS in the area. The DDC will be called upon to strive to discourage them. These practices include:

There is widespread belief in witchcraft within the district. In dispensing treatment, the traditional doctor normally uses unsterilized tools, for cutting the skin for drug application.

Tattooing as well as circumcision rites, which is commonly practised in the area could also spread the disease. The tools used for this purpose are normally not sterilized.

Although polygamous practices are dying slowly, because of economic hardships, this continued practice could spread the HIV/AIDS where one person is likely to spread the disease to the other members of the family. Another factors

which have contributed towards the spread of the disease in the area are wife inheritance and widow or widower remarriage.

Inadequate Resources

Due to financial constraints, the Ministry of Health has not been able to equip the health facilities with equipment that would enable the hospital personnel to protect themselves adequately when dealing with HIV/AIDS victims like gloves, disposable syringes, sterilizers, detergents etc. Equipment for testing the disease are also not enough.

There is also a shortage of health extension workers in the district despite the fact that the health facilities in the district is fairly distributed.

Legal and Ethical Constraints

At present there are no enacted laws in the country regarding the dreadful disease of HIV/AIDS. Some of the important areas that may require legal provisions include:-

- Mode of reporting AIDS/HIV positive cases and the testing of the victims.
- Conduct of employers vis-a-vis people with AIDS (PWAS).
- Screening of blood and blood products for HIV.
- Insurance for HIV seropositive persons.

STRATEGIES

At present there is no known cure of AIDS in the medical world. The DDC will therefore be called upon to implement the following strategies in an effort to reduce the spread of HIV/AIDS in the area.

- A District AIDS Committees will be formed from Sub-location level to district level. These Committees will be charged with dealing with all HIV/AIDS cases in their respective areas of operations. These will employ a multi-sectoral approach to co-ordination and collaboration with other Government Ministries, Departments and NGOs.

- The GOK policy now is that people have a right to have all the relevant knowledge about HIV/AIDS and related infections and problems.

- In fulfilment of this objective, the DDC will be called upon to promote public awareness through learning institutions like schools, colleges, etc. barazas, print and electronic media, women groups, films, lectures by health extension workers, etc.

In doing this, the use of the Akamba language will be given high priority with a view of reaching as many local people as possible. The DDC will make a concerted effort to discourage some of the cultural practices that encourage spread of HIV/AIDS. This will involve:

- Through barazas and churches, people will be persuaded to abandon witchcraft as they are likely to be infected with HIV/AIDS in the course of treatment where this is not possible, traditional "doctors" will be required to sterilize their "surgical equipment". They should be subjected to periodic inspection by Government medical personnel.
- The community will be advised to seek circumcision from modern health facilities where they will be treated with sterilized surgical equipment. These facilities should be strictly supervised so that they can conform to the required standards.
- Polygamous practices, wife inheritance, re-marriage of widows and widowers will be discouraged. The disadvantages of these practices should be talked about openly in the right forums such as in women group meetings, barazas, AIDS Committee meetings etc.
- People seeking skin decorations "tatoos" and ears-piercing will be advised to ensure that the surgical equipments are sterilized.
- Other strategies will include Ministry of Health ensuring that barbers sterilize their tools for hair cuts, not using one razor blade for more than one client.
- Use of disposable syringes in all health facilities will be made compulsory and proper sterilization of surgical tools will be ensured.

In future, the objective of the CDC will be to help people in various ways through learning about their health, colleges, etc. Patients, youth and chronic mental health groups, family health extension workers, etc.

In order to help people, the CDC will be providing priority with a view to helping people in various ways. The CDC will have a number of different programs to help people in various ways. The CDC will have a number of different programs to help people in various ways.

Through various and other people will be provided to address various areas. In order to help people in various ways, the CDC will have a number of different programs to help people in various ways. The CDC will have a number of different programs to help people in various ways.

The CDC will be providing priority with a view to helping people in various ways. The CDC will have a number of different programs to help people in various ways. The CDC will have a number of different programs to help people in various ways.

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The CDC will be providing priority with a view to helping people in various ways. The CDC will have a number of different programs to help people in various ways. The CDC will have a number of different programs to help people in various ways.

Other strategies will include Ministry of Health ensuring that various strategies are implemented. The CDC will have a number of different programs to help people in various ways. The CDC will have a number of different programs to help people in various ways.

Use of various strategies in all health facilities will be made compulsory. The CDC will have a number of different programs to help people in various ways. The CDC will have a number of different programs to help people in various ways.

CHAPTER FIVE
SECTORAL PROJECTS AND PROGRAMMES

HEALTH

Objectives

The policy of the Ministry of Health is geared towards improving the quality of curative, preventative and family planning services in health institutions. The Ministry aims at improving the efficiency and effectiveness of its operations at all levels with a view of optimising on the use of scarce financial and other resources that are made available during the Plan period.

The strategy adopted by the Ministry will be to improve the quality of services both curative, preventive and promotive that are provided in the Ministry's institutions in order to rationalise the user fees already introduced at provincial hospitals and which will be introduced in lower level facilities.

The activities of the Ministry are carried out through the departments of Primary Health Care and Environmental Health.

Achievements in 1989-93 Plan Period

Activities	Divisions					
	Central	Kathiani	Kangundo	Mwala	Yatta	Masinga
Initiated before 1989, completed in 1989-93 period						
Hospital	Out-patient Department	-	Out-patient Department	-	-	-
Hospitals	-	Senior Staff	-	-	-	-
Health Centres	-	-	-	-	-	-
Dispensaries	-	-	-	-	-	-
Initiated before 1989, under construction						
Hospital	-	Cat. 'H'	-	-	-	-
Health Centres	-	Houses 6 No.	-	-	-	-
Dispensaries	-	-	-	-	-	-
Initiated in the 1989-93 period, Construction						
Hospital	-	-	-	-	-	-
Health Centres	-	-	-	-	-	-
Dispensaries	-	-	-	-	-	-
Stalled/No.	MTC D/Hall Kitchen	-	Nyayo Wards (Kangundo)	-	-	-

Under the Preventive Primary Health Care Programme, the following achievements were noted in the 1989-93 plan period. The programme was however, started in Kalawa Location (now in Makueni District).

- 22 TOTs (Trainers of Trainers) were trained for the programme.
- 38 Community workers were trained.

- 25 Nursery School Teachers were trained as Community Health Workers (CHWs).
- Construction of demonstration VIP latrines and water tanks was carried out.
- Training of Primary School Teachers for the School Health Education Programme (SHEP) was done.
- Training of local leaders on Health Information/Education and Community (IEC) was carried out.

In 1990, a Primary Health Care Programme was started in Kalana Location and so far: 87 community Health Workers have been trained, 24 Traditional Births Attendant (TBAs) have also been trained several facilities constructed. These include 148 VIP latrines, 4 water tanks, 198 dish racks, 133 compost pits, 5 community based delivery homes and 1 Bamako Centre (Community Pharmacy) control of Diarrhoea Diseases (CDD) programme and community Based Contraceptive distribution (CBD) programme were also started.

The entry point to these programmes has been through the community based growth monitoring, CDD, and CBD programmes. These programmes are being implemented at: Wamyu, Thinu, Manza, Mitaboni, Kitheuni (GOK); Katangi (DANIDA); the Salvation Army Church Catchment area; the Catholic Church Diocese at Kangundo, Matuu and Kalama. The one in Kangundo is sponsored by AMREF.

PROJECT AND PROGRAMME PRIORITIES FOR THE 1994-96 PLAN PERIOD

A. On-going Projects

Project Name	Description of Activities
Location/Division	
<p>1. Primary Health I Care. Kalana Machakos District, Kalama Location, Central Division.</p>	<p>To complete the on-going training programmes; To start community based radio programme; To integrate other new programmes e.g. Baby friendly initiative programme. Through training of community health workers; To intensify school health education programmes through training of primary and nursery school teachers; To increase the number of demonstration VIP latrines and water tanks; to train 50 TBA and 60 CHWS; To open 2 more community pharmacies.</p> <p><u>Funding Source:</u> GOK/UNICEF</p>
<p>2. Community Based Health Care Manza - Central Division, Thinu Kathiani Division, Wamuya Division.</p>	<p>To open 2 community pharmacies in each programme area; To integrate other new programmes e.g. baby friendly initiative programme through training of community health workers; To intensify school teachers; Education programme and, Nursery school teachers; To construct demonstration VIP latrines and water tanks; To increase the number of weighing centres; To train 50 TABs; to open one community delivery home in each programme area.</p> <p><u>Funding Source:</u> GOK/UNICEF</p>

3. **Mulilu Dispensary II, Milaboni Location, Kathiani Division.**

Initiated in 1980, 1998 MCH block completed by RDF funding. The new outpatient department (OPD) is still at foundation level.

Funding Source: GOK/RDF

4. **Machakos Provincial General Hospital. Sterile Preparation Unit.**

Complete the renovations and provide plans and equipments for the unit. Production of VI fluids for theatre and eye fluids.

Funding Source: GOK

5. **Perimeter Fence for Machakos.**

To complete the fencing of the entire hospital.

Funding Source: GOK

6. **Ikombe Dispensary. Kinyatta Location, Yatta Division.**

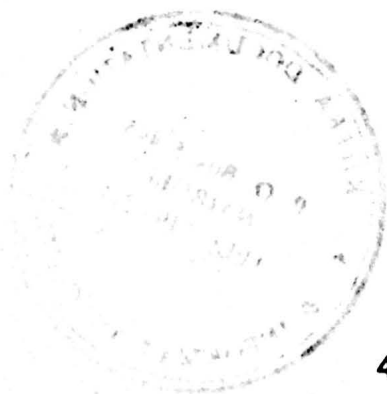
Complete construction of dispensary and staff houses.

Funding Source: GOK



B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Machakos PGH Amenity Ward and Intensive Care Unit	1	<p>Construct an amenity ward and an Intensive Care Unit for the hospital with a capacity of 20 females, 20 males and 10 children.</p> <p><u>Justification:</u> The hospital is located in an area that has frequent road accidents. The hospital also has three functional theatres but some post operative patients require KU facilities.</p> <p><u>Funding Source:</u> GOK</p>
Isolation paediatric and psychiatric units	2	<p>Construction of the two towns.</p> <p><u>Justification:</u> To reduce congestion in the paediatric ward and reduce the spread of infectious diseases within the hospital.</p> <p><u>Funding Source:</u> GOK</p>
Vehicle	4	<p>Purchase a vehicle.</p> <p><u>Justification:</u> It will act as an ambulance; can also carry supplies and be used for administrative services</p> <p><u>Funding Source:</u> GOK</p>



**Kangundo Hospital
Theatre, warehouse and
administrative block**

5

**Construct an X-ray
theatre, a warehouse
and administrative
block.**

**Justification: Will ease
congestion at the P.G.H.
Provide a safe and
secure place to store
drugs and medical
equipment.**

Funding Source: GOK

**Machakos Medical
Training Centre
Administrative Block
and kitchen**

6

**Construct an
administrative block and
kitchen.**

**Justification: Presently,
the school is sharing
kitchen facilities with
the hospital. The
present office is small
and congested.**

Funding Source: GOK

Students hostel

7

**Expand students' hostel
to accommodate 200
students.**

**Justification: Present
facilities are congested
and student enrolment
is increasing.**

Funding Source: GOK

**Kathiani Hospital
Staff houses**

8

**Construct staff houses
and flats.**

Justification: This is a relatively new hospital in a fast growing town where accommodation is not easily available.

