

REPUBLIC OF KENYA

# SIAYA

DISTRICT DEVELOPMENT PLAN

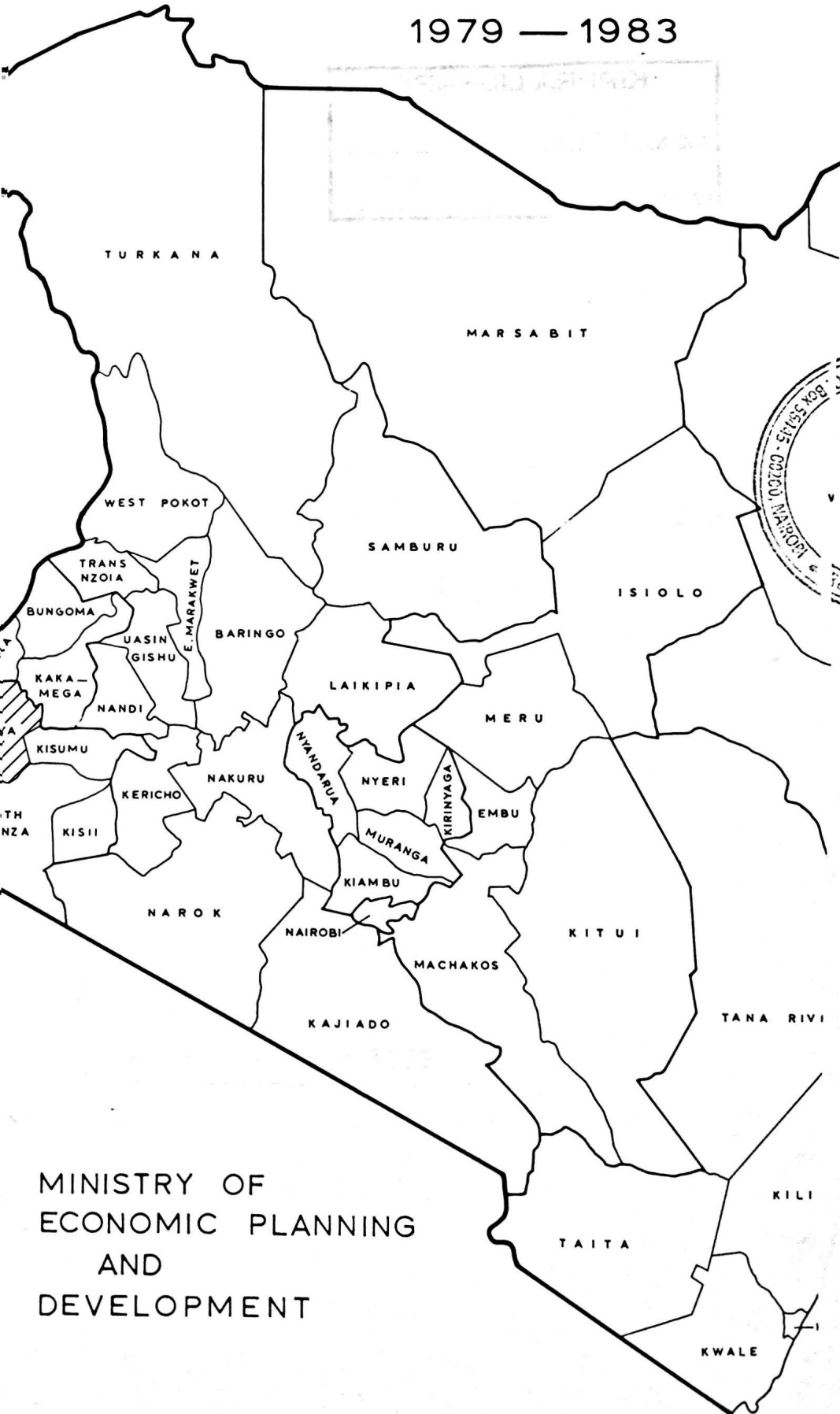
1979-83

JANUARY 1980

# SIAYA

## DISTRICT DEVELOPMENT PLAN

1979 — 1983



MINISTRY OF  
ECONOMIC PLANNING  
AND  
DEVELOPMENT



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## FOREWORD

This District Development Plan is presented as part of the Kenya Government's continuing efforts towards decentralized planning. This document essentially reflects a district effort co-ordinated by the District Development Officer, with inputs from district officers of the various operating ministries, local authorities and private agencies. Guidance for the formulation for the plan was given by the Rural Planning Division of the Ministry of Economic Planning and Development.

Users of this plan should be aware of the following events which took place during and after the preparation of the major parts of the document:-

- (1) Kenya is presently under a severe budget squeeze which means that probably several of the proposals of the plan will not be implemented as quickly as would be desired and expected.
- (2) Although Ministries were asked in advance to provide disaggregated budget data for each District, some found it difficult to do so. It is hoped, however, that where such data have been provided, the D.D.C. will make maximum use of the data for the purpose of Sectoral implementation. It should, however, be noted that because of certain difficulties, the development expenditures for several ministries are only partial.
- (3) Population data is based on the 1969 census. The most recent census data was not available at the time of formulation of this Plan.
- (4) Re-organization of the Government Ministries and Departments which took place towards the end of 1979 has also not been reflected in this plan.

SIKHA DISTRICT DEVELOPMENT PLAN FOR THE PERIOD  
1979 TO 1983 PLAN OVERVIEW

The dominant aim of this District Development Plan is the "alleviation of poverty" in its broadest sense through the creation of income-earning opportunities. These income-earning opportunities include: access to employment opportunities as a result of land, water, markets, credit, modern technology, power, quality education, development, and access to medical care.

This District Plan contains formulated strategies aimed at the improvement of access to the above income-earning opportunities.

The Plan is in three Chapters: Chapter I serves as an introduction and provides basic outline information about the district in respect of available resources.

Chapter II goes into greater depth, sector by sector, and examines:

- 1) The available resources and their level of utilization
- 2) The prevailing problems
- 3) The objectives and the strategies to overcome prevailing problems
- 4) The completed and on-going development programmes
- 5) The intended (planned) development programmes aimed at alleviating poverty
- 6) The possible constraints to planned development programmes

Chapter III analyses the integration of the intended (planned) development activities of various sectors and makes objective recommendations on the utilization of available resources.

In Chapter II, efforts have been made to identify the existing problems and accordingly to formulate appropriate strategies to overcome those problems within the limits of available finance :-

The prevailing problems in the district include :-

- 1) A seemingly vicious circle of poverty
- 2) Lack of adequate and reliable rainfall, especially in Bondo and Doro Divisions and in parts of Kwala and Kala Divisions
- 3) Lack of awareness on the part of the people to orientate their agricultural production from a subsistence to a cash economy and to make use of farm credit facilities
- 4) Uselessly infestation in parts of Timbo, Sakwa and Doro
- 5) A general state of apathy among the would-be industrialists and businessmen to make use of available credit facilities
- 6) Lack of clean piped water within easy reach for every family
- 7) Fairly serious soil erosion all over the district
- 8) Lack of adequate roads of access for the marketing of farm produce
- 9) Lack of reliable and profitable markets for farm products such as sunflower, cotton, sugar cane, etc
- 10) Inadequacy of health services
- 11) Few and poorly staffed primary and secondary schools.

Strategies have also been proposed to overcome the prevailing problems. These are aimed at raising the levels of incomes in the district. They require injections of a lot of funds by the government, private persons, and willing donors.

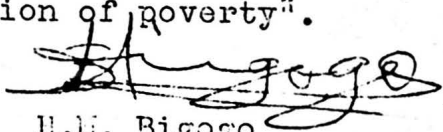
Priority actions will be required in :-

- 1) The provision of more farm credit facilities under I.A.D.P., S.P.S.C.P., F.I.S.C., A.F.C., etc. for the promotion of a cash economy through the use of hybrid seeds, encouragement of cash crop production, importation of exotic dairy and beef cattle, bush clearing followed by cultivation and growing of selected crops, etc.
- 2) Introduction of small-scale industries using local materials, this will be pursued along side the industrial activities within the proposed R.I.D.C.
- 3) Provision of clean, piped water for domestic, irrigation and for livestock use
- 4) Extensive afforestation and soil conservation programmes
- 5) Adequately staffing the existing and new health centres
- 6) Construction of more Primary and secondary schools and adequately staffing them
- 7) Construction of more access roads
- 8) Proper market studies and the expansion of the capacity of the industrial plants to absorb the surplus farm products.

The formulation of this plan has received wide participation from both individual persons, local district leaders, local development committees, non-government organizations, and, last but by no means least, Government officers of operating Ministries who have on several occasions accepted to make changes and amendments to bring the document up to-date.

It is the sincere conviction of the Siaya District Development Committee, which plays the managerial and supervisory role for this Plan, that the recommended programmes contained in this document, if implemented during 1979/83 period, will go a long way to alleviate poverty in Siaya District.

Everyone involved in the implementation of the planned programmes is therefore called upon to participate fully in the spirit of KARABELL in order to achieve this Development Plan's theme of "alleviation of poverty".

  
H.M. Bigogo

DISTRICT DEVELOPMENT OFFICER  
DISTRICT COMMISSIONER, SIAYA

For:



SIAYA DISTRICT DEVELOPMENT PLAN - 1979/83

I. Physical Aspects of Siaya District

Siaya District was established in 1966 following the split up of the Old Central Nyanza District into Kisumu and Siaya Districts.

The district is located in Nyanza Province of the Republic of Kenya. It extends from Latitude  $0^{\circ} 13'S$  to  $0^{\circ} 18'N$  and also from Longitude  $33^{\circ} 58'E$  to  $34^{\circ} 33'E$  (see Map. 1).

Lake Victoria, a fresh water Lake and the third largest lake in the World, borders the land surface of Siaya District on the west. Bordering the district all round are :-

1. Kisumu District on the north
2. Kakamega District on the north east
3. Kisumu District on the south east
4. South Nyanza District across the Gulf to the south

Siaya District has an area of 3528 square kilometres (1) of which 1005 square kilometres are under the waters of Lakes Sari and Kanyabali adjoining the Yala Swamp and the portion of Lake Victoria within the district.

Administratively, the district is divided into four Divisions, namely Ukwala, Yala, Boro and Bondo Divisions, eighteen locations and one hundred and twenty seven sub-locations (see Map.2). The various administrative units are as shown in Table I below :-

Note: the numbers in the text denote the source or Authority for the preceding statement.  
See the foregoing list of Sources and Authorities.



Table 1.1: Administrative Units in Siaya District

Name of Divisions	Name of Locations	Number of Sub-locations
1. UKWILA	1. Uholo	7
	2. North Ugenya	11
	3. South Ugenya	6
	4. East Ugenya	7
2. YALA	1. North Gem	9
	2. East Gem	11
	3. South Gem	10
3. DORO	1. East Alego	15
	2. Central Alego	11
	3. West Alego	9
	4. Usonga	3
4. BORDO	1. East Asembo	4
	2. West Asembo	4
	3. East Uyoma	3
	4. West Uyoma	4
	5. South Sakwa	4
	6. North Sakwa	4
	7. Yimbo	5
TOTAL 4	18	127

There is an intention to create a new division within the present Bordo Division and this will comprise East Asembo, west Asembo, East Uyoma and West Uyoma and its name is proposed to be Rarieda Division.

#### Physical Features (See Map. 2)

The district is traversed by two main rivers being River Yala in the east and River Ezoia in the west. Both rivers flow south-westwards from Kakamega District and enter Lake Victoria via the Yala Swamp.

Other rivers are mere streams of local importance flowing over a short stretch from inland into Lake Victoria and others are tributaries of the two main rivers named above.

Along the highly indented lake shoreline of Lake Victoria are numerous lakeshore swamps occurring along the shores of Asembo Bay, Utonya Bay, Kadima Bay and the Yala Swamp in both Yimbo and Usonga Locations.

Altitudes increase from about 1140m, on the lakeshore in the south to about 1300m in the north and east of the district.

However, scattered areas of highland rising to about 1280m occur near the lakeshores in parts of South Sakwa and Yimbo locations. These areas include Got Ramogi and Usenge Hills in Yimbo location and Got Abiero and Mango Highlands in South Sakwa. (See Map.2)

The north and north-eastern part of the district has rougher terrain of gently and in places steeply sloping ridges and hills which rise to over 1420m; for example the Jagai-Nyangweso-Nediaga Ridge rises to about 1420m while the highland on which Sagam School is situated rises to above 1500m - both in Yala Division.

### Soils

The soils in Siaya District are predominantly red brown friable clays and sandy loams. There is, however, a well-defined belt of black cotton soil in the lower areas near the lakeshore with heavy concentration in Uyoma Peninsula.

In the higher northern areas of the district, namely Yala and Ukwala Divisions, though the soils are noticeably variable, they tend to be red friable loams (akin to the so-called Kikuyu Red Loams). These soils are better in terms of water retention and physical properties.

In the lower areas of Boro Division soils are predominantly murrumish and chalky, while in Bondo the soils range from black cotton type with high content of montmorillonite to sandy and murrumish clays in Asembo.

The high potential zone of the district consists predominantly of *Cymbopogon afronadus* type of grass, especially in Wala Division, with low bush and a few scattered trees of mainly the Mahogany and Livule species. In the medium potential zone, we get typical scrubland savanna with scattered Acacia trees and low bush vegetation especially in parts of both South and North Salwa and in East and West Uyoma and in Yimbo Locations.

#### Land Use Potential

Based on the above considerations Siaya District could be classified into two agro-economic zones, viz

- (a) High potential area (zone II) covering an area of 19096 hectares in the North and East of the district
- (b) Medium potential area (zone III) covering an area of 65663 hectares in the west and south of the district.

The high potential area has good prospects for two crop seasons capable of sustaining economic production of maize, sugar cane, cotton, oilseeds, pulses, groundnuts, root crops, millets, and sorghum. The medium potential area has only one reliable crop season with cotton, maize, sorghum and root crops featuring as the main crops.

Due to the comparatively harsher conditions in the drier lake shore areas, human settlements have long been restricted to isolated units either as lakeshore fishing villages or as sedentary and mixed farming units within a predominantly bushy environment. This bush has over the years proved an ideal habitation for the tsetse fly and consequently the incidence of human and animal trypanosomiasis has fluctuated in this region with the resultant movements of the people into and out of the area.

However, this southern part of the district has substantial agricultural potential particularly with respect to cotton growing. This potential can be realised if associated with intensive bush clearing programme.

The highly indented lake shoreline and the numerous lakeshore swamps need to be developed for either rice or vegetable growing under irrigation. Indeed preliminary exploratory plans for windmill projects are underway to test the technical feasibility and economic viability of such undertakin

#### Natural Resources

Siaya District does not have any gazetted forests but low bush or thicket vegetation form low forests of local importance and such low forests are scattered all over the district. The local people obtain building poles, firewood and charcoal from these low forests.

Notable of the low forests are those found in Yimbo, North and South Saiwa Locations, Magesa Island and in Central Alego location.

The Forest Department in Siaya has embarked on a concerted programme of afforestating available hill tops by using Rural Development Funds and to-date a total land area of 152 hectares on hill tops has been afforested of which Ramogi Hill (66 hectares) has been successfully afforested with Eucalyptus tree species.

There are no gazetted wild-life areas in Siaya District.

The district is not endowed with substantial mineral deposits. At present only gold is known to occur in small economically viable deposits in Siaya District and these are being worked under a special licence by Bondo Gold Mining Co-operative Society.

Land is a major natural resource in Siaya District, but this has not been fully utilized. Most people practise a non-cash agricultural economy by growing mainly sorghum and cassava for subsistence and in this way most people are financially unable to adequately invest in modern technology in their farms to help in raising their standards of living.

FISHING

Lake Victoria and the adjacent lakes in the district such as Lake Kanyaboli and Lake Sari are rich with fish. The Fisheries Resources has not been fully developed in Siaya District due to lack of proper fishing and fish-handling facilities such as refrigerated motor boats, sufficient fishing nets, deep freezes, etc. At present there are 45 landing beaches for fish and a total of about 6,000 metric tons of fish are landed yearly (2). The landing beaches include Wichlum, Luanda Kotieno, Usenge, Misori, Asembo Bay, etc.

The Fisheries Department in Siaya District has embarked upon a programme of fish-farming and to-date 310 fish ponds have been stocked with fish of the Tilapia Nilotics and Tilapia Zillis species. These species of fish are also common in Lake Victoria. Another very common type of fish in Lake Victoria and very popular among the Luo community is the haplochromis species.

2. DEMOGRAPHIC PROFILES(a) Total Population Projections

According to the 1969 Population Census, Siaya District had a total population of 303,188 people in that year (3).

Based on an annual growth rate of 3.35% per annum between 1969 and 1978, the C.B.S.(4) gives a total district population projection of 515,000 people in Siaya District for the year 1978.

Working on a uniform population growth rate of 3.65% per annum between 1978 and 1983, the C.B.S.(4) projects the Siaya District total population to be as follows :-

Table 1.2: Total Population Projections for Siaya District (1000)

1978	1979	1980	1981	1982	1983
515	533	554	573	595	616

The reliability of the foregoing projections as given by the CPS cannot be questioned because with increasing time the rate of population growth is likely to rise as better sanitary methods have definitely reduced infant mortality rates while life expectancy has also improved.

However, for purposes of planning the allocation of resources it is appropriate to adopt slightly higher total District, Division, Location, and Sub-location population figures. Thus by assuming a uniform average population growth rate of 3.5 per annum for the period 1969 through 1983 one arrives at the following total district population projections.

Table 1.3: Total Population Projections assuming an annual growth rate of 3.5 (1000 persons).

1978	1979	1980	1981	1982	1983
521	540	559	578	597	620

(b) Urban Population

Kisumu is the only Municipality in the Nyanza Province. The Municipality is in Kisumu District and had a total population of 32,431 people in 1969 in an area of 19km<sup>2</sup>. But taking account of the considerably extended Municipal boundaries in 1971, the 1969, population within the municipal boundaries is estimated to have been well over 100,000 people

The present population of Kisumu is estimated to be nearly 200,000. Although not in Siaya District, Kisumu Municipal area has considerable influence on, and connections with, the Siaya District.



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According to Source (6) towns in Siaya District assumed to have more than 2,000 people by 1980 are :-

Siaya, Yala and Ukwala Urban Centres and also Bondo Rural Centre.

Their Population Projections with assumed growth rates are as follows :-

Table 1.4: Population Projections for Siaya Urban and Rural Centres (6) 1,000 persons.

	1969	1978	1979	1980	1981	1982	1983	Annual growth rate %
Siaya	-	-	-	2.0	2.2	2.46	2.7	11.5
Yala	0.4	1.5	1.75	2.0	2.2	2.46	2.7	11.5
Ukwala	-	-	-	2.0	2.2	2.46	2.7	11.5
Bondo	-	-	-	1.9	1.98	2.05	2.1	4.06

Using the high projections only given on P.43 of Source (6), the total population Projections for Siaya Urban Centres will be as follows, assuming a population growth rate of 11.5% per annum :-  
(In 1000 persons)

<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>Annual growth rate %</u>
6.0	7.8	10.1	13.2	11.5%

With the increasing commerce, settlements and the establishment of the Rural Industrial Development Centre at Siaya Urban Centre in 1979/83 and also with the development of the town into a district headquarters, it is envisaged that the population of Siaya Urban Centre will definitely grow at a rate almost twice the projected one of 11.5% per annum and its population is likely to rise to over 4,000 people in 1980 and might rise to over 7,000 people in 1983.

On the other hand, although the population of Yala Urban Centre has not been hitherto growing remarkably, it is likely to grow at a rate of 11.5% per annum due to increasing settlement, commerce and due to the establishment of a mini white sugar factory now in operation.

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POPULATION DENSITY AND DISTRIBUTION

As stated earlier, if we assume that the population growth rate remains uniform at a level of 3.5 p.a. between 1969 and 1983 the projected populations in the various divisions of Siaya District will be as follows :-

Table 1.5: Pop. Projections for Divisions of Siaya District (0.0)

Name of Division	1969	1978	1979	1980	1981	1982	1983
Bondo	114.3	155.4	161.16	166.9	172.6	178.3	185
Boro	91.9	125.0	129.6	133.2	138.8	143.4	148
Ukwala	99.8	124.7	140.7	145.7	150.7	155.7	161
Yala	70.7	104.3	108.1	112.0	115.8	119.6	124

Siaya District has a total area of 3528 sq. km. of which 1005 sq. km. is under lake water leaving an area of 2523 sq. km on which people live.

The areas of the various district divisions and their respective estimated pop. densities for 1978 are as follows :-

<u>NAME OF DIVISION</u>	<u>BONDO</u>	<u>BORO</u>	<u>UKWALA</u>	<u>YALA</u>
Area (km <sup>2</sup> )	1007	595	519	416
Pop. Density	154	210	240	251

Using the C.B.S. pop. projections the overall district population density for 1978 is estimated to be 146 p.p. km<sup>2</sup> as compared to 109 p.p. km<sup>2</sup> for 1969. The alternative projected pop. density for 1978 is 148 p.p. km<sup>2</sup>.

The Rural Population of Siaya District for 1978 is about 515,300, thus giving a population density of about 203 p.p. km<sup>2</sup> on inhabitable lands.

### The Pattern of Migration

In the intercensal years, 1962 to 1969, the population growth rate in the district was estimated at 2.3 p.a. This was considerably far below the Provincial average of 3.7 p.a. over the same period and it indicated that there was a net out-migration from the district. This can be confirmed by the substantial numbers of Siaya immigrants in Migori and Central Divisions of South Nyanza, some settled on the peri-urban areas of Kisumu Municipality. Most of these immigrants have concentrated around Awendo and Oyani to where they have carried with them the names of their former locations, sub-locations or clans in Siaya such as North Salwa, Mogelo, Alego, Gem to mention a few.

On the other hand, there has not been very marked movement of people within and out of the district over the past four years or so except for a negligible number probably moving into Siaya Urban Centre and also into the sugar belts of Kisumu and South Nyanza districts.

### STRUCTURE OF THE POPULATION

The Luo Tribe forms almost exclusively the major ethnic composition of the population of Siaya District.