Funding Source: GOK

Vehicle

9

Purchase one vehicle.

Justification: Hospital has no ambulance or supplies vehicle.

Funding Source: GOK

**Matuu Rural Health
Demonstration Centre
(RHD)**

10

**Be upgraded to a Sub-
district hospital.
Construct OPD, Lab X-
ray minor theatre and
pharmacy, an
administrative block and
store.**

Justification: Distance to the next hospital is about 100Km away. It could also serve Yatta and Masinga area.

Funding Source: GOK

Dispensaries and Health Centres

Ikombe Dispensary New Kinyatta Location, Yatta Division.	1	Finish construction work. (Dispensary structure 85% complete staff house are 30% complete). <u>Funding Source:</u> GOK
Salama Health Centre. Salama Location, Central Division.	2	To be upgraded <u>Justification:</u> Serves a high population. Reduce distance to health facility. The area has a poor road network. <u>Funding Source:</u> GOK
Kisiiki Health Centre. Ndalani Location, Yatta Division.	3	Upgrade the Health Centre. To reduce distance to Health facilities. To improve MHC/FP service community have constructed. maternity wing to be referral point Upgrading the centre. <u>Justification:</u> To improve MCH/EP services and consequently decongest Kangundo Hospital. <u>Funding Source:</u> GOK
Nguluni Dispensary Tala Location Kangundo Division	4	Upgrading the dispensary to improve MCH/EP, services consequently decongest Kangundo Hospital. <u>Funding Source:</u> GOK
Kywango Dispensary II Mwala Division	5	Upgrading the dispensary. Densely populated area, community putting up MCH Block. <u>Funding source:</u> GOK

<p>Kakuyuni Health Centre kakuyuni Location, Kangundo Division</p>	<p>6</p>	<p>Upgrade the health centre. Densely populated area and is centrally situated.</p>
		<p><u>Funding Source:</u> GOK</p>
<p>Kivaa Health Centre Masinga Location, Masinga Division</p>	<p>7</p>	<p>Upgrading the health centre. Thus reduce distance to next health facility. Community/NGO have so far build foundation of the maternity block.</p>
		<p><u>Funding Source:</u> GOK</p>
<p>Tulila Dispensary Kibauni Location, Mwala Division</p>	<p>8</p>	<p>Complete construction which was started in 1979. Will reduce distance to next health facility. Dispensary structure complete while the staff houses are 40% complete.</p>
		<p><u>Funding Source:</u> GOK</p>
<p>Muthesya Dispensary Ndithini Location, Masinga Division</p>	<p>9</p>	<p>Equip the new dispensary. The dispensary structure has been built by the community.</p>
		<p><u>Funding Source:</u> GOK/ Community</p>
<p>Mutheka Health Centre Ekarakara Location, Masinga Division</p>	<p>10</p>	<p>To facilitate delivery of services. Community have put up maternity wing which is 85% complete.</p>
		<p><u>Funding Source:</u> GOK/ Community</p>
<p>Katheka Dispensary Type I Matungulu Location Kangundo Division</p>	<p>11</p>	<p>Equip and staff the dispensary. Community have completed the structure.</p>
		<p><u>Funding Source:</u> GOK/ Community</p>

<p>Kinyatta Dispensary Type II Kinyatta Location, Yatta Division</p>	<p>12</p>	<p>Upgrading the dispensary. To facilitate delivery of source.</p> <p><u>Funding Source:</u> GOK/ Community</p>
<p>Kimulwa Dispensary Muvuti Location, Central Division</p>	<p>13</p>	<p>Upgrading the dispensary. Area is densely populated and will congest the Machakos Hospital</p> <p><u>Funding Source:</u> GOK/ Community</p>
<p>Mua Dispensary II Mumbuni Location Central Division</p>	<p>14</p>	<p>Upgrading the dispensary which is in a densely populated area. To start MCH/FP.</p> <p><u>Funding Source:</u> GOK/ Community</p>
<p>Mbuini Health Centre Mbiunu Location Mwala Division</p>	<p>15</p>	<p>Upgrading the health centre. It is within a densely populated area. To act as referral centre for the nearby NGO.</p> <p><u>Funding Source:</u> GOK/ Community</p>
<p>Kyondoni Dispensary Kithyoko Location Masinga Division</p>	<p>16</p>	<p>Furnish and equip the dispensary. To reduce walking distance to health facilities. Very needy area. Structure already put up.</p> <p><u>Funding Source:</u> GOK/ Community.</p>

Primary and Community Based Health Care

Primary Health Care (Kathiani) Kathiani Division	1	Start programme. <u>Justification:</u> It is more than 10 Kms from the nearest health facility. Area is over-crowded with poor sanitation and low immunization coverage. Poor nutritional status of children under five. There are also frequent out breaks of diseases. <u>Funding Source:</u> MCH/ Community
Community based health care. Matuu Location Yatta Division Masinga Division, Konza Central Hospital.	2	Start programme <u>Justification:</u> These areas are densely populated and have poor community health care network. Recurrent outbreak of communicable diseases. No nearby health facility. High incidences of malnutrition. Lack of safe drinking water. <u>Funding Source:</u> MCH/ Community
Community based health care Kathiani Location, Kangundo Division	3	Start programme. <u>Justification:</u> The area is over-crowded. The nearest health facility is more than 9 Kms away. Poor road communication network. Epidemic diseases (bilharzia), lack of safe drinking water. <u>Funding Source:</u> MCH/Community

Environmental Health

- | | | |
|---|---|--|
| Canalization
Kangundo
Matuu Location
Kangundo Division | 1 | Construct canals, at least 15 per year. To control malaria, bilharzia and other water borne diseases.

<u>Funding Source:</u> GOK/Community |
| Protect water sources
Iveti Location
Kangundo Division | 2 | Protect 50 water sources to control malaria and bilharzia and other water borne diseases.

<u>Funding Source:</u> GOK/Community |
| Water tanks at the health facilities | 3 | Construct 40 water tanks at health facilities. Most of the water tanks in the facilities were G.I and are leaking.

<u>Funding Source:</u> GOK/Community |
| Decentralization of drugs distribution. | 4 | Construct 2 drug stores at Kangundo and Matuu to ease the general distribution work of drugs and vaccinations.

<u>Funding Source:</u> GOK/Donor |
-

AGRICULTURE, LIVESTOCK DEVELOPMENT AND MARKETING

Objectives

The overall functions of the department is to enhance agricultural production, marketing and processing, land use and development and soil conservation activities.

While undertaking these functions, the Ministry will give priority to achieving internal self-sufficiency in food and maintain adequate strategic reserves and, second, generate agricultural output for local industries and for export.

The other objective is raising of productivity of livestock species through adoption of intensive production methods improved access to markets and provision of animal health services.

Achievements in the 1989 - 93 Plan Period

Agriculture

During the previous period, the agricultural sub-sector broadly concentrated on achieving increases in small holder production while conserving existing economic resources. The sub-sector was addressing itself to 192,222 farm families in 1989. Currently, after the split of the old Machakos District, it is concentrating on 113,477 farm families.

The major constraints in implementing the planned activities were: limited funds, transport constraints, lack of demonstration materials and technical inputs i.e. staff to farmer ratio of 1:1800 etc. among others.

Activities	No. Proposed	No. Fully implemented	% implementation	Remarks
a) <u>Coffee</u>				
Factory renovation	2	2	100	Ngemuli and Kwakithothya both of Kakuyuni Farmers Society were renovated in the course of the year
Coffee payments (2 per season)	10	10	100	Regular payment was achieved through the introduction of cherry advantage payment system (CAPS) by the second coffee improve project 9SCIP II and all coffee societies are participants.
Coffee field days/ demonstration	84	84	100	Were financially supported by the (SCIP II)
Coffee Society Official Seminars	5	5	100	- do -
b) <u>Soil Conservation</u>				
Cut off drains	629 Km			Planned rehabilitation
Beach terraces		2300	60	structure not complete.

Rehabilitation of eroded lands	1,000 ha	700 ha	70	Inadequate resources were the major constraints. Project was financially supported by DANIDA and GOK
Gully control (sites)	70 sites	70 sites	140	Source of planting
Fruits tree seedlings	20,00	100,000	50	materials and water was a problem
Forest tree seedlings	50,000	100,000	60	problem
c) <u>Fertilizer Promotion Project</u>				
Soil data Bank	5,000	500	10	Only specified samples analysed at the National agricultural Lab. (NAL)
Increase Number of stockists	100	60	60	Many stockists have opened up in small market centres. Constraints is investment capital.

Staff training	10	4	40	Limited funds were a major
Stockists training	5	1	20	hinderance
District Fertilizer Committee (One per quarter)	6	5	90	Funds for this project were released late (i.e 91)
d) Irrigation				
Project Planning (No. of Project)	11	7	60	Feasibility studies were done for 7 projects viz: Maya, Kauli, Kabaa, Kayata, Mangelete, Kyeekole and Kwakyal. Of these, 4 are at design stage.
Implementation	-	-	60	2 projects were rehabilitated i.e. Wanasya and Ikokani and are 60% complete. Limitation was lack of funds.

<p>e) <u>Farm Credit Programme</u></p> <p>Both seasonal and long term development schemes)</p>	4	3	<p>75 Agricultural Finance Co-operative Societies, and commercial banks were giving loans and The Machakos District Co-operative Union (9MDCU) credit scheme was not operational throughout the plan period.</p>
<p>f) <u>Machakos Farmer's Training Centre (MFTC)</u></p>	144	106	<p>76 Courses were held for staff, farmers youth groups and other organized groups e.g. church leaders, teachers, local leaders, etc.</p> <p>- All buildings were painted, some utensils and beddings were bought. The limiting factor was lack of funds.</p> <p>- The PTC tractor was rehabilitated and some farm tools were purchased. Funds were limited.</p>
<p>Courses/Training</p>			
<p>Renovations</p>	-	-	
<p>Farm implements/Machinery</p>	-	-	

g)	<u>Rural Structures Programme</u>				
	Construction of cribs	100	65	65	Targets were reduced due to rising costs of building materials
	Staff trained	200	150	75	Inadequate training
	Artisans trained	80	65	80	Resources and limited
	Demonstrations	180	120	65	Funds
h)	<u>Mechanization</u>				
	Training and demonstration on draft animals	180	108	60	Inadequate resources
	Staff training	8	4	60	Limited funds
i)	<u>Farm equipment used in small-holder agriculture (PEUSHA)</u>				
	On farm trials	6	3	50	Inadequate resources, transport constraints
j)	<u>Horticultural Crops Development</u>				
	Staff courses	10	8	80	Inadequate funds
	Farmers training	12	8	67	
	Citrus demonstrations	25	15	60	Inadequate resources
	Asian vegetable	25	15	60	

k)	<u>Rural Oil Protein Production and Processing Project 9ROPPP)</u>	37	21	57	Inadequate funding, transport constraints
	Demonstration				
	Field days	20	10	50	No training components in budget.
l)	<u>Safe Use Projects</u>				
	Staff trained	174	-	-	Project started in 1992
		12.422			
m)	<u>National Extension Programme (NEP)</u>				
	Field days and demonstration	3,700	2,000	54	Inadequate funding and transport were the major constraints in implementing planned activities.
	Fortnightly training sessions	960	581	61	
	Farmers' course/Training	300	154	61	
	Staff training/courses	140	91	65	
	Monthly workshops	48	26	54	
	Staff/Farmers tours	22	12	55	
	Agricultural shows	4	4	100	
	Field follow-ups	3,480	1,940	56	
	Agricultural barazas	1,500	1,188	76	