A breakdown of this population into sex and age groups is given below for 1969 (3)

Table 1.6. 1969 Population of Siaya District by Sex and Age  
(in 1000 persons)

Total/age(yrs)	0-9	10-14	15-19	20-24	25-29	30-39	40-49	50 +
Males 175.37	66.8	25.5	18.0	9.9	6.3	13.2	11.3	24.8
Females 207.31	65.0	24.7	18.0	14.8	14.9	25.6	18.5	25.7
383.18	131.8	50.2	36.0	24.7	21.2	38.8	29.8	50.5

Assuming that the population has been growing at a rate of 3.35% the 1978 population by sex and age is as shown in the table below :-

Table 1.7. 1978 Pop. Projections by Sex and Age (in 1000 persons)

Total/Age (yrs)	0-9	10-14	15-19	20-24	25-29	30-39	40-49	50 +	
Males	236.5	89.3	34.3	24.2	13.2	8.5	17.7	15.2	33.3
Females	278.0	87.4	33.2	24.2	19.9	20.0	34.4	24.9	34.8
	515.3	177.2	67.5	48.4	33.2	28.5	52.1	40.1	98.1

Using the figures in Source (4) we get a dependency ratio of 1.22, for the year 1980. This signifies that the dependants exert a very heavy burden on the able-bodied working group and is almost quite true because each male adult usually has a large family of more than three people wholly depended upon him to feed, clothe and educate.

Using the 1978 population projections given above it can be seen that in Siaya District there is almost a 23:27 male to female sex ratio or 46% of the Siaya District population comprises males and 54% females.

### 3. SOCIO - ECONOMIC PROFILE

There are only small farm holdings in the District ranging in size from 2 to 10 or 12 hectares. A random sample survey carried out by the author of this plan in July, 1978 in the Lower Agro-Economic Zone of the District confirmed that the farm holdings range from 2 to 12 hectares in size per family.

On the small farms farmers grow maize, sorghum, cassava and some beans as food crops, while cotton is grown widely in the District and Sugarcane in the upper Agro-Economic Zone of especially Yala Division are the major cash crops. Almost every family keeps Zebu type of cattle for milk and as a form of investment.

1. Design of Sample Survey :-

A Questionnaire and Coded forms were prepared.

The Questionnaire sought to bring out the following information :-

1. Total number of the Household (i.e. Father, mother and their children)
2. Total number of children who have not started schooling
3. Total number of children in Primary and Secondary Schools
4. Total number of members of the household employed outside the household's farm
5. Amount of money members outside the farm that they send home per month
6. Total land hectarage of the household farm
7. Total land hectarage under cash crops
8. Total land hectarage under food crops
9. Name the cash crops on the farm
10. Total yield (in Kgs.) of each cash crop
11. Name the food crops on the farm
12. Total yield (in Kgs.) of each food crop
13. Total number of cattle owned by the household
14. Total number of dairy (grade) cattle
15. Total number of grade beef (sahiwals, etc.) cattle
16. Total cash that the farmer has to-date received from all Agricultural Loan Schemes
17. Total amount of money earned from fishing per week
18. Total cash the farmer earns per annum from all other activities not named above, e.g. from engaging in carpentry, matatu business, cattle trade, meat sales etc.

14/.....

19. Total cash paid to any hired or employed labour per year.

For the seven households contacted during the survey in seven different locations, the following information was recorded on the coded forms where - by the numbering is as given in the above questionnaire :-

RESULTS OF CODED FORMS

	<u>HOUSE HOLDS</u>						
	"A" in W. Sakwa	"B" in E. Sakwa	"C" in W. Asembo	"D" in Tyoma	"E" in E. Alego	"P" in C. Alego	"G" in E. Alego
	7	13	14	5	9	8	4
	3	2	3	2	3	2	1
	2	0	7	-	3	1	1
	-	-	2	2	1	3	1
	-	-	120/-	100/-	-	40/-	-
6.	5	12	12	2	3	2	3
7.	-	3	2	0.5	-	-	-
8.	3	5	2	1.0	1.5	1.5	2.5
9.	-	Cotton	Cotton	Cotton	-	-	-
10.	-	580Kgs.	422Kgs.	127Kgs	-	-	-

11.	Maize Beans Sorghum	Maize Sorghum	Maize Sorghum	Maize Sorghum	Maize	Maize Beans	Maize Beans
12.	1500Kgs. 500 " 360 " respectively	600Kgs. 360 " respectively	500Kgs. 260 " respectively	800Kgs 120 "	700Kgs.	600Kgs. 200 "	900Kgs 400 "
13.	9	7	10	-	2	1	-
14.	-	-	-	-	-	-	-
15.	-	-	-	-	-	-	-
16.	-	300/-	1,350/-	-	-	-	-
17.	-	-	-	-	-	-	-
18.	840/-	360/-	-	600/-	-	-	-
19.	1,500/-	-	-	-	-	-	-

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General Observations

1. There are small farm holdings of an average size of 5 ha in the district (Source 7 gives a figure of 3.4 ha)
2. Each family has less than 25% of available land put under cash crops, mainly cotton
3. Each family produces an average of :-
  - (a) 900 kgs. of maize from the farm
  - (b) 200 kgs. of beans from the farm
  - (c) 300 kgs. of sorghum from the farm.
4. Each family keeps an average of 6 heads of cattle (but my observation is 10 head of cattle)
5. Few farmers make use of farm credits
6. Few farmers hire labour
7. Average number of children per family appears to be 2.3 but Source (8) gives a more realistic average of 5.5. This confirms the statement made earlier under "structure of the population" that the dependency ratio in the district is about 1.22
8. A few local people rely on fishing for their livelihood
9. There is not much cash remittance from outside the district by people in outside employment

Conclusions

1. Revenue earned by each family from the sale of cash crops, per annum is about shs. 675/-
2. Assuming market prices for food crops, revenue accruing to each family is about shs. 1,600/- per annum
3. Assuming a milk yield of 2 litres per day per family, revenue earned from milk per year is about shs. 600/-
4. Income earned by each family from all other activities per year is about shs. 260/-





5. Cash remitted from outside by members outside the farm family is about 400/- per year
6. An average of shs.200/- are paid to hired labour by each family every year.

Therefore, net total income of each family per year is about shs.3,335/-. This annual income per family goes into the purchase of farm and non-farm foods and products; some goes into the education of children, some goes into the clothing and provision of shelter for members of the family, etc.

This figure (3,335/- p.a.) compares with a 1971 figure of 2,356/- p.a. given at page 36, Source (8). Allowing for rises in the value of farm production since 1971 and assuming the greater accuracy of the 1971 Sample Survey it would seem the average farm family income in the district is of the present order of 4-4,500/- p.a.

Taking into account of all the above basic requirements by every member of the farm family, it can be concluded that shs.3,335/- per year or even 4,500/- p.a. is not enough to meet all the requirements of a family endeavouring to maintain a better standard of living in the face of escalating inflationary trends. This gives rise to poor nutritional standards as most families live at subsistence level.

Also a number of families, especially in Yala, Boro, and Ukwala Divisions will even within the next 10 to 15 years become landless if the present population growth rate of over 3.5 per annum is not lowered through family control measures vide Table 1.9. below :



Table 1.8. - Land as a Resource

The following figures are extracted from Sources.....

District	Misii	Siaya	Kisumu	S. Mwanza	Total	
Total Land area ('000ha)	219.6	252.3	209.3	579.3	1260.5	
High Potential ('000ha)	195.6	87.0	178.9	499.8	961.3	
Medium " ('000ha)	1.9	140.2	9.5	12.4	165.9	
Cropped area as % of high and medium potential	(197.5)	(227.2)	(188.4)	(512.2)	(1127.2)	
	39%	24%	36%	13%	24%	
Projected 1979 Population (000)	962	533	598	983	3076	
Population Density per km <sup>2</sup> of high and medium potential land (1979)	487	235	317	192	273	
Cropped areas per Unit of 10 persons (ha)	0.79	1.04	1.15	0.68	0.87	
Cattle per ha of land area	1.09	0.72	0.68	0.62	0.73	
Cattle per Unit of 10 persons	2.49	3.40	2.36	3.66	3.00	
Productivity per hectare	Maize.....	3.5tons	2.25tons	2.08tons	2.25tons	2.54tons
	Cotton .....	h/a	0.18 "	0.25 "	0.68 "	0.53 "
	Sorghum.....	h/a	1.28 "	1.30 "	1.41 "	1.29 "
	Finger Millet	0.64 "	h/a	1.8 "	h/a	0.71 "
	Beans .....	0.90 "	0.58 "	0.70 "	0.72 "	0.72 "
Maximum No. of persons that can be supported at subsistence level by total land area (less 10%) at 0.4 ha per soul.	494100	567675	470925	1303425	2836125	

Table 1.8. indicates an estimated 1978 male population of the district aged 15 years and upwards of 112,400 gentlemen. It is from this group that the landowners of the districts small farms will be drawn. According to Source 7 there are 66,623 of the latter. It would appear therefore that there are 46,000 males in the district who are landless (in terms of owning no specific land title). Source (9) suggests a total of 15,277 persons in non-agricultural employment in 1976. We can conclude that some 46,000 minus, say, 16,000 males, (30,000 males) are forced to find a living for themselves and their dependants by paid employment in agriculture, by fishing, or by working a piece of land on a tenant basis. It will be from this group, about 150,000 persons in all, who can be defined as the district's landless poor.

Research into the precise size of this group, and the extent of their poverty is urgently required.

SECTION A - PRODUCTION SECTORA.1. AGRICULTUREA.1.1. Background

Agriculture in the Siaya District consists of mainly small-scale mixed arable and livestock farming. To a large extent production is mainly for subsistence although there is a measurable orientation towards commercial production.

There are no large farms in the district. The existing parcels of land range in size from 2 to 10 hectares on average. Land adjudication is still going on in the district.

Generally, the area devoted to cropping to-date is barely above 24% of the total land area in the district (7). The rest of the land is left under natural pastures for grazing or under bushes, e.g. lantana camara. See Appendix A.1. Table 1 for more detail on the basic information to this subsector.

Throughout the district there are several small unreclaimed pockets of swamp in river valleys which have the potential for increasing horticultural activities in the district, particularly vegetables. These areas comprise an approximate total area of 450 hectares and the potential could be explored through small funds such as those provided through the Rural Development Funds Programme after the wananchi have shown the need and their wish to run such horticultural schemes.

Vast potential exists for opening up irrigation schemes along the lake shores as pointed out in Chapter One, especially at Utonga Bay near the former detention camp, and at Hissori where fairly large irrigation schemes of up to 100 hectares could be opened up.

Based on climate and soil characteristics, Siaya District is seen in terms of two Agro-Economic Zones as described in Chapter One. The crops grown in the district bear a close relationship with the agro-economic zones. For the Upper Agro-

Economic Zone the principal crops are sugarcane, coffee, maize, sunflower, beans, wimbi and to a less extent sorghum.

For the Lower Zone cotton, Sorghum, maize, green grams, cow peas and to a less extent finger millet (wimbi) predominate (See map 3). Table 2 A, B, and C in Appendix A.1 gives a picture of the present and planned crop acreage and number of livestock in Siaya District.

Livestock farming consists mainly of Zebu cattle, poultry, sheep, and goats. Albeit not very significant there is a small population of pigs in Ukwala Division (see Table 2 C.).

Approximately 0.25% of the cattle in the district are slaughtered within and a negligible fraction finds its way out of the district during livestock transactions. Most of the cattle for slaughter come from the neighbouring districts, viz Kisumu, South Iyanza, Busia and Kakamega Districts.