Livestock Production Department

Activities/Sector	1989	1993
1. Dairy pure breeds & crosses	18,452	36,004
2. Beef & dual purposes	245,478	200,000
3. Sheep (Dorper & Red Maasai)	108,179	101,061
4. Goats	263,809	246,860
5. Poultry population	592,620	764,860
6. Pigs	320	550
7. K.T.B.H. (Kenya Top Bar Hive)	2,471	3,335
8. Bees Wax (kg)	1,755	3,305
9. Honey (kg)	73,792	95,858
10. Milk (kg)	*2,898,605	924,962
11. Rabbits	10,101	18,590
12. Beef off take	18%	20%
13. Carrying capacity (C.C)	14 acres/livestock Unit	12 acres L.U.
14. Cockerel exchange (C.G.P)	500	4000
15. Pullet exchange (PEP)	500	4000

Activity	No. of Sessions	No. of Participants
1. Field days	44	3979
2. Tours:	4	92
Staff Farmers	4	60
3. Farmers Training Centre	3	100
Courses:	7	376
Staff Farmers		
4. Supervision	10	9
5. Workshops	13	21
6. Non-residential courses:	120	27
Staff Farmers	259	4505
7. Farm visits	4000	27

Veterinary Department

The meat inspectorate section continued to inspect meat for bovines, ovines, caprines, chicken and game and managed to generate revenue. However, the figures of inspected cases went down during the 1989-93 Plan period. This was caused by the splitting up of the district to form Makueni District and the decrease in the purchasing power of consumers due to the economic conditions prevailing in the country. Also, in 1989 when the department took over the meat inspectorate services from the Ministry of Health, transport was adequate but because of inadequate funds, repairs were not done thus the inspectors were unable to get to some areas. Recorded sale of hides and skins also decreased due to the fewer carcasses being slaughtered and the illegal trade of the hides and skins. The factors that affected the meat inspectorate section also affected that of hides and skins i.e. lack of funds and splitting of the district.

Artificial Insemination services continued in the district but were also affected by lack of funds and transport and increase in charges from 8/= to 40/= also affected the scope of the services. This was also the case with the department's efforts in the area of disease control.

Year	Number of cases	Revenue (KSh)	Remarks
1989	10	100	Low revenue due to economic conditions
1990	8	80	Decrease in inspected cases
1991	6	60	Continued decline in revenue
1992	4	40	Significant drop in inspected cases
1993	3	30	Lowest revenue recorded
1994	2	20	Minimal revenue due to transport issues
1995	1	10	Very low revenue due to lack of funds
1996	1	10	Minimal revenue due to economic conditions
1997	1	10	Low revenue due to transport issues
1998	1	10	Minimal revenue due to lack of funds
1999	1	10	Low revenue due to economic conditions
2000	1	10	Minimal revenue due to transport issues
2001	1	10	Low revenue due to lack of funds
2002	1	10	Minimal revenue due to economic conditions
2003	1	10	Low revenue due to transport issues
2004	1	10	Minimal revenue due to lack of funds
2005	1	10	Low revenue due to economic conditions
2006	1	10	Minimal revenue due to transport issues
2007	1	10	Low revenue due to lack of funds
2008	1	10	Minimal revenue due to economic conditions
2009	1	10	Low revenue due to transport issues
2010	1	10	Minimal revenue due to lack of funds
2011	1	10	Low revenue due to economic conditions
2012	1	10	Minimal revenue due to transport issues
2013	1	10	Low revenue due to lack of funds
2014	1	10	Minimal revenue due to economic conditions
2015	1	10	Low revenue due to transport issues
2016	1	10	Minimal revenue due to lack of funds
2017	1	10	Low revenue due to economic conditions
2018	1	10	Minimal revenue due to transport issues
2019	1	10	Low revenue due to lack of funds
2020	1	10	Minimal revenue due to economic conditions
2021	1	10	Low revenue due to transport issues
2022	1	10	Minimal revenue due to lack of funds
2023	1	10	Low revenue due to economic conditions

AGRICULTURE, LIVESTOCK DEVELOPMENT AND MARKETING

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

Department of Agriculture

A. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
National Extension Programme II (District wide)	1	Aims at exposing improved technologies to farming community through staff and farmer training. Also charged with the responsibilities of communicating research findings to farmers through research extension liaison programme and giving a feed back to the research centres. <u>Funding Source:</u> GOK/ World Bank
Soil conservation SIDA Project (District wide)	2	Conservation of bias land resources in order to achieve sustainable agricultural productivity. <u>Funding Source:</u> GOK/ SIDA/Donors
Second coffee improvement project SCIP II (Coffee zones)	3	Improving coffee payments to coffee growers (i.e. make them regular and timely). Improve coffee quality through educating farmers and all staff involved in coffee production (MOALDM), MOC and society officials), bringing to standard all processing facilities by renovating factories etc. <u>Funding Source:</u> GOD/SCIP II (Donor)

- | | | |
|--|----------|--|
| Horticultural crops development (District wide) | 4 | Training of staff and farmers on recommended husbandry practices in horticultural crops production. Demonstration on improved agronomic practices. |
| <u>Funding Source:</u> GOK | | |
| Small Holder Irrigation | 5 | Rehabilitation and extension of small holder irrigation projects; Lining/piping of canals; provision of pumping piping equipment; provision of water control and regular structures; farmers organization. |
| <u>Funding Source:</u> GOK/Donors (Grants and loaning through revolving funds). | | |
| Fertilizers promotion project (District wide) | 6 | Training staff, stockists, society managers and farmers on use of fertilizers and other farm inputs; trials to update data on recommended rates (done in conjunction with KARI) Katumani (Agrochemical companies and farming community) |
| <u>Funding Source:</u> GOK/ World Bank | | |
| Safe use project (District wide) | 7 | Creating |
| <u>Funding Source:</u> GOK/Donor | | |
-

Livestock Production Department

A. On-Going Projects

Project Name Location/Division	Description of Activities
1. National Poultry Development Programme (NPDP) (District-Wide)	To rear & exchange 10000 birds. Reduce rearing period from 5 months to 2 months. <u>Funding Source:</u> Netherlands Government
Meat Production and range improvement (District-Wide)	To boost weight gain and quality of beef. Re-seeding 60 plots of 5 acres each with improved pastures (Chlorisgayana, cenchrus). Undertake 30 selective bush clearing. Local grass seeds collection (two tonnes) <u>Funding Source:</u> GOK
2. Bull calf distribution (District-Wide)	Distribute 100 null calves consistent with environmental diversity. To improve genetic potential of local breeds. <u>Funding Source:</u> GOK/Donor
3. Sheep & Goat Distribution Mwala, Mitamboni, Yatta and Masinga Divisions.	To improve on genetic potential of local breeds. To purchase 200 bellies for demonstration. Construct 15 simple housing units for sheep goats. <u>Funding Source:</u> GOK/Donor

4. **Meat Inspectorate (District-Wide)** Inspection of meat for consumption by public. Purchase transport.

Justification: Generate sum K£50,000 per year in inspection fees. Improving health of the people and consequently their work output.

Funding Source: GOK

Cost Estimates: Capital K£250,000
Recurrent K£600,00.

B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Veterinary Extension Project (District-Wide)	1	With liberalization of the disease control services, A.I. services and the clinical services, the department will intensify extension services to the farmers and the local committees on proper dips management as a preventive measure towards tick borne diseases and intensify extension services in A.I. for the purpose of milk and other livestock products.

Funding Source: GOK/Donors

CO-OPERATIVE DEVELOPMENT

Objectives

The Ministry of co-operative development is charged with the responsibility of promoting co-operative movement in the district. The ministry promotes the economic and social interests of co-operative members through various development projects, and also looking in other areas where the community can benefit with the formation of new economic and viable co-operatives. In most cases, this is normally a joint effort of the members and the government/donors.

Achievements in the 1989 1993 Plan Period

Activities	Central	Kathiani	Mwala	Yatta	Masinga	Kangund o
No. of new crop formed	-	-	-	-	-	-
Urban saccos	2	-	-	-	-	-
Consumers	-	1	-	1	-	1
Jua Kali	1	-	-	-	-	-
Multipurpose	1	-	-	-	-	-
Housing	3	2	1	-	1	-
Sand harvesting	-	-	1	-	440	80
No. of new crop members (1992)	1541	670	800	-	-	-
Turnover (new crops)	-	1,835,420	-	-	-	-

CO-OPERATIVES

PROJECT AND PROGRAMME PRIORITIES FOR 1994 - 96 PLAN PERIOD

A. On-going Projects

Project Name Location/Division	Description of Activities
1. Cherry advances payment system (CAPs), Central Division, Kangundo Division, Kathiani.	Coffee farmers are paid on monthly basis for the total kgs of cherry they deliver in a month. <u>Funding Source:</u> SCIP II - GOK/World Bank
2. Farm inputs loans scheme (FILS) Central Kangundo Kathiani Divisions.	Providing the farmers (coffee) with high quality and at a lower cost farm inputs to boost production. Grace period in years and at an interest rate of 15%. <u>Funding Source:</u> SCIP II - GOK/World Bank
3. Coffee Factory Factory Development, Kangundo Division, (Kakuyuni Farmers Cooperative Society FCS).	Rehabilitation of the factories, construction of new factories and resiling of some factories. <u>Funding Source:</u>
4. Electrification of societies buildings, Mwala Division, Wamunyu P.C.S., Wamunyu H/Crafts Workshops.	Wiring of the office blocks and workshops. <u>Funding Source:</u> Own funds
5. Housing Development Central Division, Masaku Teachers, SACCO Machakos District, Co-op Union.	Purchase old building to be demolished and office block to be constructed. <u>Funding Source:</u> Own funds

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Farm inputs loan schemes. Coffee societies in Kangundo, Kathiani Central Divisions.	1	Provision of farm inputs in bulk through joint importations on credit. The coffee farmer is then able to meet financial challenges at a lower and reasonable repayment period and can increase production. <u>Funding Source: SCIP II</u>
Cherry Advances Payments (CAPs). All the coffee societies in Kangundo and Central Divisions.	2	Coffee farmers wait for a long time before they are paid for their produce; this system reduces the period by paying the farmer on monthly basis. This would improve production levels per tree. <u>Funding Source: SCIP II</u>
Coffee Factory Development Kangundo (Misyani Factory) Masinga (Ndithini Factory). Central Kwangila	3	Construct 2 new factories. Ease congestion in existing factories to cope with the rising production levels. <u>Funding Source: SCIP II</u>
Coffee Factory Rehabilitations Central (N. Iveti, Kaeva & Ithaeni factory) Kangundo (Ngumuti Factory)	4	Modernize the existing old factories to cope with the rising production and cut down costs of production. <u>Funding Source: SCIP II</u>

Electrification of coffee factories in Kangundo, Central, Kathiani Divisions.

5

Reduce the cost of processing coffee in all the coffee factories so as to improve the rate of returns to the farmers. Maintenance is very low and factories can even operate at night when there are large intakes.

Funding Source: Rural Electrification Programme

Housing Development Central Division (Masaku Teachers SACCO & Machakos District Cooperative Union).

6

Construct houses. Ease congestion in the existing rented offices and reduce operational expenses. It will generally boost project income to its share holder and avail office accommodation for others.

Funding Source: Members

LANDS AND URBAN DEVELOPMENT

Objectives

The previous National Development Plan recognizes land as an important factor of production and development. It also recognizes the strong affinity that people have towards land as their major source of sustenance. Hence, the plan identifies land use policy as related to a system of laws, rules, regulations and practices that govern the rights and obligations of the owners.

The Ministry's objectives towards this need is to ensure that all land is surveyed, adjudicated and registered with a view of issuing title deeds or leases to individuals. Those measures will among other things promote guaranteed and permanent development.

Achievements in 1989-93 Plan Period

During the 1989-93 Plan period, various departments of the Ministry of Lands undertook various activities as reflected in the tables below.

However, in almost all departments, scarcity of resources hindered provision of services. For instance, only 60% of market centres in the district are not surveyed. This is mainly because of lack of funds for transport and operating expenses.

With the Physical Planning Department, all big towns and major markets centres are planned however, many small market centres are not. Lack of resources has hindered planning of these market centres and hence making it impossible for the people to acquire loans as they have no securities. The government earns a lot of revenue through the Department of Lands. Availing funds for planning of these market centres will therefore earn the government more revenue.

As a service Ministry, the various departments of the Ministry will continue undertaking activities which will be geared towards achieving stated sectoral goals which are mentioned in the introductory paragraph.

Scarce resources will be directed towards surveying of market centres especially those ones which have potential for growth. Short Term Development Plan for Mwala and Makutano Markets, both in Mwala Division will be drawn. The same will be undertaken for Kangundo/Tala markets. All these towns have high potential for growth. Mwala Market is a divisional headquarter although it has not been planned. Makutano serves a very rich hinterland in terms of horticultural production. Kangundo and Tala Markets are very busy commercial markets with high population density.

The Department of Land Adjudication hopes to declare Ngugi and Ndithi, both in Mwala Division, and Kangonde and Kivaa sections both in Masinga Division adjudication sections during 1994-96 Plan Period.

Activities	Division					
	Central	Kathiani	Kangundo	Mwala	Masinga	Yatta
No. of Transfers Sub-divisions	755	-	287	580	-	629
Done	100	-	64	116	-	7
No. of Urban Plots surveyed	106	120	-	-	-	14
Loans borrowed from financial institutions (Ksh)	152,861,648	-	21,321,461	37,114,848	-	2,090,000
Loans repaid	35,662,500	-	6,664,550	7,425,720	-	None
Boundary dispute settled	44	1	49	47	-	5
Short-term development plans prepared	-	-	1	1	1	1
Part development plans drawn	9	12	5	-	-	1
Declared adjudicated	2	-	2	2	-	2
No. of sections registered	-	-	-	3	2	1

LANDS AND URBAN DEVELOPMENT**PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD****Department of Land Adjudication****A: On-going Projects**

Project Name Location/Division	Description of Activities
Iveti Adjudication Section, Central Division	Hearing of objection
Kombu Adjudication Section	As above
Thinu Adjudication Section	As above
Laewa Adjudication Section	Hearing of objection
Miumbini/Ngoleni Adjudication Section, Kathiani Division	As above
Ikaatinini/Yatta Adjudication Section	As above
Nguluni Adjudication Section	As above
Kingoti Adjudication Section	As above
Kawethei Adjudication Section	As above
Mitaboni Adjudication Section	As above
Ngelani Adjudication Section	As above
Kimutwa Adjudication Section	As above
Misakwani/Iveti Adjudication Section	Final Field Queries on Registry Indexes Maps being collected
Katine/Kangundo Adjudication Section, Kangundo Division	As above
Katheka Adjudication Section	As above
Itumbula Adjudication Section	As above
Mwala Section	As above
Mbee Section	As above
Kitunduni Section	As above
Kaliluni Section	As above

Kaani Adjudication Section	Areas awaiting registration
Masinga Adjudication Section	As above
Kithyoko Section	As above
Kabusu/Kangundo	Sections with quarries on photo identifies diagrams (P.I.Ds)
Kitunduni Section, Central Division	As above
Ngelani Section, Central Division	As above
Kilala Section, Mwala Division	As above
Mathingau Section, Yatta Division	As above
Thinu Section, Central	As above
Mundu Section, Central	As above
Nzuuni Section, Central	As above
	Funding Sources:
	All Projects and Programmes to be funded by GOK

ENVIRONMENT AND NATURAL RESOURCES

Objectives

The Ministry through the Forest Department is mainly charged with the responsibility of protecting gazetted forests, rural afforestation extension and other aspects dealing with tree growing and management. More recently agro-forestry technology transfers have been incorporated into the extension packages. The Ministry is generating concerned with environmental management in support of development activities.

The NGOs interested in afforestation will be assisted with technical know how and any other resources at the department's disposal. Projects 4616 (World Food Programme) and the World Bank Project will be of great assistance both to the local communities and the department's activities.

Achievements in the 1989 - 93 Plan Period

It will be difficult to separate activities undertaken by Machakos DDC from those undertaken by Makueni District as the two were being handled together. Therefore some data that will be given covers both districts.

- During the Plan Period, 25 km stretches of forests in both districts were maintained.
- About 65.6 ha of plantations were maintained mainly in Central, Kathiani and Kangundo Divisions.
- 45.0 ha. in all the divisions were planted with various species of trees e.g. eucalyptus, gravella etc.
- Over three millions seedlings were raised in various nurseries which are spread all over the district.
- 27 ha were pruned in Kathiani, Kangundo and Central Divisions.
- During the plan period, Iveti forest block produced 1915.34 m³ of wood which fetched VXiD.478,950.
- 2 No. Class 5 houses were installed with electricity while one office was constructed at Mwala Nursery.

ENVIRONMENT AND NATURAL RESOURCES

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

A: On-going Projects

Project Name Location/Division	Description of Activities
1. Plantation development, Iveti and Ununi Hills, Central Division.	Replacement of clear, felled areas with suitable species; silvicultural operations; ground preparations and planting. <u>Funding Source: IDA/GOK</u>
2. Rural Afforestation Programme (District-Wide)	Raising seedlings in all rural nurseries for rural afforestation, dams and rivers protection. <u>Funding Source: GOK/World Food Programme</u>

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
World Food Programme (Afforestation) (District-Wide)	1	Afforestation of communal hills. Willing individuals will benefit from food provided. Communal hills will also be conserved and soil erosion curbed. <u>Justification: Promote trees for planting while at the same time supporting food needs.</u> <u>Funding Source: GOK</u>

**Continuous Rural
Afforestation Project
(District-Wide)**

**NGO Assistance will supplement
Ministry's effort in creating
environmental awareness. Primary and
secondary students will be involved.**

**Justification: Level of awareness of
environment problems.**

Funding Source: GOK

Investment in the 1989-90 Plan Period

Year	Investment (Millions of Rupees)	No. of Villages	No. of Beneficiaries	Remarks
1989-90	10,000	1	1	Initiated before 1989 completed in the 1989-90 period
1990-91	7,800	5	5	Initiated and completed before 1989-90 period
1991-92	12,500	5	5	Initiated before 1989 before completion
1992-93			3	Initiated in the 1989-90 period still under completion

LAND RECLAMATION, WATER AND REGIONAL DEVELOPMENT

Objectives

The major objective of the department of water is to plan, conserve and operate water supplies with a view of providing safe and clear water to all households within a reasonable distance of established system. More specifically, the objectives of the department include:-

- To develop and distribute water to all rural and urban areas for domestic agriculture and industrial usage;
- Conserve water sources and promote pollution control; and raise revenue through cost-sharing by changing user charges imposed on consumers

For the department of Land Reclamation, the primary objectives include:-

- To reclaim where damaged and to produce unscathed the diverse, valuable and yet frequently fertile ecologies located in ASAL areas.
- To develop national capacity for extracting the substantial production potential of ASAL areas thereby contributing significantly to the national goals of income generation, employment creation, and the attainment of food security among other objectives.

Achievement in the 1989-93 Plan Period

Major Supplies	No.	Operational	No. of Households served	Not operational
(Rural Urban, Local Harambee)				
Initiated before 1989 completed in the 1989-93 period.	1	1	10,000	-
Initiated and completed in the 1989-93 period.	2	2	7,500	-
Initiated before 1989 under construction.	5	5	12,500	2
Initiated in the 1989-93 period still under construction.	3	-	-	3

Initiated before 1989
not started.

Other Minor Supplies

Protection and Conservation Activities

Activity	Quantity	Unit	Cost	Project Name
Bore holes	5	1	1,500	4
Shallow wells	None	1	1,500	4
Spring protection	None	-	-	-
Other catchment protection	2	1	1,200	1

1. Kibuni Phase II
Kibuni Location, Mtwara District, Mtwara Region
Laying of 200 m pipeline to Kibuni
2. Rehabilitation of Yatta
Rehabilitation of Yatta, Mtwara District, Mtwara Region
Rehabilitation of Yatta, Mtwara District, Mtwara Region
Rehabilitation of Yatta, Mtwara District, Mtwara Region
3. Rehabilitation of Mtwara
Rehabilitation of Mtwara, Mtwara District, Mtwara Region
Rehabilitation of Mtwara, Mtwara District, Mtwara Region
4. Rehabilitation of Mtwara
Rehabilitation of Mtwara, Mtwara District, Mtwara Region
Rehabilitation of Mtwara, Mtwara District, Mtwara Region
5. Rehabilitation of Mtwara
Rehabilitation of Mtwara, Mtwara District, Mtwara Region
Rehabilitation of Mtwara, Mtwara District, Mtwara Region
6. Rehabilitation of Mtwara
Rehabilitation of Mtwara, Mtwara District, Mtwara Region
Rehabilitation of Mtwara, Mtwara District, Mtwara Region

LAND RECLAMATION, WATER AND REGIONAL DEVELOPMENT
PROJECT AND PROGRAMME PRIORITIES FOR 1994-98 PLAN PERIOD

A: On-Going Projects

Project Name Location/Division	Description of Activities
1. Muoni Dam Kathiani Division.	Construction of water treatment works and laying of pipe line system. <u>Funding Source:</u> GOK/DONOR
2. Kibauni Phase II Kabauni Location, Mwala Division.	Laying of pipeline system to Kalawa trading centre. Construction of water kiosks. <u>Funding Source:</u> GOK/EEC
3. Rehabilitation of Wamunyu Water Supply, Wamunyu Location, Mwala Division.	Electrification of the water supply installation of new pumping units & construction of additional composite filter. <u>Funding Source:</u> GOK/DONOR
4. Rehabilitation of Mbiuni water supply, Mbuini Location, Mwala Division.	Installation of new pumping sets. <u>Funding Source:</u> GOK/DONOR
5. Ithanga Water Supply Ndithini, Masinga Division.	Completion of pump house, construction of storage tanks, completion of pipeline. <u>Funding Source:</u> RDF
6. Rehabilitation of Yatta and Ndalani Canals, Yatta Division.	Enlargement, side protection, disilting and lining of the canal. <u>Funding Source:</u> GOK/EEC