#### A.1.2. Problems

The problems confronting farming in the district are many and diverse and include the following :-

- (a) Infestation of Yimbo location and parts of Ukwala Division by glossina (tsetse fly), thus limiting livestock improvement
- (b) Fairly unreliable short rains - sometimes inadequate for crop production. The extremely high temperatures ( $23^{\circ}$  -  $30^{\circ}$ C) leave the ground devoid of enough pastures for cattle during the dry season
- (c) Sandy soils in Asembo and murrumish soils distributed all over the district sometimes in vast pockets, preclude the possibility of high yields from cattle and crops
- (d) Prevalence of tickborne diseases poses a great problem to livestock improvement. There are about 46 completed cattle dips in the district but many of them do not function due to lack of funds in the form of contributions by the wananchi for the buying of acaricides
- (e) Fairly serious soil erosion in the district (especially in Bondo) contributes to low farm output

- (f) Absence of necessary road network in some parts of the district limit, to some extent, the production and marketing of agricultural produce
- (g) The local people are not sufficiently motivated to gear their production towards a cash economy. There is therefore, vast under-utilized land, often covered by low bush vegetation. This is by far one of the most conspicuous problems
- (h) Occasional infestation of the district by army worms
- (i) Lack of adequate facilities for land preparation
- (j) Low crop yields due to :-
  - (1) Lack of use of improved seed, e.g. hybrid maize
  - (2) Lack of use of fertilizers
  - (3) Late planting
- (k) Lack of sufficient market for sunflower seed
  - (1) Low prices for the major cash crop i.e. cotton.

### A.1.3. Objectives and Strategy

There is need to intensify bush clearing and measures of soil conservation. The Ministries of Agriculture and Co-operatives will continue to extend farm credit to farmers through the integrated Agricultural Development Programme (I.A.D.P.) in a bid to increase the production of both cash crops and food crops of seasonal nature. More farm credit will also continue to be provided through the Agricultural Finance Company to farmers who need loans for the keeping of grade cattle and the growing of perennial cash crops such as sugarcane and coffee.

Through the grants provided by the Government to the District Development Committee and through funds raised on self-help basis, wananchi will be encouraged to construct more roads of access for the marketing of agricultural produce and also to build more cattle dips to eradicate tick-borne diseases.



### A.I.D. Development Thrust

As said earlier, the government has already embarked on soil conservation pilot projects. For the last two years soil conservation pilot projects have been launched in Yala Division (Larango Sub-Location) and in East Alego (Karomo and Wanding areas). Such projects have also been undertaken at Akara in Central Alego, Raiba in East Asorbo, Ndere in North Gona, Nyasanda in Uholo, Siranga in North Ugenya, and currently at Kono and Nyangoma in Alego and still Siranga in N. Ugenya.

Integrated Agricultural Development Programme has been operating in the district since 1976/77 and to-date the programme has extended credit to 1000 farmers. The credit covers the production of maize as a food crop and also cotton and sunflower as cash crops. Approximately Kshs. 1.1 million was disbursed out to farmers under this programme in 1977. Farmers who have benefited from this programme are better off as they can now produce more cotton, maize, etc. Associated with the I.A.D.P. scheme are the Smallholder Production Services Credit Project and the Farm Inputs Supply scheme from which a total of 2530 farmers have benefited with shs. 2.44 million and shs. 54,769/- respectively, between 1975/76 and 1978/79.

Below is given an item by item approach to the various on-going activities of the Agriculture Sub-sector.

#### 1. Animal Husbandry

For the up-grading and improvement of livestock, promotion of Artificial Insemination (now operating fully in Yala and Ukwala Divisions) is being pursued vigorously. The A.I. programme was introduced in Siaya District in 1957 but because the insemination services were not in great demand in Bondo and Boro Divisions, the centres for the services were established in Ukwala and Yala Divisions where there was greater demand.

Introduction of exotic animals, which include Sahiwal and Friesian Bulls and dairy cattle, the growing of fodder crops (napier grass) and the improvement of pasture are current lines of action. Approximately 90 exotic animals (mainly dairy cattle) are being introduced into the district every year.

A total of Rs.21,700/- was spent on improving livestock nutrition in 1976/77. To-date a total of 1003 grade cattle and crosses have been raised through A.I., Bull-services, and through introduction of exotic dairy cattle. There are no co-operative ranching schemes in the district.

Poultry and bee-keeping projects are also being pursued vigorously. These projects are very popular in institutions, especially in schools and village polytechnics, and results obtained from existing ones are very encouraging but strong measures will have to be taken to ensure that proper accounts are kept for these projects.

## 2. Land and Farm Management

Areas of priority here have been :-

- (a) Administration of farm credit to overcome production bottle-necks. The lending institutions have been A.F.C. and the Co-operative Bank.
- (b) Soil Conservation has been an area of national concern
- (c) Farm budgets and planning, which form sound basis for future planning and determining farmers' credit worthiness. This area calls for intense injection of training and provision of manpower.

As is well-known 40,000 acres land for potential irrigation exist at Yala Swamp. Already land of 7,500 acres has been drained and is dry. Jananchi have moved in as farming squatters and they plant maize, beans, sorghum and winbi (finger millet) and their cattle also graze the rich pastures in the drained areas.

At present a research station has been established to carry out agronomical studies to determine the most viable cropping patterns.

## 3. Diseases and Pest Control

The activities here entail carrying out annual vaccinations against some specific diseases, bush clearing to control glossina species, attending to clinical cases, and dip construction.



To-date 930 hectares of bush-land have been cleared within a period of two years and the cleared land has, in most cases, not been cropped due to a general lack of industrious initiative by the local people.

4. Horticulture

This involves promotion of fruits and vegetables such as pawpaws, bananas, passion fruits and the budding of citrus fruits currently undertaken at Yala, Ludarno and Uyundo Fruit Nurseries. Promotion of budded fruit seedlings in Yala seems to show a lot of promise and it is worth stimulating these efforts in the other divisions.

5. Training

Construction of the 60 trainee capacity Siaya Farmers Training Centre (F.T.C.) has been completed and will be opened soon. The question of staffing the institution, maintaining recurrent and some development expenditures, calls for immediate attention.

A.1.5. Plan of Action

The Ministry of Agriculture, through the Veterinary Services Department, will continue to mount bush clearing projects to eradicate the problem of tsetse; but this programme in itself is not enough. Rural development grants will go a long way to supplementing efforts being made in this direction. All the cleared area must be cropped to avoid reversion into bush.

About 400 hectares of bush land will be cleared followed by cropping during the 1979/83 plan period.

To combat soil erosion the Ministry of Agriculture has embarked on, and will continue with financing, two or three soil conservation projects every year, mainly to teach the farmers the benefits that accrue from soil conservation. It is expected that through R.D.F. the programme will be expanded during the 1979/83 plan period.

The extremely low crop yields in the district are partly attributable to late planting, and lack of adequate means for land preparation. Through the R.D.F., the government will continue, during the plan period, to extend seasonal credit to farmers to

enable them prepare their land early enough to avoid late planting and to enable them to acquire fertilizers and improved seed for planting.

The Integrated Agricultural Development Programme (I.A.D.P.) is a young loan scheme which was started in the district in 1976/77 and it is an umbrella of all credit projects in the Ministry of Agriculture. The programme requires a heavy support in terms of staff and facilities. To-date the programme has extended credit to 1000 farmers and about 4300 farmers remain to be covered by the year 1980. Farmers who benefit from this credit scheme have to be trained at Farmers Training Centres for three days.

The Ministry of Agriculture has already earmarked a total of £700,000 (shs. 14 million) for the I.A.D.P. during 1979/83 period as follows :-

Integrated Agricultural Development Programme (I.A.D.P.)  
(Siaya District (KSh'000))

	1978/79	1979/80	1980/81	1981/82	1982/83	Total
Phase I (No.102-241-010)	55	92	96	109	94	436
Phase IV (No.102-241-005)	-	48	60	66	90	264

The increase in Tractor Hire Services provision (T.H.S.) will also help to alleviate the land preparation bottleneck. The Ministry of Agriculture has allocated a total of £138,000 (shs. 2.76 million) to this programme during 1979/83 period as follows :-

Tractor Hire Services, Siaya District  
(KSh 1000)

	1978/79	1979/80	1980/81	1981/82	1982/83	Total
(No.103-247-020)	58	20	20	20	20	138

Construction of more cattle dips, with the assistance of R.D.F. in the hope that the government will declare Siaya District a compulsory cattle cleansing area and take over the running of cattle dips in 1961, will be a positive step towards reducing tickborne diseases.

During the plan period, there will also be need to pursue more vigorously :-

- i) Fodder crop expansion through R.D.F. assistance; a total of shs.220,000/- will be required for this endeavour
- ii) Upgrading of local cattle through the introduction of exotic bulls using R.D.F. An estimated Ksh.160,000/- will be required
- iii) Introduction of suitable grade animals through credit facilities within the existing institutions (mainly A.F.C. and Co-operative Bank Loans). To facilitate this programme about shs.156,000/- will be required
- iv) Upgrading of local cattle through A.I.

Both quantity and quality of beef production will inevitably increase as the upgrading continues.

An artificial Insemination centre should be constructed at Siaya Township which appears to be more central in the district from where A.I. services can be offered to all demanding areas in the district including Bondo and Boro Divisions where hitherto the demand for A.I. services has been almost absent.

Crushes for the artificial insemination programme will be constructed and a total of Kshs.3,000/- will be required during the plan period.

#### Poultry- Keeping

Emphasis will be given to the development of poultry and rabbit projects, mainly keeping of rabbits, chicken and pigs, in institutions to be included as part of the extra-curriculum activities. Such projects are quite popular in schools where 4-H-clubs exist and where Agriculture is taught as a subject, and also among communal organisations like women groups who market eggs to boost their varied activities.

Other projects where greater potential of exploration exists are bee-keeping projects. The Ministry of Agriculture has for the 1979/83 plan period allocated a total of 51,593 (shs. 1,031,060/-) to the bee-keeping projects in Siaya District as follows :-

Bee Keeping Project, Siaya District  
No.101-225-020 - (In Ks.)

1978/79	1979/80	1980/81	1981/82	1982/83	Total
12,890	12,400	9,404	8,419	8,400	51,593

PLAN OF GRAP PRODUCTION

1. Irrigation

According to plan, the remaining 32,500 acres of the Yala Swamp will be drained in two phases :-

Phase II	15,000 acres
Phase III	17,500 acres

The time of undertaking the phases of draining has not been scheduled but there is an urgent need to embark on the two phases of the project. Further, and more important, there is need to define a clear policy of the manner in which the swamp already drained will be used.

It is hoped by the DDC that the Yala Swamp area will be developed into a sugar cane scheme as a nucleus farm with sugar factory. Research on the out-growers area is still going on and may include Boro and parts of Ukwala and Bondo Divisions. The Ministry of Agriculture has earmarked a total of 562,500 (shs. 11,25 million) for the development of the Yala Swamp during 1979/83 as follows :-

Development of Yala Swamp, Siaya District  
No.100-193-010 - (Ks'000)

1978/79	1979/80	1980/81	1981/82	1982/83	Total
-	125	137.5	150	150	562.5

These activities are currently being carried out but they are expected to expand in magnitude over the plan period.

In 1977 a total of 55,000/- was spent on soil conservation. Being an important area of concern in this nation, it is suggested that Kshs. 100,000/- be allocated yearly by the Ministry supplemented by R.D.F. for soil conservation throughout the plan period.

Given the present trend, it is also envisaged that Kshs. One million will be required for loaning farmers through A.F.C. every year and about Kshs. 3 million through co-operatives for boosting production of maize, cotton and sunflower.

Plan on Disease and Pest Control

Development of Tsetse Fly infested Areas

The D.D.C. will work out viable methods for control of tsetse fly by :-

- (a) Bush-clearing followed by cropping done by wananchi with R.D.F. assistance
- (b) Taking over of tsetse areas by the Cotton Board for some years from wananchi and clearing bushes followed by subsequent cotton production.