7. **Kwambunga Water Project, Mutituni Location, Yatta Division.** Improvement of intake, completion of piping distribution system.
Funding Source: RDF
8. **Muindi Memorial Secondary School roof catchment.** Completion of the Water storage tank.
Funding Source: RDF/World Bank
9. **Sengani Water Supply, Matungulu Location, Kangundo Division.** Installation of electricity supply, installation of sub-mercible pump.
Funding Source: GOK
10. **Nguluni Water Supply, Matungulu Location, Kangundo Division.** Installation of electricity supply, sub-mercible pump and electrical starters.
Funding Source: GOK
11. **Kimutwa Water Supply, Mbiuni Location, Kathiani Division.** Construction of pump house, storage tanks and water kiosks. Completion of pipeline.
Funding Source: Self-help/GOK/DONORS
12. **Kisekini Water Supply, Mitaboni Location, Kathiani Division.** Completion of slow and filter construction installation of elevated steel storage tank.
Funding Source: GOK/DONOR
13. **Mua Hills Water Supply, Mutituni Location, Central Division.** Installation of sub-mercible pumps, control panel and all accompanying accessories. Rehabilitation of the pumping pipelines.
Funding Source: GOK/RDF
14. **Mitaboni Water Supply, Mitaboni, Kathiani Division.** Rehabilitation of 3 km. gravity pipeline to Mitaboni market extension of the distribution pipeline.
Funding Source: GOK

15. **Kithagaini Water Supply, Improvement of the intake, extension of the distribution pipeline to Kavumbu market.**
Masii Location, Mwala Division.

Funding Source: GOK

16. **Ithaeni Water Supply, Rehabilitation of gravity pipeline from Iveti hills to Vyula areas.**
Masii Location, Central Division.

Funding Source: Catholic Diocese/GOK

17. **Metuma/Kamuthanga Water Supply, Mitaboni Location, Central Division.** Rehabilitation of the pumping mains 2 km. distance.

Funding Source: GOK/RDF

B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Masinga-Ekalakala, Matuu-Kitui water project, Masinga Location, Masinga Division	1	The water supply serve the needy rural population and institutions in Masinga & Yatta Location and Kitui town (Kitui District) which has no other reliable alternative source. <u>Justification:</u> Part of the project covering Masinga and Ekarakara is already designed. <u>Funding Source:</u> GOK/DONOR
Kinyongo Dam: Kinyatta Location, Yatta Division	2	The project will supply water to the population and livestock in Yatta Plateau area which is very dry and has no other alternative water supply. <u>Justification:</u> This dam was designed ten years ago but it has not been funded. <u>Funding Source:</u> GOK/DONOR

- Tala Urban supply, Matungulu Location, Kangundo Location, Kangundo Division.** **3** **A new water supply intended to serve a growing town centre with very high water demand.**
- Justification:** The bore hole serving the town centre has very low output which cannot meet the daily requirements.
- Funding Source:** GOK/DONOR
- Kwamangu water supply, Matungulu Location, Kangundo Division area.** **4** **The project will serve a densely populated area under Tala-Kangundo town council. It will supplement the water of this council and also serve the rural population around this area.**
- Justification:** Three bore holes with very high yields are already drilled. Pipelines system are designed and some funds were collected on self-help basis.
- Funding Source:** GOK/DONOR/Self-Help
- Bore holes** **5** **These bore holes are located in dry areas with no other water source.**
- Yondoni, Kwethei, Iviviani, Kakuyuni, Komarock, Kenol.**
- Justification:** Kawathe, Komarock Kenol and Iviani bore holes need only to be equipped while Yondoni and Kakuyuni need to be drilled and equipped.
- Funding Source:** GOK/DONOR/Self-Help
- Kavilila Dam, Mitaboni Location, Kathiani Division.** **6** **The dam is sited in a dry area with no other water source.**
- Justification:** Survey and design of the project is complete.
- Funding Source:** GOK/DONOR/Self-Help

**Miwongoni Dam,
Muvuni Location,
Central Division.**

7

This dam will supplement the Nor-fresh water supply in Machakos Town.

Justification: Survey and design of the dam completed.

Funding Source: GOK/DONOR/Self-Help

**Kyawango Water
supply, Mwala
Location, Mwala
Division.**

8

This is a new project intended to serve people in a very dry area.

Justification: Survey and design of the pipeline completed. Some funds were realised on self help basis.

Funding Source: GOK/DONOR/Self-Help

PUBLIC WORKS AND HOUSING

Objectives

The main objectives of the ministry are to:-

Supervise completion of on-going projects and maintain public roads and buildings

During this plan period, the ministry will increase efforts to realization and rehabilitate its objectives. In doing, this efforts will be made to promote labour intensive technologies in road construction and maintenance, as well as to use techniques that save foreign exchange. Greater stress will be laid on road maintenance and grading although rural access roads will continue to be expanded.

Achievements During 1989-93 Plan Period

During the previous plan period the MOPW undertook the following activities. These activities were spread all over the district.

Activities	Road Category					
	A	B	C	D	E	RAR
Roads Tarmacked (km)	29	-	10.3	-	-	-
Roads Gravelled (km)	-	-	3.6	22.0	30.9	19.4
Roads Graded (km)	85	-	209	277	440	-
Culverts and Drift done (No.)	-	-	6	18	11	6
Bridges	-	-	3	1	-	-

PUBLIC WORKS

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

A. On-going Projects

Project Name	Location/Division	Description of Activities
1. Kathaana Bridge Rd C99 Kangundo Division		<p>Construction of a R.C. Bridge with two 12 metre pans. Abutments & Pier complete. Laying of deck and back filling approaches outstanding.</p> <p><u>Funding Source: GOK</u></p>
2. Nditha Bailey Bridge, Road C100 Mwala		<p>Construction of a bailey bridge with a span of 40 metres. Abutments complete. Launching of Bailey and backfilling of approaches outstanding.</p> <p><u>Funding Source: GOK</u></p>
3. Machakos-Kangundo, Central, Kathiani & Kangundo Division		<p>Construction of 38 km of Road to bitumen standard. A total of 21 km has been tarmacked need computation.</p> <p><u>Funding Source: GOK</u></p>

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Machakos Turn off, Machakos Town Road, Road C97 16 km, Central Division.	1	Tarmack the road <u>Justification:</u> The existing road base has failed and needs construction. The road has a very high traffic volume. <u>Funding Source:</u> GOK
Machakos, Kangundo, Central Division	2	Reseal the road <u>Justification:</u> A lot of potholes have developed and the road needs resealing to prevent further deterioration. It has a high traffic volume. <u>Funding Source:</u> GOK
Nairobi-boundary, Kangundo Road C98- 33 km, Kangundo Division.	3	Reseal the road <u>Justification:</u> Potholes have developed and the road needs resealing to prevent further deterioration. <u>Funding Source:</u> GOK
Machakos-Kimutwa Road, C99-10 km, Central Division.	4	Gravel the road <u>Justification:</u> The road is impassable during the rainy season. High potential area. Makutano-Kithimani, C100-33 km Mwala/Kathiani Division. <u>Funding Source:</u> GOK

Tala-Katheka, D520-13 5 Gravel the road
km, Kangundo
Division. Justification: The road has a high traffic volume and becomes impassable during the rains. It links Masinga-Kithimani and Mwala to Machakos.

Funding Source: GOK

Kangundo-Syathani, 6 Gravel the road
D98-20 km
Kangundo/Mwala
Division. Justification: The road has a high traffic volume and becomes impassable during the rains. It links Masinga-Kithimani and Mwala to Machakos.

Funding Source: GOK

Matuu-Katangi, D512- 7 Gravel the road
24 km
Yatta Division. Justification: Busy road that becomes impassable during the rains.

Funding Source: GOK

Kisikii Baile, Bridge 8 Construct a bridge
Road, E626
Masinga Division. Justification: This crossing will link Ndithini Location to the District Hq at Masinga. Currently people use boats to cross Thika River

Funding Source: GOK

Ndela Bridge, RD e26 9 Construct a bridge
Masing Division. Justification: the existing timber bridge has almost collapsed. It is dangerous to traffic.

Funding Source: GOK

Kyunduani, Box
Culvert Rd. D512
Yatta Division

10 Construct a box culvert

Justification: The crossing is impassable during the rains as there is no structure

Funding Source: GOK

LOCAL GOVERNMENT

Objectives

The objectives of the ministry are to:-

- Promote policies that avoid excessive concentration of population in the largest cities by promoting vigorous growth of secondary towns and smaller urban centres
- Support the provision of catalytic infrastructure such as water supply, sewerage, treatment facilities, power supply, roads, market trading facilities, etc in selected local authorities with the objectives of providing incentives for private investment
- Strengthen managerial and financial capacity of local authorities to formulate policy, manage authority manpower and resources, and carry out the design, implementation and management of infrastructure investments as well as ensure that adequate funds are made available to complete project on time..

Achievements in the 1989-93 Plan Period

A notable feature within the 1989-93 plan period is the elevation of Movoko Town Council to Municipal status.

Masaku County Council

Within this plan period, the DDC had approved many projects but only a few were implemented due to financial constraints. With the formation of Makueni County Council which was carved out from Masaku County Council, there are several projects that were later implemented but which should now be reflected in Makueni DDP.

The Table below indicates the number of activities undertaken during the plan period.

Municipal Council of Machakos

Most of the activities of the municipality are concentrated in the Central Division.

During the plan period under review the following activities were undertaken.

Activities	Remarks
1. Procurement of 1 No. Land Rover and 1 No. Lorry for refuse collection at a total of K£121,275	The vehicle have improved both supervision services and refuse collection in the town.
2. Installation of electricity at the slaughter houses at total cost of K£4,580.	
3. Completion of Kariobangi Tenant Purchase Houses.	The work involved construction of 55 core housing and infrastructural services to 78 plots at a cost of K£4 million.
4. Procurement of shovel excavator.	The machine was to be used on improvement of roads and drainage system.

Year	1988/89	1990/91	1991/92
Total Revenue (Ksh)collection	12,442,504	12,092,272	15,755,877
Total expenditure	11,757,349	12,935,813	14,452,704

Mavoko Municipal Council

Mavoko (Athi River) Town is the busiest industrial town within Machakos District. It hosts EPZ Authority which is anticipated to accommodate more than 100 industries once completed. All the projects undertaken by the council are located within the centre of the town except for roads graded in for rural wards, i.e. Central, Athi River, North, Katani and Stone Athi River/Kinyango Wards.

Some of the achievements include:-

- Within the plan period, the town was elevated to Municipal Status.
- Construction of a water tank.
- Patching of roads and maintenance.
- Construction of murrum roads.
- Construction of public toilets

Extension of sewerage

Total Revenue collected was K£6,033,000 as against total expenditure of K£5,400,000.