It is envisaged that £4,000 per annum will be required for this endeavour throughout the plan period.

DIPS

There are about 46 completed cattle dips in the district at present. It is envisaged, banking on the local people to contribute their harambee component, that 10 dips will be constructed every year throughout the plan period. Money to the tune of Kshs. 200,000/- per year from R.D.F. will be required for the construction of the dips.

Constraints to Planned Activities

Some of the problems stated earlier will be constraints to the planned activities. Among the likely constraints are :

1. Unreliable short rains season to facilitate two crop harvests in a year
2. Continued prevalence of tsetse fly infestation in areas where cropping will not be maintained after bush clearing
3. Lack of local people's awareness (attitude) to gear their agricultural production to a cash economy
4. Lack of sufficient self-help fund contribution to self-help projects, such as cattle dips
5. Lack of transport (e.g. a lorry) for carrying materials to self-help projects, such as cattle dips, poultry projects fodder production projects, etc.
6. Lack of adequate field staff
7. Inaccessibility of some places in the district due to poor or absent access roads.



NATURAL RESOURCES

A general background of forestry, fisheries and other natural resources has been given in chapter One under "Natural Resources". Herebelow the forestry and fisheries sub-sectors will be dealt with as separate entities within the Natural Resources sector.

A.2. FORESTRY DEPARTMENTA.2.1. Background

The National Forestry Policy, as applied to Siaya District is primarily aimed at controlling soil erosion and floods, assuring the continued availability of firewood and building poles for the rural community and also securing the protection of water catchment areas.

The Forest Department provides professional and practical assistance to the rural population in the establishment of farm woodlots.

To-date a total of Kshs.292,000/- being D.D.C. funds, has been spent on afforestating a total land surface area of 152 hectares of various hill-tops as shown below :-

1. Ramogi Hill	66 hectares
2. Mur-Ngiya Hill	30 "
3. Usenge Hill	26 "
4. Got Abiero	30 "

Local afforestation has also been undertaken in the following areas :-

1. Ramogi (IA)	4 hectares
2. Ramogi (2A)	8 "
3. Dudi (3A)	4 "

Research plantations aided by I.D.R.C. and Forest Department have been established in the following areas :-

1. Dudi (2D)	5 hectares
2. Dudi (2A)	8 "
3. Ramogi (IA)	16 "

### A.2.2. Problems

The Forestry Department has been confronted with a number of problems in its endeavour to establish farm woodlots. Among the problems are :-

1. Lack of public land for afforestation programmes
2. Reluctance of local people to plant forests on their land
3. Occasional drought, almost yearly, thus necessitating planted tree seedlings and those still in nurseries to be irrigated
4. Occasional bush fires which destroy even the planted forests
5. Destruction of the planted young forests by animals
6. Death of some planted forests due to disease or bad soil conditions
7. Destruction of the trees by termites

### A.2.3. Objectives and Development Strategy

The objective of policy of the forestry department is as stated in the Background to this sub-sector and to achieve this objective the Forestry Department endeavours to :-

1. Intensify its activities on interested farmers' lands by setting up demonstration plots of forests
2. Acquire irrigation machinery mainly for tree nurseries
3. Encourage farmers sharing a hill-top to form Hill-top Afforestation Co-operative Schemes so that they can jointly afforest the whole of the commonly shared hill.

### A.2.4. Development Thrust To-Date

During the 1974/78 plan period, total Recurrent Expenditure rose from shs.69,093/25 in 1974/75 to shs.236,220/- in 1977/78. Recurrent Expenditure items included personal emolument, transport and operating expenditure, maintenance of plants, travelling and accommodation, bicycle allowance and miscellaneous expenses

Also during the same plan period total capital

Expenditure on DDC projects rose from shs.21,220/- in 1974/75 to shs.361,700/- in 1976/77. Projects developed include :-

1. Mudurme Tree Nursery

2. Kur-Ngiya Rural Afforestation
3. Ramogi Hill Afforestation
4. Usenge " "
5. Got Abiero "
6. Uyundo Tree Nursery
7. Yala Tree Nursery
8. Naya/Mogari Tree Nursery

Development Expenditure also covered three other projects, namely :-

1. Four Village Houses - Siaya Project No.4539 cost £1,200 in 1976/77
2. Piping and pump House Bondo project No.4655 cost £600 in 1976/77 and £750 in 1977/78
3. Nursery store project No.4656 cost £1,800 in 1976/77 and £1,150 in 1977/78.

Also during the same plan period 1974/78 a total of 969,976 tree seedlings were produced from the above mentioned Tree Nurseries as follows :-

1. Bondo Tree Nursery	....	380,113	Tree Seedlings
2. Mudurme "	....	374,000	"
3. Yala "	....	104,391	"
4. Uyundo "	....	105,412	"
5. Naya "	....	6,060	"

#### A.2.5. Plan of Action

During the 1979/83 development plan period, it is hoped that this department will intensify and improve its activities in private farms and increase the production of tree seedlings. It is also hoped that tree nurseries will be established and run by the Forest Department per administrative division and as per needy location. Here the Forester, with the assistance of the D.D.C. will site seedlings production in every needy location. It is therefore, planned to have demonstration plots in prominent and interested farmers' lands so as to teach the wananchi the best way of using land without leaving the agriculturally unproductive portions of land to the mercy of rain-wash. This will, therefore, force the department to increase its technical staff and the vehicles for supervising and advising farmers woodlots.

Over the 1979/83 plan period, about 300 hectares will be afforested. This will require the establishment of 10 tree nurseries with a capacity of raising 2.5 million seedlings per year, ....

To achieve the above target, table I, below details the establishments required including present staff :-

TABLE A.2.1. Full Staffing Establishment

Station	Title	79/80	80/81	81/82	82/83	Amount-£
R.A.E.S. Siaya H/Quarters	Forester	1	1	1	1	3,801.6
	Clerk	2	2	2	2	3,511
	Copy-typist	1	1	1	1	1,475
	Office Messenger	1	1	1	1	1,042.8
	Station upkeep					
	Subordinate Staff	7	7	7	7	7,299
	Drivers	3	3	3	3	5,227
Bondo Tree Nursery Bondo Division	Forest Assist. II	1	1	1	1	2,336
	Forest Guards	2	6	6	6	4,818
	Subordinate Staff	57	57	57	57	52,839
	Office Messenger	1	1	1	1	1,043
Mudurme Tree Nursery Boro Div.	Forest Assist. II	1	1	1	1	2,336
	Works paid Staff					
	Subordinate Staff	15	15	15	15	14,454
Yala Tree Nursery Yala Division	Office Messenger	1	1	1	1	1,043
	Forest Assist. II	1	1	1	1	2,336
	Works paid staff or Subordinate Staff	15	15	15	15	14,454
Uyundo Tree Nursery Ukwala Div.	Office Messenger	1	1	1	1	1,043
	Forest Assist. II	1	1	1	1	2,336
	Works paid Staff or Subordinate Staff	15	15	15	15	14,454
Rarieda Division with Naya Tree	Office Messenger	1	1	1	1	1,043
	Forest Assist. II	1	1	1	1	2,336
	Works paid staff or Subordinate staff	15	15	15	15	14,454

It is envisaged that during the next plan period the Forest Department will spend a total of £57,816 to employ a total of 60 casual workers per year equally distributed among the following Four tree nurseries :-

1. Kokise Tree Nursery (E. Asembo)
2. Anyiko " (E. Ugenya)
3. Pundo Juko Tree Nursery (Uholo)
4. Iwer Tree Nursery (W. Alego)

The following items and expenditures are also proposed over the 1979/83 plan period :-

No.	TYPE OF ITEM	79-80	80-81	81-82	82-83	COSTS-
1.	Typewriters	-	6	-	-	300
2.	Safe	1	-	-	-	80
3.	Cash Boxes	-	6	-	-	30
4.	Office Furnitures:-					-
	a) Chairs without arms	20	-	-	-	50
	b) Tables Office	-	7	-	-	175
	c) Steel Cabinet	-	6	-	-	420
	d) Wood cabinet	6	-	-	-	300
	e) Adding Machine	-	2	-	-	60
	f) Water Pumps & Engine	6	-	-	-	4,500
	g) Motor Cycle	6	-	-	-	5,400
	h) Lorry	1	-	-	-	12,500

## HOUSES FOR WORKERS

## NUMBER BY YEAR

Area	Type of House	79-80	80-81	81-82	82-83	COSTS-
Bondo Tree Nursery	Village Houses of (Class "F")	15	20	15	18	17,980
		2	-	-	-	3,000
	Nursery Store	1	-	-	-	400
Mudurme Tree Nursery	Class "F"	1	-	-	-	1,500
	Village Houses	15	-	-	-	4,650
	Engine Houses and Piping and Engine	-	1	-	-	45,200
Yala Tree Nursery	Class "G"	1	-	-	-	1,200
	Class "F"	1	-	-	-	1,500
	Nursery Store	1	-	-	-	400
	Engine house, Pipes and Tanks & Engines	1	-	-	-	45,200
	Village Houses	-	15	-	-	4,650
Uyundo Tree Nursery	Class "G"	-	1	-	-	1,200
	Class "F"	-	-	1	-	1,500
	Village Houses	-	-	15	-	4,650
	Engine houses and Water Pump	-	-	-	1	2,250
Naya Tree Nursery	Village Houses	-	-	-	15	4,650
	Class "G"	-	-	-	1	1,200
	Engine and House and Pipes	-	1	-	-	2,250

All the other new or proposed nurseries will be considered and be approved by the DDC during the plan period.



Rural Afforestation Extension Schemes

Mention has already been made of setting up demonstration plots on individual farmers' farms and educating the wananchi on the value of establishing tree plantations. It is proposed that such plots will be about one hectare or less, depending on the total land available to the individual farmer.

The contribution from the farmer will form the major part of the expenditure to be incurred. The forest departmental staff as has been stated in passing will help in the technical part of the exercise and the free issue of seedlings. After planting of such a plot with seedlings the maintenance of it will be supervised by the Forest Department Staff while the work of maintenance will be done by the beneficiaries, i.e. the farmers on whose land the demonstration plots will be established.

It is estimated that this exercise will require expenditure as shown below :-

Estimated Expenditure on Farm Wood - Lots

	1979/80	1980/81	1981/82	1982/83
K£	28,800	35,080	43,200	72,000

The Government has estimated expenditure on the R.A.E.S. for Siaya District as follows :- (Vide Vote D21 sub-vote 211, Head 679 of the Ministry of Natural Resources).

Estimated Expenditure on R.A.E.S. in Siaya District with National Figures for Comparison

	1978/79	1979/80	1980/81	1981/82	1982/83 (In K£)
SIAYA	13,482	27,500	30,250	34,320	38,750
KENYA	818,326	1,227,590	1,350,240	1,485,279	1,633,790

The above expenditure will be expenses for the issue of seedlings, labour inputs in the demonstration plots, running expenses, etc. There will be a target of planting two plots of one hectare or less every year in each of the eighteen



locations within the district, thus giving a total of thirty six demonstration plots in the district per year.

There will also be field days for educating wananchi on the value of developing and conserving forests.

Demonstration work will also be extended to schools and other institutions, and these will always be given free tree seedlings to plant during the annual National Tree Planting Day and enough for each student/pupil to plant at his/her own home.