Activities	Masinga	Yatta	Kangundo	Mwala	Kathiani	Central
Construction of Location Office	-	1	-	-	-	-
Access Road done (km)	187	231	215	-	-	-
Pit latrines (No)	9	8	1	-	-	-
Bore hole Rehabilitated	3	2	-	-	-	-
Dining Hall (Children Home)	-	-	-	-	-	-
Motor Vehicle/Trailers	-	-	-	-	-	-
	1989	1990	1991	1992		
Travel Revenue collected (Ksh)	37,577,989	41,822,427	53,159,325	55,216,369		
Total Expenditure	37,489,325	41,246,301	48,431,080	51,941,401		

LOCAL GOVERNMENT

PROJECT AND PROGRAMME PRIORITIES FOR 1994 - 96 PLAN PERIOD

A. On-going Projects

Project Name Location/Division	Description of Activities
1. Locational Office, Mbiuni, Mwala Division.	Construction of office <u>Funding Source:</u> Country Council
2. Location office. Mitaboni, Kathiani Division.	Construction of office and pit latrines. <u>Funding Source:</u> Country Council

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Rehabilitation of 8 bore holes (Masinga, Thatha, Mutiamwaki) Masinga Division. (Maini, Kinyatta), Yatta Division. (Masii, Makutano, Vyulya), Mwala Division.	1	Rehabilitate the boreholes <u>Justification:</u> Supply of water is a high priority for the district due to its semi-arid nature. <u>Funding Source:</u> County Council
Grading of access roads	2	Improvement of rural roads <u>Funding Source:</u> County Council
Locational offices 3 (in 3 divisions)	3	Construction of offices <u>Justification:</u> There is need to provide suitable working environment. <u>Funding Source:</u> County Council

**Marketing Fencing
(District-Wide)**

4 Fencing of market

Justification: This will facilitate revenue collection. Many markets have not been fenced and a major hinderance in revenue collection.

Funding Source: County Council

**Modern Slaughter Houses
(in all divisions)**

5

Construction of modern slaughter houses

Justification: Some of the existing slaughter houses are very poor and hence a need to improve on them.

Funding Source: County Council

**Bus park, Matuu,
Yatta Division**

6

Construction of a bus park

Justification: Matuu is the fastest growing town in the district. There is no such facility. An area has been reserved for that purpose.

Funding Source: County Council

Municipal Council of Machakos

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Machakos Sewage Phase 1	1	Construction of the sewerage system <u>Justification:</u> The existing sewerage system is overloaded. This could be a health hazard in the area. <u>Funding Source:</u> DONOR
Roads improvement and maintenance Machakos Town, Central Division.	2	Rehabilitation of roads and other facilities in the town <u>Justification:</u> Once completed, it will improve social and economic activities in the town. The project will involve road resealing, water drainage street lighting etc. <u>Funding Source:</u> GOK
Mortgage housing Scheme	3	Construction of a housing scheme <u>Justification:</u> There is an acute shortage of both middle and high class houses in the town <u>Funding Source:</u> NHC, HFCK

Office Extension, Tala Office

5

Extension of offices.

Justification: The current office accommodation is too congested.

Funding Source: GOK/Town Council

Purchase of Grader and one Vehicle

6

Purchase of a grader and vehicle

Justification: The grader will be used to improve to access roads thus boosting both agricultural and commercial production.

Funding Source: GOK/Town Council

Pit Latrines, Kawethei, Kinyuj, Kakuyuni and Kibauni markets.

7

These facilities are essential. Service charge.

Funding Source: Town Council

COMMERCE AND INDUSTRY

Objectives

The Ministry is charged with the responsibility of helping the indigenous people obtain loans through District and Commercial Development Corporation (ICDC). It is also charged with the responsibility of projecting the consumers needs through the weights and Measure Department.

Achievements in the 1989-93 Plan Period

The Machakos Joint Loan Board Scheme did not disburse any money to traders during the 1989-93 plan period. However, arrangements are at an advanced stage to issue Ksh.2 million to 50 successful loan applicants during the 1994-96 Plan Period. The Ministry increased the minimum from K£40,000 to K£ 50,000. The rate of repayment of the loan is at 16½ % per annum which is calculated on a reducing balance. The loan recipient may opt to repay the loan within the specified period so that other applicants can benefit from the revolving fund.

During the plan period, 1989-93, ICDC disbursed K£.8,690,000 to 96 commercial loan applicants while 29 loan applicants benefitted from K£1,119,000 advanced by KIE.

Due to poor loan repayment by past beneficiaries, the revolving funds earmarked for credit to traders have continued to decline over the years, and it is for this reason that the trade office has to impart management and marketing skills to the small scale traders.

During the 1989-93 plan period, the trade office managed to organize only one traders course at Makindu Market which attracted 16 participants. Kenya Industrial Estates (KIE) also organised 3 seminars for the Jua Kali artisans and the number of participants was 45.

COMMERCE AND INDUSTRY

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Office Block Machakos Municipality, Central Division.	1	Construction of an office block <u>Justification:</u> The Ministry is currently in rented premises owned by Municipal Council. The landlord may wish to repossess the premises in the future. <u>Funding Source:</u> GOK

EDUCATION

Objectives

The objectives of the Ministry are to:-

- Provide facilities for maintained post school institutions, special institutions and universities while parents and sponsors provide facilities in all the training institutions
- Provide specialized equipment to public institutions while parents provide books and supplementary readers stationery and consumable materials

Achievements in the 1989-93 Plan Period

About 80% of the priority projects have been accomplished within 1989-93 plan period. Many structures have been completed and are in operation in form of classrooms/lecture rooms, science laboratories, Home science rooms, dining halls/kitchen etc. The suspension of RDF programme adversely affected implementation of many projects.

Activities (Secondary Schools)	Total Completed	Masinga	Yatta	Mwala	Kangundo	Kathiani	Central
Classrooms	314	24	40	70	64	57	59
Science labs	65	5	8	18	13	9	12
Workshops	10	1	1	2	2	1	3
H/Science rooms	48	1	1	8	17	5	16
Libraries	28	2	1	5	8	3	9
D/Hall/Kitchen	49	4	3	8	12	6	16
Dormitories	76	8	7	17	22	7	15
Admin. Blocks	125	10	15	34	26	17	23
Teachers Houses	501	55	59	102	99	73	113

NB: Improvisation of some structures has been counted as accomplished thus, much still remains to be done to up-grade the sort of structures appropriate to the requirements.

- Good effort has been made towards enhancing implementation of the 8-4-4.
- Training of teachers and educating parents as regards cost sharing in spite of the escalating cost of living.
- There are 13 zones currently each of which has a zonal inspector. Each has

an average of 5 secondary schools and an average of 23 primary schools.

Except for a negligible number, majority of the schools have a fair enrolment ranging from 30 to 40 pupils per class in secondary and primary respectively.

A fair effort has been put towards access roads to schools through ministry of Public Works and Local Authorities.

A steady rise in examination performance has been realised as a result of closer inspection/supervision of schools, teacher training and individual teachers and pupils commitment, not forgetting the parents role in this area.

Some initiative had been taken towards assigning some teachers the duty of guiding and counselling in the schools with some in service courses for them (teachers). This has assisted much as regards shaping up the pupils character.

Year	1980	1981	1982	1983	1984	1985	1986
1	20	25	30	35	40	45	50
2	15	20	25	30	35	40	45
3	10	15	20	25	30	35	40
4	5	10	15	20	25	30	35
5	3	5	8	10	12	15	18
6	2	3	4	5	6	7	8
7	1	2	3	4	5	6	7
8	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1

EDUCATION

PROJECT AND PROGRAMME PRIORITIES FOR 1994-98 PLAN PERIOD

A. On-Going Projects

Project Name Location/Division	Description of Activities
1. Misyani Girls - Teachers Houses Kangundo Location	In final stages. <u>Funding Source: GOK/PTA</u>
2. Masinga Girls - Home Science Room Masinga Location	In final stages of completion. <u>Funding Source: GOK/PTA</u>
3. Mikuini Sec. School - Science Lab. Muvuti Location, Central Division.	Finishing to be done. <u>Funding Source: GOK/PTA</u>
4. Movoko Sec. School - Dormitory Athi River Location.	Structural construction in progress. <u>Funding Source: GOK/PTA</u>
5. Power to Kaani Secondary School.	Electrification to be undertaken. <u>Funding Source: GOK/PTA</u>
6. Katheka Sec. School - Science Equipment Mwala Location.	Structural construction in progress. <u>Funding Source: GOK/PTA</u>
7. Maweli Sec. School - Science Equipment.	Financial support towards costs. <u>Funding Source: GOK/PTA</u>
8. Kaliluni Girls - Dormitory Iveti Location, Central Division.	Structural support towards costs. <u>Funding Source: GOK/PTA</u>

9. Kitheuni Sec. School - Workshop. Final touches including furnishing.
Funding Source: RDF/PTA
10. Ngomeni Secondary School - Science Room Mitituni Location, Central Division. Construction and equipment of a home science room.
Funding Source: RDF/PTA
11. Matheini Sec. School - Home Science Room Mutituni Location, Central Division. Construct and Equip a Home Science Room.
Funding Source: RDF/PTA
12. Ndalani Sec. School - Dining Hall/Kitchen Mwala Location. Construction and equipping the structure.
Funding Source: RDF/PTA
13. Makutano (AIC) Boarding Primary School - Dining Hall/Kitchen Mwala Location. Construct and equip a dining hall and kitchen.
Funding Source: RDF/PTA
14. Kyua Sec. School - Science Lab. Katangi Completion of the remaining bit.
Funding Source: RDF/PTA
15. Kivilingu Sec. School - Science Lab. Kakuyuni Location. Construction and Equipping classrooms and Lab.
Funding Source: RDF/PTA
16. Muindi Memorial Sec. School - Water Tank Masii Location. Completion of a water catchment.
Funding Source: RDF/PTA
17. Mavoko Sec. School - Classroom Block Athi River Location. Construction and Equipping classrooms and Lab.
Funding Source: RDF/PTA
-

B. New Project Proposals

<u>Project Name Location/Division</u>	<u>Priority Ranking</u>	<u>Description of Activities</u>
Masinga Boys - Dormitory, Masinga Location.	1	This is necessary so as to discourage town dwelling by students. <u>Funding Source:</u> GOK/DONOR
Miu Boys - Dining Hall/Kitchen Muthetheni Location	2	For provision of cover and security during meals. <u>Funding Source:</u> GOK/DONOR
Ikaatini Sec. School - Science Lab. Ekalakala Location.	3	A GOK requirement for 8-4-4 system science learning/teaching. <u>Funding Source:</u> GOK/DONOR
Kathiani High School - Science Lab., Muvuti Location, Central Division.	4	Due to high enrolment for 8-4-4- system science learning/teaching. <u>Funding Source:</u> GOK/DONOR
Muvuti Sec. School - Science Lab. Muvut Location Central Division.	5	An additional facility needed in this area. . About 50% has been done by parents. <u>Funding Source:</u> GOK
Matungulu Girls - Dining Hall, Matungulu Location Kangundo Division.	6	A new construction would serve better than trying extend the older smaller structure. <u>Funding Source:</u> GOK/DONOR/Community
Ikombe Sec. School - Science equipment Kinyatta Location Yatta Division.	7	A good structure has been put up but short of equipment. <u>Funding Source:</u> GOK/RDF

Mulu Secondary School
- Dormitory,
Wamunyu Location,
Mwala Division.