A.2.6. Constraints

Constraints for future activities of this department include the following :-

1. Lack of office equipments as proposed under plan of action
2. Lack of means of transport as proposed under plan of action
3. Insufficient village houses, engine pumps and pump houses
4. Lack of no-man's land for afforestation schemes and tree nurseries
5. Burning and destruction of the planted forests by animals

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A.3. FISHERIES DEPARTMENT

A.3.1. Background

The National Fisheries policy is to reverse the decline in fish production from lake fisheries by promoting fish farming in the lakes and in inland water bodies and to promote an increased catch from the lake itself.

The Siaya Fisheries Department caters for inland fish farming, lake fisheries and quality control. The department was established in 1971 and has been operating as a sub-station under Kisumu.

The Fisheries Department aims at encouraging local people to adopt modern techniques of fish-farming and also assists the fish-farming groups by buying for them materials for fencing around the fish ponds, building the inlets and the outlets for water, buying the fish feeds, fertilizers, demonstration equipments (e.g. fishing nets) and also stocking the ponds with fish. The fisheries departmental staff also frequently visit the fish farmers and give them technical advice on proper fish husbandry.

To-date there are four Fishermen Co-operative Societies, Viz :-

1. Uyoma Fishermen Co-operative Society
2. Yimbo -do-
3. Asembo -do-
4. Sakwa -do-

Only the first two are registered and the second two societies are being encouraged to register themselves.

By the end of 1977 there were 310 fish ponds, 53 dams and 2 lakes in the district and fishing takes place mainly in the stocked fish ponds and in the two lakes, namely Lake Victoria and Lake Kanyaboli, apart from Lake Victoria itself.

The fisheries departmental staff also :-

- (i) Advise fishermen on the dangers of over fishing
- (ii) Licence the fishermen
- (iii) Register the fishing boats
- (iv) Take essential statistical data
- (v) and collect revenue from the fishermen

In carrying out these duties, the departmental staff are greatly assisted by beach leaders, chiefs and assistant chiefs of the various areas

To ensure better quality of fish, the Ministry of Health, the County Council and the Fisheries Officials undertake the advising of the fishermen, fishmongers and fish consumers on the most hygienic methods of handling fresh and dried fish so as to avoid contamination of fish with infectious disease germs

#### A.3.2. Problems

The first problem is an administrative one which manifests itself as follows :-

1. Lack of adequate advisory staff, such as Fisheries Assistants, Senior Fish Scouts, etc.
2. Lack of means of transport
3. Stealing of fishing nets
4. Illegal fishing, using seine nets, during the breeding period accelerates the rate of decline in the fish population

Secondly, there is usually a danger of over-fishing by the licenced fishermen

Thirdly, due to lack of refrigerated motor-boats, some fish usually go bad before being landed at the beaches and before reaching consumers

Fourthly, poor means of transport and lack of refrigerated carriages are major problems in the marketing of fish.

#### A.3.3. Objectives and Strategy

The main objective of the fisheries department is to obtain a controlled balance between fish harvesting and fish replenishment through natural breeding in the lake fisheries while at the same time encouraging inland fish-farming

To speed up replenishment of lake fisheries, restocking of lakes with fish will also be undertaken whenever need arises to do so.

More loans should also be extended to fishermen to alleviate the problem of inefficient fishing and fish marketing

A.3.4. Development Thrust

The Fisheries Department has assisted nearly all the fishermen co-operative societies (ref. Co-operative Department) by building fish bandas for them. Currently a fish banda at Misori Beach is under construction and another one will be built at Asembo Bay.

Fish production from two of the 45 known landing beaches has been as shown in Table A.3.1. below :-

Table A.3.1. Fish Production and Their Value

Name of Beach	Output of fish in Kgs. in year :			Shs.
	1974	1975	1976	
1. Usenge Beach	143,353	63,118	204,875	
2. Wichlum Beach	26,112	206,123	146,898	
Total Weight of fish	169,465	269,241	351,773	
Total Value of fish	202,472.50	344,263.55	175,119/-	

The fishermen have many beaches where they do the landing of fish and because of this amount of fish landed at any one beach fluctuates from year to year. Also the value of fish output depends on the species of fish landed. Thus, although the total output of fish was highest in 1976 the value of the fish was lowest because most fish landed in that year was haplochromis species which has a lower money value than the usual "Ngege" species, i.e. the tilapia species. Prices of fish also vary from time to time and therefore affect the total value of fish in any given year.

By the end of 1977 the DDC had assisted seven (7) fish farming groups to prepare fish ponds and to stock them with fish of the Tilapia Zillis and Tilapia Nilotica species.

The fish pond groups and D.D.C funds spent on them are as shown in Table A.3.2.

Table A.3.2. D.D.C. Fish Farming Projects and Expenditures

Fish Farming Group	1973	1974/75	1975/76	1976/77	1977/78
1. Kondiok Group	9,000	-	-	-	-
2. Ko-Okoo Group	11,000	-	-	-	-
3. Nyaonjro Group	-	11,200	3,000	-	-
4. Aluor Group	-	-	-	20,000	-
5. Abir Group	-	11,200	3,000	-	-
6. Muroya Group	-	-	-	20,000	-
7. Mamotho Group	-	-	-	16,000	-

A.3.5. Plan of Action

The Siaya Fisheries Department has been operating as sub-station under Kisumu but the department has now started operating as a full fisheries station from early 1978 :

The department envisages the Recurrent Expenditure shown in Table A.3.3.

Table A.3.3. Recurrent Expenditure: Fisheries Department  
(In KSh)

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Personal Emolument	10,791	13,169	14,365	14,764	15,000	15,500
Travel & Subsist.	5,000	5,000	5,500	5,500	6,000	6,000
Transport						
Run. Expenses	4,000 <sup>1</sup>	1,000	5,500 <sup>2</sup>	2,500	3,000	3,000
Maint. & Operations	500	500	550	550	600	600

Notes: 1 and 2 under Transport and Running Expenses includes purchase of new L.L.L. Land Rover in year 1978/79 and purchase of a Departmental motor boat for patrol and Research on Siaya Waters in the year 1980/81, respectively.

The department requires one motor-cycle for each of the four Divisional Fisheries Officers.





Since the Fisheries Department was started here, the Ministry rented temporary offices for staff from the Siaya County Council. The plan (now underway) to build offices and staff quarters at the District Headquarters and at the Divisional Headquarters should be speeded up.

To alleviate the problem of illegal fishing mentioned earlier, it is suggested that a patrol motor-boat should be procured for the Fisheries Department. Administrative officers should also educate the illegal fishermen on the dangers of harvesting fish during their breeding period.

Putting distinguishing markings on fishing nets for each of the lakeshore districts can alleviate the problem of net-theft in order to avoid the undue squabbles over nets between beach loaders of the lakeshore districts.

Many of the fishermen are too poor to afford better fishing equipment. In view of this it is suggested that the Fishermen Loan Scheme should be revived to extend credit to fishermen for the purchase of fishing materials.

More fish bandas are required at the beaches along the lakeshore. It is envisaged that two such bandas will have to be built during the 1979/83 plan period: - one will be built at Liunda in Sakwa and another at Kokach in Asembo.

More fish ponds will also be constructed whenever and wherever the local people show the initiative to have them. But higher priority will be given to areas farther away from lake Victoria where natural fishing without much fish farming is undertaken by the lakeshore people.

#### A.3.6. Constraints

Means of transport if not provided as suggested above will become a big constraint to activities of this department.

Second, unavailability of adequate funds for the purchase of refrigerated carriages for the marketing of fish will create a bottleneck to the enthusiastic fishmongers if the Fishermen Loan Scheme does not become operational early in the plan period.

Thirdly, stealing of fishing nets might continue as a lasting solution to this problem has not yet been found out.





A.4. COMMERCE AND INDUSTRYA.4.1. Background

The Commerce and Industry sub-sector examines how the goods produced in industry are distributed to the consumers. Such distribution services require financing.

Our economy is a mixed one and this makes the Government to be directly involved in the servicing of Commerce and Industry either directly or through parastatal bodies such as Industrial and Commercial Development Corporation. The I.C.D.C. will continue to be one of the main channels of government investment in the industrial sector, in intermediate - sized towns and rural areas.

During the 1979/83 plan period the services of I.C.D.C. will need to be intensified and participation of parastatal bodies will be increased as will be seen later in this section.

Kenyanization of businesses in Siaya District is already completed with the transfer to citizen ownership of the few non-citizen businesses which were located in the towns of Yala and Asembo Bay. The businesses have not flourished well in the hands of the new Kenyan owners because of lack of capital and business know-how.

The Siaya Community is also being encouraged, through provision of business know-how and capital, to take up quitting non-citizens' business anywhere in the country.

Location of new businesses in the Siaya trading centres, as elsewhere, is controlled by means of the Trade Licensing Act. Since the Siaya Trade Office was opened in late 1975, about 3,261 trade licences had been issued by the end of 1977. It is expected that 13,300 trade licences will be issued between 1979 and 1983.

Kenya National Trading Corporation (K.N.T.C.), the government's appointed parastatal body for distributing to its agents the essential manufactured commodities, handles about fifty items which fall under three main groups, namely, provision, textiles and hardwares. In Siaya District there are

thirteen agents for provisions, seven for hardwares and six for textiles. Some of these agents have already entered direct retail trade in items delivered to them by K.M.T.C.

Manufacturing industry is not yet developed in Siaya District. The only few manufacturing industries are small plants or factories which include :-

(1) Ulumbi Mini white sugar factory at Yala Township, which has a capacity of producing about 100 bags of sugar per day and which became operative in mid-1978.

(2) Four jaggery factories, namely Uholo Jaggery, Nyangweso Jaggery, Yala Jaggery and Rera Jaggery. All these jaggeries manufacture molasses from sugar cane and have played a big role in encouraging more farmers to grow sugar cane in parts of Ukwala and Yala Divisions.

Scattered all over the District in almost every trading centre are maize or posho mills which grind maize, millet etc produced locally for subsistence.

Other economic activities which are locally important for creating self-employment and for offering small important services include plumbing and tinsmith activities. These activities occur in almost every trading centre, with a higher concentration in urban centres such as Siaya, Ukwala, Yala and Bondo towns. Activities in this category include the making of charcoal burners, (jikos), repair of bicycles, making and repairing of hoes (jembes), pangas, lanterns, etc, including masonry, carpentry, watch repair, laundry services, tailoring and shoe -repair.

Great potential exists for the promotion of the building industry as there is plenty of sand and ballast near the Nzoia Market.

Trading centres are evenly distributed all over the district and market days are held in each trading centre twice a week on fixed days, e.g. Tuesday and Friday for Trading Centre "A", Wednesday and Saturday for centre "B", Thursday and Sunday for centre "C", etc.

Business is usually very brisk on market days. This is more so, for example, in the trading centres within Bondo Division where more farm commodities, fish and handicrafts (e.g. mats, pots, etc) are traded and where also more livestock and more cotton are raised, thus increasing the purchasing power of many farm families.

#### A.4.2. Problems

It is feared that the high transport costs and the growing inflation might continue to increase the failure rate of businesses. Similarly, increased shop-breaking and burglary will also contribute to the possible increase in the failure rate.

Secondly, the loan repayment to the Siaya Trade Development Joint Board has been very poor, and this trend might continue, mainly due to there being low purchasing power on the part of consumers of traded items - a constraint springing from low agricultural incomes.

Thirdly, the could-be loanees of I.C.D.C., D.T.D.J. Board, etc. are few because of lack of tangible security as only a few people in the district already have got land title deeds.

#### A.4.3. Objectives and Strategy

The department of Agriculture will, during the 1979/83 plan period, intensify its efforts to encourage cash crop farming which will lead to an increase in purchasing power in the hands of local people. This in turn will stimulate the growth of a greater number and also greater size of non-farm enterprises, such as bakeries, whole-sale shops, improved hotels etc

#### A.4.4. Development Thrust to Date

To-date two financial institutions, namely the Siaya Trade Development Joint Board and the Industrial and Commercial Development Corporation (I.C.D.C.), have loaned 200 traders and 50 traders a sum of Kshs.1 million and Kshs 2 million, respectively. It is hoped that Siaya County Council (as do other Local Authorities) will start financing small businesses during this plan period.

A.4.5. Plan of Action

The small-scale businessmen in the District lack basic training on business. The Management Training and Advisory Centres (M.T.A.Cs) will continue to provide training in the proper use of modern business methods to small-scale businessmen throughout the country by conducting periodic training seminars. Although an M.T.A.C has not been established in the district, we hope that such seminars for training businessmen will be conducted in the recently completed Siaya Farmers Training Centre. In addition, it is hoped that a small business training centre will be accommodated in the Siaya R.I.D.C. to be constructed in 1979/83 period.

Such training for traders and businessmen should be started immediately, possibly, by using the Siaya F.T.C. facilities. Such training can be extended to an average of four traders/businessmen per year; a total of shs.70,000/- will be required for the five years period.

It is hoped that during this plan period the number of K.N.T.C. agents will go up and that more local manufacturers will appoint more agents within Siaya for their products. However, a K.N.T.C. depot should be opened at Siaya especially towards the end of the plan period by which time there will be a large number of businesses to support the depot. Such businesses, as mentioned earlier, include provisions, hardwares, and textiles.

It is also hoped that our government will remedy/formalise the trade relationships with our neighbouring countries so that this district can increase its trade with such countries.

The Kenya Industrial Estate Limited will undertake a massive expansion programme, so that by the end of the five-year period at least one facility will be located in each of 33 districts, Siaya District being one of them. Loans, training, extension and workshop facilities will be offered on commercial terms to small scale enterprises.

Construction of a Rural Industrial Development Centre at Siaya will start in 1979/80 and be completed in 1982/83 at a cost of £350,000. Also an I.P.A. will be constructed at Yala Town in 1982/83 at a cost of £50,000.

The construction of the R.I.D.C. and I.P.A. will be phased out as follows :-

	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>
R.I.D.C. (Siaya)	£125,000	£100,000	£75,000	£50,000
I.P.A. (Yala)	-	-	-	50,000

The R.I.D.C. and I.P.A. are directly under and managed by the Kenya Industrial Estates Limited. The would-be industrialists joining the R.I.D.C. must have the technical know-how of their trades and should have some working capital. These industrialists will be paying a minimal rent for the use of R.I.D.C.'s sheds and machinery.

Training for such industrialists will mainly be offered at the Kenya Industrial Training Institute (K.I.T.I) located at Nakuru and the training covers trades such as millwright, electronic motor vehicle mechanics, woodwork, leather work, laundry, mechanical engineering, and tailoring. During the period more people of Siaya District will be encouraged to apply for training at the K.I.T.I. prior to joining the R.I.D.C. at Siaya.

The proposed industries for the Siaya R.I.D.C. include the making of wooden furniture, printing press, steel window and door frames, plastic utensils, farm implements, rubber sandals, foam mattresses, and a bakery for bread. Other industries which are agricultural oriented include sugar, cassava, groundnuts, cotton, simsim, sunflower, and maize processing.

#### Weights and Measures

During the plan period, efforts will be made to ensure that the weights and measures are regularly checked at the Siaya Headquarters and that price control measures and high standards of goods produced from the proposed Siaya R.I.D.C. are maintained in a bid to protect consumers from unscrupulous exploitation.



In addition the Weights and Measures Department will expand so that it will be in a better position to enforce the Trade Description Act, 1977. This Act is intended to protect consumers from misleading descriptions of goods, services accommodations and other facilities. The Department will commence the legal control of measuring instruments such as water-meters, electricity-meters and taxi-meters wherever applicable.

It is intended to set up 25 new offices in rural centres to supplement the existing office in Provincial Headquarters. As a result it is hoped that traders in rural areas, who have virtually been neglected for a long time, will in the future be accorded the protection to which they are entitled.

The Department of Weights and Measures envisages an expenditure of £14,000 in 1980/81 for the establishment of an office in Siaya Town.

The projected recurrent expenditures by the Nyanza Province on the Inspectorate of Weights and Measures (vide Sub-Vote 233, Head 756) are :-

<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>
£25,200	£25,900	£28,200	£28,200	£28,200

I.C.D.C. will continue to give loans for the development of large and small-scale industries in amounts ranging between £500 - £100,000 (vide Head 768). These loans will be provided under the Industrial Loans' Revolving Fund and allocation for the Nyanza Province is projected to be as follows :-

<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>
£51,000	£51,000	£68,000	£68,000	£85,000

But actual loan commitments may exceed the amounts listed above based on existing resources from the Fund.

Traders' Joint Loans Board (Vide Head 770)

Loans will continue to be offered to small-scale industrialists, artisans and traders through the Siaya District Traders' Joint Loans Board, and the Special and Municipal Loans Committees. Because of problems in the past with defaulting



loanees, traders will be required to offer a tangible security in return for a loan. It is proposed to raise the ceiling on individual loans financed by the Government from K600 to K1

Projected allocation of the new funds to the Siaya District Joint Loans Board is as follows :-

(In K'000)

1978/79	1979/80	1980/81	1981/82	1982/83
6	12	14	16	8

But the actual loan commitments may exceed the amounts listed above based on existing resources from the Fund and/or on contributions to the Fund from other sources.

The Government has proposed to expand the Siaya District Co-operative Union Ginnerery at a total cost of K275,000 during the 1978/83 plan period as follows :-

Industrial Project	Total Investment K'000	Total Capacity	Total Employment	Location	General Remarks
Textiles, Ginneries Siaya District Co- Op. Union Ltd.	275	5,700 Bales	45 per 200 Casuals	Wdere	Expansion

Lastly, a bigger office with six rooms for a store, registry, Joint Board Office, Secretary's Office, Deputy Officer's Office and Trade Officer's Office will have to be constructed and a total of Kshs.280,000/- will be required for this purpose.

#### A.4.6. Constraints.

Some possible constraints are :-

- (i) Lack of tangible security for the acquisition of loans
- (ii) Lack of a business-motivated mind among most of the rural population
- (iii) Lack of adequate all-weather roads to accelerate commercialization of farm and industrial produce
- (iv) Lack of sufficient farm and non-farm income for the promotion of trade and industrial activities.

SECTION: A.5. CO-OPERATIVE DEVELOPMENTA.5.1. Background

Co-operative Development in Siaya District has an enormous potential and the utilization of this development potential is far from being realized.

The present position in regard to Co-operatives within the district is as follows :-

(a)	<u>Five Cotton Societies</u>	<u>Turnover for 1978</u>
(i)	Uyoma/Asembo F.C.S. Ltd	Kshs. 2,910,449.40
(ii)	Alego/Usonga "	" 781,283.50
(iii)	Sakwa/Yimbo "	" 768,729.95
(iv)	Ugenya/Uholo "	" 286,777.55
(v)	Seme/S. Gem "	" 12,294.40
	Total -	Kshs. 4,759,534.80
=====		
(b)	<u>Two Fisheries Societies</u>	<u>Turnover for 1975</u>
(i)	Uyoma Fishermen C.S.Ltd.	Kshs. 20,000/-
(ii)	Yimbo " "	" 85,000/-
	Total	105,000/-
=====		
(c)	<u>One Coffee Society</u>	<u>Turnover for 1977</u>
	North Gem Coffee Growers C.S. Ltd.	Kshs. 52,000/-
=====		
(d)	<u>3 Marketing Co-operative Societies</u>	<u>Turnover 1977</u>
(i)	Gem Farmers Produce	Kshs. 6,500/-
(ii)	Uranga Ardev	" 3,500/-
(iii)	Uholo/S. Ugenya	" 25,000/-
	Total shs.	35,000/-
=====		
(e)	<u>One Building and Construction Society</u>	<u>1976 Turnover</u>
	Edere Building and Construction C.S.	Kshs. 98,000/-
(f)	Gold Mining Society (one). The turnover for this Society is yet to be ascertained.	

(g) 6 Savings and Credit Societies

- |      |                                       |   |         |
|------|---------------------------------------|---|---------|
| i)   | Harieda Women Co-op. Savings & Credit | - | Dormant |
| ii)  | Boro and Sons                         | " | "       |
| iii) | Siaya Teachers                        | " | Active  |
| iv)  | Siaya County Council                  | " | "       |
| v)   | Rasilungu Co-op.                      | " | "       |
| vi)  | Siaya Traders                         | " | "       |

(h) Multipurpose Societies (two)

- i) Kolang
- ii) North Ugenya

(i) Dairy (one)

Jera Dairy Co-operative - newly registered - 1979

(j) One District Co-operative Union

Siaya District Co-op. Union Ltd  
(There are eleven affiliated Societies, i.e.

Five Cotton Co-ops  
One Coffee  
3 Marketing and  
Two Multipurpose Societies)

A.5.2. Problems

Some of the limiting factors to the Co-operative development potential have been :-

- (i) Lack of co-operative motivation and development consciousness
- (ii) Lack of foresight in co-operative development and proper understanding of what can possibly be achieved through the co-operative approach
- (iii) Poor organization and managerial foundation and abilities on which haphazard formation of co-operative societies have been made without even remoted prospects of success
- (iv) There is poor organization in the Siaya Co-operative Union and hence it does not enjoy the confidence of its member societies at present
- (v) Productivity of cotton in the District is very low (200kg seed cotton per ha.), -cotton research on non-irrigated demonstration plots has revealed that between 1,700kg/hac. and 2,500kg/hac is feasible.

- (vi) Fish production has been very low due to :-
- (a) Lack of marketing and storage facilities
  - (b) Poor (or absent) transport requirements
  - (c) Lack of motorized boats to enable deep-sea fishing
  - (d) Low commissions payable to the fish societies and hence financial incapacitation of the societies to meet the much needed services.

#### A.5.3. Objectives and Development Strategy

The role of the co-operative department is to promote, guide and supervise the co-operative societies with the aim of ensuring that they develop and operate as viable entities and that the members reap increasing benefits. The department is, in other words, a service institution which as well plays a direct supervisory role.

The cotton societies have been, and will continue to be, the backbone of the co-operative movement in the district. The single District Co-operative Union owes its existence to the cotton societies. The Union should receive the main part of its revenue from commissions paid by primary societies. However, this is not the case presently; the Union only receives 10 cents per kg of seed cotton purchased by primary societies in respect of the acquisition of Idere Ginnery.

#### A.5.4. Development Thrust

##### (a) Cotton Co-operatives

The area under cotton in the district is given in the Agriculture Sub-sector.

The five cotton co-operative societies in the District have a complete monopoly in the marketing of cotton in the District. Co-operative participation in this activity is greatly encouraged. To-date there are 30 cotton stores evenly distributed all over the cotton-growing areas of the district, and many of these cotton stores handle seed cotton to less than full capacity.

(b) Fisheries

Siaya District has a big lakeshore area on lake Victor. There are also some inland lakes such as L. Kanyaboli and L. Sari and many fish ponds, all serving as rich sources of fish.

1. The four fisheries co-operatives in the District are :-
  1. Yimbo Fishermen Co-operative Society Ltd.,
  2. Uyoma Fishermen Co-operative Society Ltd.,
  3. Asembo " " "
  4. Wichlum/Sakwa Fishermen Co-operative Society Ltd.