8

The big enrolment of boys and girls
qualifies the project implementation.

Funding Source: GOK/RDF

Manaja Sec. School -
Lab.,
Ndithini Location,
Masinga Division.

9

For effective teaching and learning of the
science subjects.

Funding Source: GOK/RDF

CULTURE AND SOCIAL SERVICES

Objectives

The objectives of the ministry are to:-

- Mobilize local communities for self-reliance in basic needs and involvement in development planning processes
- Promote the preservation and role of culture through visual arts, performing arts, oral traditions, popularization of Kiswahili and other national languages for national identity and pride;
- Intensify adult education to eradicate illiteracy
- Provide reading materials in the districts through KNLS
- Encourage sports talents from the grass roots by strengthening the district sports administration
- Identify, train, rehabilitate and resettle disabled persons for self-reliance; and
- Promote and raise the status of women through programmes focussed on involving women's groups in income-generating activities and in decision making at all levels.

Achievements in 1989-93 Plan Period

Department of Social Services

Machakos Rehabilitation Centre: The project is located in Machakos. Over the plan period, the following components were completed: an administration office, five workshops, one dormitory, one Cat "E" house and perimeter fencing.

The project is however not operational as some components like staff houses are lacking.

Adult Education

Activities	Kangundo	Mwala	Central	Kathiani	Yatta	Masinga
Adult Literacy Enrolment, 1988	1159	1040	672	837	866	1209
Female %	91.9	91.9	90	93.9	93.9	94.1
Adult Literacy Enrolment, 1993	1156	1053	736	530	560	505
Female %	66.9	92.3	84.3	91.9	91.9	89.1

Women Groups and Self Help Projects: During the 1989-93 plan period, 500 women groups and self-help projects were registered.

Department of Culture

The department opened an office for the first time in the district in 1989, with a single officer to run it. It was charged with activating the cultural potential of Machakos District residents in herbal medicines, fine art, sculpture, dance and music, weaving, ceramics, textile design, etc.

On account of small allocations the office only made real impact in the areas of herbal medicines, music and dance. In the mentioned period it organised and oversaw the holding of annual herbal medicine exhibitions and district music festivals.

The office also compiled a register of known church/secular choirs and traditional dancing groups residents in the district. These were as follows: Athi River Municipality: 6, Kangundo, Masinga and Mwala Divisions: 38, 28, and 32 respectively. A total of 69 traditional medicine men were also registered.

CULTURE AND SOCIAL SERVICES

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

A. On-Going Projects

Project Name Location/Division	Description of Activities
1. Machakos Rehabilitation Centre, Machakos Town, Central Division.	Construction of an administration block, five workshops. 1 No. Dormitory 1 No. Cat "E" house. <u>Funding Source:</u> GOK
2. Vinya wa Kiimani Women Group - Mutituni Location, Central Division.	Construction of a posho mill. <u>Funding Source:</u> RDF/Self Help
3. Kaonyweni Women group, Masinga Division.	Construction of a shop. <u>Funding Source:</u> RDF

B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Machakos rehabilitation centre.	1	Rehabilitation and equipping of centre. <u>Justification:</u> This being the only project of its kind in the district will go far in rehabilitating the physically disabled. <u>Funding Source:</u> GOK
Women groups and self-help groups all over the District.	2	There is need to promote income generating projects in the District. <u>Funding Source:</u> GOK

Training of divisional and community development staff all over the District.

Training is essential if this cadre of officers is to be effective.

Justification: Very few of these staff have undergone any training.

Funding Source: GOK

CULTURE AND SOCIAL SERVICES

Department of Culture

A: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
District Cultural Centre, Machakos Municipality.	1	The district does not have any cultural centre. Such a centre will have a library, office, archive auditorium, etc. <u>Funding Source: GOK</u>
District Culture Office, District headquarters.	2	Construction of the office. Departmental staff are currently housed by another department. <u>Funding Source: GOK</u>
District Cultural	3	In the absence of funds to hold festivals in the various areas of culture such festivals will be fora for cultural expression. <u>Funding Source: GOK</u>

RESEARCH, TECHNICAL TRAINING AND TECHNOLOGY

Objectives

The objectives of the ministry are to:-

- Assist the Jua Kali Sector so that they can maximize their contribution to economic growth and technological progress in the country
- Provide basic business management and vocational skill training to the artisans to improve their business
- Collect and disseminate relevant market information to artisans and advise on production of goods and services
- Provide suitable working place (Nyayo Sheds) to the needy artisans
- Provide increased training opportunities for the increased number of school leavers to enable them to be self-supporting
- Develop practical skills and attitudes which will lead income generating activities in the rural areas through self-employment
- To produce skilled craftsmen, artisans, technicians, technologists for formal and informal sectors

Achievements in the 1989-93 Plan Period

Technical Institutes: For about 2 years Machakos Technical Training Institute, the only one in the district, has been offering artisan training courses. It has changed now to offer craft courses in the following fields:- Garment Making, Food and Beverage, Secretarial, Electrical Installation, motor Vehicle Mechanic, Mechanical Engineering and Carpentry and Joinery.

It also offers CPA I a one year course and KATEC a two years course.

Youth Polytechnics: The Machakos Jua Kali sheds were constructed within this period. Machakos Jua Kali association caters for 350 artisans who do various craft works (i.e.) Carpentry & Joinery, Welders, Motor Vehicle Mechanics, Akala Shoe Making, Spray Painting, Hair Saloons, Body Builders, Tin Smith and Motor vehicle electrical.

There are also Jua Kali sheds under construction in Athi River Town in Kathiani Division.

RESEARCH, TECHNICAL TRAINING AND TECHNOLOGY

PROJECT AND PROGRAMME PROPOSALS FOR 1994-96 PLAN PERIOD

A. On-Going Projects

Project Name Location/Division	Description of Activities
1. Kenya Youth Training and Employment Creation (KYTEC), Masii Youth Polytechnic, Masii Location, Mwala Division.	Training graduands in the management <u>Justification:</u> This polytechnic has many graduands. It is in an area which encourages business and the Management Committee is willing to assist. <u>Funding Source:</u> UNDP/ILO
2. KYTEC - Katine Youth Polytechnic, Matungulu Location, Kangundo Division.	Training of graduands in management <u>Funding Source:</u> UNDP/ILO
3. KYTEC - Matuu Youth Polytechnic, Mitaboni Location, Kathiani Division.	Training of graduands in management <u>Funding Source:</u> UNDP/ILO
4. KYTEC - Matuu Youth Polytechnic, Mitaboni Location, Kathiani Division.	Training of graduands in management <u>Funding Source:</u> UNDP/ILO
5. KYTEC - Ngelani Youth Polytechnic, Mutituni Location, Central Division.	Training of graduands in management <u>Funding Source:</u> UNDP/ILO

B. New project proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Jua Kali sheds, Kangundo Location, Kangundo Division.	1	Construction of sheds. <u>Justification:</u> On this market many artisans who are working in open area. The plot and power supply are available. <u>Funding Source:</u> GOK
Jua Kali sheds, Matuu Market, Matuu Location, Yatta Division.	2	Construction of shed <u>Justification:</u> Artisans work in open area <u>Funding Source:</u> GOK
Jua Kali sheds, Masii Market, Matuu Location, Yatta Division.	3	Construction of sheds <u>Justification:</u> This market has many artisans working in open area. The plot and power supply are available. <u>Funding Source:</u> GOK
Jua Kali sheds, Tala Market, Matungulu Location, Kangundo Division.	4	Construction of sheds <u>Justification:</u> The market has many artisans working in open area. The plot and power supply are available <u>Funding Source:</u> GOK

TOURISM AND WILDLIFE

Objectives

The main objectives in the sectors development have been:-

- To promote tourism marketing and promotion;
- To increase the contribution of tourism to GDP growth, through increased foreign exchange earnings from the sector and maximizing its retention in the economy;
- Stimulate Tourism as a mean of encouraging local employment and source of foreign exchange by promoting and developing tourism attractions, expansion and improvement of infrastructure in the game reserves and national parks;
- Wildlife development and its management i.e conserve game reserves and national parks as both national and international heritage as an attraction for the tourist industry;
- Promote tourism training for those serving the industry; and
- Promote wildlife development and protect the environment
- To increase economic returns and offer benefits from Wildlife particularly for people living in areas supporting wildlife.
- To protect people and their property from damage caused by wildlife.
- To conserve and use wildlife in areas where it can be made a component of an economically viable land use system.
- To protect wildlife areas.

Achievements During 1989-93 Plan Period

There was little achievement on the targets set for the period as the DDC priorities were not considered by the new management, the Kenya Wildlife Services, which was formed in 1990. However, some of the achievements are listed below.

- One new landrover 110 was bought in 1992.
- Eight (8) large scale farmers (ranches) were given consumption wildlife use rights.
- One crocodile farm was started in Kiambere dam. It has two thousand young ones (yearings)
- One ostrich farm was started in Yatta i.e Kako Ostrich Farm with thirteen young ones.
- Thirteen other ostrich farms are on the verge of starting.

Kenya Wildlife Services

A. On-Going Projects

Project Name Location/Division	Description of Activities
1. Wildlife Services District wide consumptive cropping.	Education and extension training of farmers on game census and cropping methods. <u>Funding Source: COBRA</u>
2. Game farming (Crocodile & Ostrich).	Train component land owners on egg collection and rearing of young; To map out tourist visitor accommodation. e.g. construction of Banda/Camps. <u>Funding Source: COBRA</u>
3. Problem Animal Control (PAC).	Recruitment of 13 more field personnel; Open two more ranger outposts e.g. Masinga and Mwala; Purchase 2 new motor bikes one for each outpost to promote mobility on control. <u>Funding Source: KWS</u>
4. Opening/starting community based conservation areas (Masinga Division).	Conduct inventory on fauna and flora around the dams; Expose community to similar community based conservation areas. <u>Funding Source: KWS</u>

5. Telecommunication improvements.

Install V.H.F's at Konza Mwala and Masinga outposts to ease communication.

Funding Source: KWS

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Purchase of vehicles & motor bikes. (Mwala and Konza)	1	Purchase two new Suzuki vehicles, two motor vehicles and two motor bikes. To improve mobility and control in the outposts. <u>Justification:</u> The district is busy owing to the movement of animals from neighbouring wild life protected areas. <u>Funding Source:</u> KWS
Office block (48 sqm) at Konza.	2	Construct office block <u>Justification:</u> Permanent base to oversee the pilot wildlife utilization programmes. Currently work is conducted from borrowed office. <u>Funding Source:</u> KWS
Construction of staff houses.	3	Construct staff-houses <u>Justification:</u> Currently we rent houses for our staff. <u>Funding Source:</u> KWS

KENYA POSTS AND TELECOMMUNICATIONS CORPORATION

Objectives

The Corporation has programmed projects that will see diversification of services particularly in rural areas but at the same time balancing development in both urban and rural areas while ensuring operation efficiency.

However, due to unforeseen factors during the development period some programmed projects may come earlier or later than planned, but where possible the laid down programme shall be followed.

It was not possible to open most of the Post Offices and Exchange due to lack of necessary equipments. The same will be opened as soon as the equipments are available.

Achievements in the 1989-93 Plan Period

Despite many handicaps and scarcity of the necessary equipment for opening of new post offices, upgrading the existing ones, opening telephone exchanges, a lot was achieved by opening and upgrading 60% of the programmed offices, and 83% of the programmed exchanges.

The few remaining offices and exchanges not opened during the plan will be carried forward to the next plan period 1994-96.

KENYA POST AND TELECOMMUNICATION

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

Telecommunication Services

A: On-Going Projects

Project Name Location/Division	Description of Activities
1. Katangi, Kinyatta Location, Yatta Division.	Construction work. Centre already surveyed works development scheme approved. <u>Funding Source:</u> KPTC
2. Kivaa, Kivaa Location, Masinga Division.	Centre already surveyed. Estimate awaiting approval from headquarters. <u>Funding Source:</u> KPTC
3. Kaseve Mumbuni, Central Division.	Centre already surveyed. Works development schemes approved. <u>Funding Source:</u> KPTC
4. Kyua, Kinyatta	Central already surveyed, case with the PHQs awaiting approval. <u>Funding Source:</u> KPTC
5. Ndalani, Ndalani Location, Yatta Division	Case approved, equipment available will be opened soon. <u>Funding Source:</u> KPTC

- | | | |
|-----------------------------|---|--|
| 6. | Kawethei, Kakuyuni
Location, Kangundo
Division. | Case surveyed and
forwarded to the Postal
Headquarters (PHQs) for
approval. |
| <u>Funding Source: KPTC</u> | | |
| 7. | Kyasioni, Matuu
Location, Yatta
Division. | Case surveyed and
forwarded to PHQs. |
| <u>Funding Source: KPTC</u> | | |
| 8. | Kivunga, Kinyatta
Location, Yatta
Division. | Case already with PHQ. |
| <u>Funding Source: KPTC</u> | | |

Postal Services

A. On-going Projects

<u>Project Name</u>	<u>Location/Division</u>	<u>Description of Activities</u>
1.	Nguluni, Kyanzavi Location, Mwala Division.	Centre very busy and fast growing. Public demand. <u>Funding Source: KPTC</u>
2.	Maweli, Mwala Location, Mwala Division.	High public demand. <u>Funding Source: KPTC</u>
3.	Ndunduni, Matungula Location, Kangundo Division.	High public demand. <u>Funding Source: KPTC</u>
4.	Mua Hills (Kaseve)	High public demand.
5.	Kyumbi, Mumbuni Location, Central Division.	Centre fast growing on the Nairobi/Mombasa Highway. Public demand. <u>Funding Source: KPTC</u>
6.	Kusyomuono, Iveti Location.	High public demand. <u>Funding Source: KPTC</u>
7.	Katoloni, Muputi Location, Central Division.	High public demand. <u>Funding Source: KPTC</u>
8.	Kwa Mbuu, Muputi Location.	High public demand. <u>Funding Source: KPTC</u>
9.	Mwanza (Miwani)	High public demand. <u>Funding Source: KPTC</u>

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Kithyoko, Kithyoko Location, Masinga Division.	1	Construction of new Post offices at Kithyoko. <u>Justification:</u> High public demand. To be connected to Kitui Exchange. <u>Funding Source:</u> KPTC
Kaani, Muputi Location, Central Division.	2	Open-up new post offices at Kaani. <u>Justification:</u> To serve Kaani, Kaseve, Kithangaini and Ithaeni markets. <u>Funding Source:</u> KPTC

HOME AFFAIRS AND NATIONAL HERITAGE

Objectives

The main objectives of Home Affairs and National Heritage sector are:-

- To construct a modern prison, juveniles remand home, and adult remand in the district
- To promote rehabilitation of juveniles so that they return to society as responsible people
- To curb and control the increase in juvenile delinquency through guidance and counselling activities carried out in the district
- To carry out enquiries and prepare reports for the courts as required
- To supervise offenders placed on probation, promote their rehabilitation and to ensure that they do not revert to crime
- Continue conducting after care of offenders through the penal institutions
- To expand the coverage of family planning services giving emphasis to community based distribution of contraceptives programmes

The department renders services to the needy children as stipulated in the Children and Young Persons Act, Cap. 141 of the laws of Kenya.

Achievements in the 1989-93 Plan Period

Children's Department

There were different categories of needy cases that were handled during the period. These are the neglected children either by the mother, father or relatives. There are children who are in "especially difficult" circumstances which encompasses destitutes, street children, disabled children, child workers, displaced children, AIDS orphaned children, children of imprisoned mothers, etc.

The table below summarizes cases handled during the period.

Cases/Year	1989	1991	1993
1. Number of neglected children.	32	39	17
2. Number of children in "Especially in difficult" circumstance.	154	66	78
Total	186	105	95

From the table it is clearly seen that cases of negligence are on the increase. This is attributed to men who do not want to take up their responsibilities and also economic changes. As a result of increase in children's sufferings, various NGO's teamed up with the Government in order to assist those needy children.

The department does not have on-going projects except the usual handling of children cases.

Prisons Department

During the 1989-93 plan period, there were no achievements realised in the department in terms of capital works or in service provision in the district.

Probation Department

Services	1989	1990	1991	1992	Total
No. of Enquiries	154	308	213	197	872
Borstal reports	24	40	49	43	156
Special category reports	7	4	6	8	25
Total	190	290	334	256	1043

HOME AFFAIRS AND NATIONAL HERITAGE

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Staff houses at Machakos District, Prisons Central Division	1	Construction of staff house, 10 No grade 8 <u>Justification:</u> Staff residential houses are not adequate <u>Funding Source:</u> GOK
Digging of a borehole at Machakos Prisons, Central Division	2	Construction and equipping of borehole <u>Justification:</u> The borehole will supplement the water provided by the N.W. Corporation <u>Funding Source:</u> GOK

OFFICE OF THE PRESIDENT

Objectives

The major objective of the Office of the President is to promote the effective and efficient operation of Government activities at national, provincial, district levels to ensure the security of the Nation.

Further the Office of the President has a major objective of ensuring the effective administration of the District Focus for Rural Development Strategy.

OFFICE OF THE PRESIDENT

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Mwala Division Headquarters Masinga Division Headquarters Mwala and Masinga Divisions	1	Construction of Divisional Headquarters <u>Justification:</u> The divisions have no offices <u>Funding Source:</u> GOK
Machakos District Headquarters	2	Construction of District Headquarters <u>Justification:</u> Current office accommodation is not adequate <u>Funding Source:</u> GOK
Iveti Chief's Camp Central Division	3	Construction of Chief's office <u>Justification:</u> Chief has no office <u>Funding Source:</u> Harambee
Kivaani Chief's Office, Kivaani Location, Kangundo Division.	4	Construction of office. <u>Justification:</u> This is a newly created location. <u>Funding Source:</u> Harambee
Kakuyuni Chief's Office, Kakuyuni Location, Kangundo Division.	5	Construction of office. <u>Justification:</u> A new created location. <u>Funding Source:</u> Harambee

- | | | |
|---|----|--|
| Ikombe Chief's Office,
Ikombe Location, Yatta
Division. | 6 | Construction of office. |
| | | <u>Justification:</u> A newly created location without a chief's office. |
| | | <u>Funding Source:</u> Harambee |
| Katangi Chief's Office,
Katangi Location, Yatta
Division. | 7 | Construction of office. |
| | | <u>Justification:</u> This is a new location. |
| | | <u>Funding Source:</u> Harambee |
| Kithimani Chief's Office,
Kithimani Location, Yatta
Division. | 8 | Construction of office. |
| | | <u>Justification:</u> The project to be funded by local community. A newly created location without a proper office. |
| | | <u>Funding Source:</u> Harambee |
| Ulaani Chief's Office,
Mbiuni Location, Mwala
Division. | 9 | Construction of offices. |
| | | <u>Justification:</u> A newly created location without a proper office accommodation. |
| | | <u>Funding Source:</u> Harambee |
| Muputi Chief's Office,
Muputi Location, Central
Division. | 10 | Construction of offices. |
| | | <u>Justification:</u> The chief's office is currently being accommodated in Municipal Council building. |
| | | <u>Funding Source:</u> Harambee |

Kaviani Chief's Office, Iveti 11
Location, Kathiani Division.

Construction of offices.

Justification: The Chief is being accommodated in a County Council's building and hence the need to put up a proper office.

Funding Source: Harambee

TANA AND ATHI RIVER DEVELOPMENT AUTHORITY (TARDA)

Objectives

The Authority is engaged in regional type of planning which examines resources in a given defined area. In Machakos, TARDA is mainly concerned with the development potential of Athi River. It also seeks to identify possible water dams either for irrigation or hydroelectric power.

Achievements in the 1989-93 Plan Period

During the Plan period, the Authority concentrated on the implementation of Masinga Tourism project which was completed in 1989. The aim of the project was to create tourism facilities at Masinga Dam to attract both local and foreign tourists to enjoy the scenery of the man-made lake. The other aim was to create local employment within the vicinity of Masinga i.e. at full capacity Masinga Hotel would employ permanent staff.

Within the same period, the Authority continued operating the Masinga Afforestation nursery which has an annual capacity of producing 500,000 seedlings in any planting season and in between 1988/89 to 1992/93 the nursery produced an estimated 1.5 million seedlings which were distributed to farmers free of charge during the planting days.

TANA AND ATHI RIVER DEVELOPMENT AUTHORITY (TARDA)

PROJECT AND PROGRAMMES PRIORITIES FOR 1994-96 PLAN PERIOD

A. On-going Projects

Project Name Location/Division	Description of Activities
1. Masinga Afforestation Nursery (Masinga Division)	Raising tree seedlings for distribution to farmers. <u>Funding Source:</u> GOK/Donor

B. New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Study and promotion of dryland crops such as sorghum and millet. District Wide	1	The crops will act as commercial substitute for human and animal feeds. <u>Funding Source:</u> GOK/DONOR
Study of Munyu Reservoir, Kangundo Division.	2	The areas surrounding the reservoir are very dry. <u>Funding Source:</u> GOK/Donor

PROJECT AND PROGRAMME PRIORITIES FOR 1994-96 PLAN PERIOD

B: New Project Proposals

Project Name Location/Division	Priority Ranking	Description of Activities
Training of Health workers District Wide	1	<p>Training of community health workers particularly in counselling of AIDS patients.</p> <p><u>Justification:</u> Encourage home management of AIDS patients.</p>
Condom Distribution District Wide	2	<p>Initiate education programmes that include the distribution of condoms.</p> <p><u>Justification:</u> Social distribution of contraceptives.</p>
Orphanage Mwala Town	3	<p>Establish an additional orphanage at Mwala and expand the existing one at Machakos Town.</p> <p><u>Justification:</u> Take care of increased no of AIDS orphans.</p>
Rehabilitation/Counselling Centres	4	<p>Establish rehabilitation and counselling centres in all health facilities as well as in social centres and churches. Pastors, teachers, should be trained so that all persons with AIDS can have access to counselling and rehabilitation centres.</p> <p><u>Justification:</u> Curtail spread of AIDS due to lack of awareness.</p>

A survey/research should be undertaken to establish the actual magnitude of the disease, people's knowledge and attitude on HIV/AIDS.

Justification: Enhance AIDS surveillance.