The first two are registered while the second two are being encouraged to register. Production of fish by these Co-operative societies has been very low due to several problems stated earlier. The value of the total turnover of fish for 1975, for example, was Kshs.210,967.15.

(c) Coffee Co-operative

Both Ukwala and Yala Divisions are very suitable areas for coffee growing and the Ministries of Agriculture and Co-operatives are currently launching an intensive campaign promoting this Co-op.

Licensed hectareage of coffee grown by small scale farmers is far beyond what is actually utilized at the moment. The coffee Society in operation - North Gem Society in Yala Division has only 24.5 hac. under coffee and most of it is neglected at present. This is a negligible contribution to coffee marketing in the District.

At present there are two coffee factories for the coffee society namely:- Sirunga Coffee Factory, and Yala Coffee Factory and these at times operate far below capacity. The Small-holder Coffee Improvement Project due to begin in Yala from July, 1979 will greatly help to rehabilitate the neglected coffee farms.



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(d) Marketing Societies and Credit Programme

All the eleven societies affiliated to the Union market food crops like maize, beans, groundnuts, greengrams and four of these societies also market sunflower.

The promotion of the marketing activity has been largely due to the following credit programmes giving small-holder loans to co-operative members :-

(i) Small-holder Production Services Project (S.P.S.C.P.)

This was the first project to provide small-holder loans to farmers in this district through Siaya District Co-operative Union Ltd. To-date the following farmers have benefited from it :-

Season	Loanees	Loan Principle	Loan Repaid	% Repaid
1975/76	367	Kshs. 353,657.65	234,467.00	73%
1976/77	726	361,809.00	152,885.45	42%
1977/78	1090	662,347.00	158,957.45	22.1%
1978/79	489	357,850.80	-	-
Total	2672	Kshs. 1,737,664.45	546,309.90	-

In 1975/76 the crop package was of 2½ acres covering cotton as security crop; other crops were maize and beans.

1976/77 - Crop package was changed and divided into two such that :-

(1) Upper Zone - 4 acres, of which sunflower 2 acres and maize 2 acres,

(2) Lower Zone - 4 acres, of which cotton 2 acres and maize 2 acres

This crop package is still in force up-to-date.



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(ii) Integrated Agricultural Development Programme  
(I.A.D.P.)

This project was started in 1976/77 season and covers 4 societies in Yala Division and Uyoma locations of Uyoma/Asembo Farmers C.S. Ltd. The Project is basically the same SPSCP in approach i.e. small-holder loans to unprogressive farmers. The Crop package is as follows :-

- (1) Upper Zone - 4 acres: - 2 sunflower, 2 maize
- (2) Lower Zone - 4 acres: - 2 cotton, 2 maize.

To-date, the participants are as follows :-

Season	Loanees	Loan Principle	Loan Repaid	% Rep
1976/77	302	Kshs. 385,610.00	75,190.20	
1977/78	567	510,318.00	93,198.75	
1978/79	184	147,471.00	-	
Total	1053	1,043,399.00	168,388.95	

(iii) Farm Input Supply Scheme (F.I.S.S.)

This project is a little different from the other two projects above; it only provides farm inputs to the farmer unlike the above projects which provide land preparation and weeding funds in cash in addition to farm inputs.

This project only operated for one season in 1976/77 and reached 116 loanees in 2 societies. These loanees received farm inputs worth Kshs.51,000 and only repaid Kshs.3,000/-.

At present, the project is providing loans to the Union for the establishment of its store for resale activity, where farmers get farm inputs and other farm implements and the Siaya Co-operative Union has received Kshs.300,000/- for this store.

(iv) National Poultry Development Programme - N.P.D.P.

NPDP is a pilot project which was started in Yala Division of Siaya District to operate in Gem Farmers Produce Co-operative Society. The programme will benefit 24 farmers from a Kshs.240,000/- loan. This will help the farmers to purchase poultry feeds, houses, together with the chicks. This is an egg project. To-date the first 4 farmers out of the 24 have so far completed their poultry houses and are already keeping the chicks.

NOTE

IADP has helped Siaya District Co-operative Union to alleviate the shortage of storage facilities by putting one large store and 2 small ones in the following places :-

1. Ndere	Kshs.	167,600.00
2. Bondo Market		83,000.00
3. Aram		92,350.00
		<hr/>
Total	Kshs.	342,950.00
<hr/>		

This was put up by IADP grant funds.

A.5.5. Plan of Action

During the 1979/83 plan period, the Siaya Co-operative Union will try to make all societies in the district affiliate members.

The capital expenditure of the Union and its affiliated societies will include purchase of Ndere ginnery, acquisition of more buildings, acquisition of more land and expansion of stores for seed cotton.

Over Kshs.3.5 million will be needed for the planned capital expenditure.

1. Minor and Major Irrigation Schemes

The proposed co-operative irrigation in Uyoma/Asembo will cover the Misori-Likungu Major Irrigation Scheme, Omia-Asembo Irrigation Schemes, and Rarieda Minor Irrigation Scheme. Coverage will be as follows :-

Misori-Likungu-over 2,000 hectares  
 Rarieda-Irrigation-over 1,000 "  
 Omia-Asembo- over 1,000 hectares

A feasibility study is to be carried out to determine the viability and accessibility of these co-operative projects.

2. Cotton Production

An action plan has been drawn up, and this plan should go a long way to improve both the production and productivity of cotton in the district. This plan will be jointly implemented by the Ministries of Agriculture and Co-operatives through the recently formed District Cotton Development Committee. Farmers must be taught that :-

1. Land preparation must be done on time
2. Planting should be done on time
3. Proper crop husbandry practices must be followed  
 e.g. use of cotton sprays, use of dressed cotton seed etc.
4. Credit facilities will be open to the farmers, i.e. I.A.D.P., S.P.S.C.F. and F.I.S.S. programmes. Through this action plan it is believed that cotton productivity will be raised above the present 200kg seed cotton per hectare
5. Field days will continue to be held frequently for farmers to learn better methods of growing cotton as demonstrated by Agricultural staff. It is also encouraging to note that the Government reviews the price of cotton regularly and always there is an upward trend in the price to lure farmers into growing more cotton.

3. Fisheries

Fisheries societies will be helped to acquire :-

- (a) Better transport (refrigerated) facilities
- (b) Storage facilities
- (c) Store for resale of fishing nets, floats etc.
- (d) Motorised fishing boats

The reintroduction of the Fishermen's Loan Scheme could help to extend credit to fishermen for the purchase of fishing and fish-handling equipments.

4. Marketing Societies

The Siaya Co-operative Union will continue to provide small-scale loans through the S.P.S.C.P., I.A.D.P. and F.I.S.S. credit schemes for the promotion of the acquisition of farm inputs and marketing activities. While the N.P.D.P. will develop the poultry industry for egg production in the district.

5. Savings and Credit Societies

The Co-operative Department will continue through mass education campaign programmes to encourage members of the other two savings and credit societies to revive their organizations.

A.5.6. Constraints

Some of the problems stated earlier might become constraints to future activities and among them are :-

1. Unenthusiastic attitude of farmers towards the Co-operative movement
2. Poor organization of the Siaya Co-operative Union
3. Small quantities of marketed agricultural produce.

A.6. TOURISM AND WILDLIFE CONSERVATIONA.6.1. Background

The Siaya Wildlife Conservation and Management Sub-station was started in September, 1976. The sub-station covers the whole of Siaya District and part of Busia District. It is a sub-station of Roma Bay Station.

There are no game reserves in the District.

The game animals found in the District include leopards, hippopotamuses inhabiting shores of lakes and rivers, warthogs, hyaenas, foxes and duikers.

Sites that could attract tourists include Utonga Peninsula, Luand-Kotieno Beach, Asembo Bay and Lake Kanyaboli.

Before September, 1976, the present Siaya Sub-station was only an outpost of Kisumu sub-station manned by a few rangers. Today it is a full sub-station with an Assistant Warden and eight Rangers. There are also two out-posts (one at Ukwala and one at Bondo Divisional Headquarters) mainly for control and patrol purposes.

People do not gain anything from Wildlife in Siaya District. Instead Wildlife has become a menace to human life and property. The staff of the Ministry capture dangerous game animals and send them to established game reserves and national parks such as Lambwe Valley Game Reserve in South Nya, Nairobi National Park and Nakuru National Park.

A.6.2. Problems

Farming activities are increasing in Siaya District and complaints about destruction of property by game animals are expected to increase. Among the game animals causing havoc to property are hippopotamuses, warthogs and porcupines; leopards menace livestock.



A.6.3. Objectives

The department focuses on establishing and developing the natural terrestrial and marine habitats, historic and archeological sites, beaches, rare tree species, impressive mountains and islands. The department aims also at alleviating menace caused by game animals by capturing and transferring such animals to game parks and reserves.

The local people must also learn to protect their property from damage by game animals.

A.6.4. Development Thrust

The department is mainly engaged in the control of leopards and hippopotamuses. A total of four leopards have been captured and a number of hippos which have been difficult to capture have been shot dead.

Leopards are a menace to human life and property, especially in Yala and Ukwala Divisions. The reasons for this problem are that the leopards have no other prey such as impalas, gazelles, and duikers, and also the people themselves do not securely lock their livestock in proper sheds(enclosures).

The hippopotamuses inhabit the shores of lakes and rivers and are a menace to crops in parts of Bondo and Boro Divisions. The hippos find it easy to ravage crops, especially vegetables, such as cabbages and tomatoes, because farmers cultivate even on the banks of rivers and lakes without providing any protection for the crops.

A.6.5. Plan of Action

Siaya District is vast and requires more outposts at Uyoma, Yala and Sio Port. Their purpose would be to render immediate services to complainants. A motor boat would also be required at Sio Port for this to serve effectively as an outpost.

For patrol and control work to be carried out more effectively, bush tents are needed at each of the outposts. Also a walkie-talkie would be another device which could enhance better and quicker communication in carrying out patrol work efficiently.



The Siaya County Council will be required to play an active part, as do other County Councils, in controlling non-scheduled animals such as hyaenas, monkeys and porcupines.

The local people living near big rivers and lakes should stop cultivating on the banks of rivers and lakes, or else they should dig wide and deep trenches between the water and the cropped areas. This can help to keep off hippos from the crops. People should also lock up their livestock in properly fenced sheds or enclosures in order to protect them from harm by leopards. Clearing of bushes will also help eradicate habitats for the wild animals especially the leopards and hyaenas and hence these animals themselves.

The Department of Wildlife Conservation requires more staff and other facilities to man its operations. There is need for one Assistant Warden Trainee, three Corporals, eight Rangers, one Copy-Typist, two Subordinate Staff, an office building, staff houses, a LWB Land-rover and bicycles. At present the department is understaffed.

There are many possible tourist sites which include water bodies where game reserves could have been established were it not for increasing human inhabitation. However, consideration should be given to building a modern tourist hotel in a bid to attract tourists to the district for site-seeing and also to see the fishing and curing of fish by using crude methods such as spears, baskets and smoking of fish.

Finally, it is a matter of convenience that authority to incur expenditure should be given to the Assist. Warden, Siaya, rather than having such accountability done from Homa-Bay by correspondence or by travelling personally to Homa Bay Station.

#### A.6.6. Constraints

The major constraint <sup>facing</sup> the department is lack of finance resulting in shortage of staff and inadequate means of transport and other necessary facilities mentioned under Plan of Action.

A.7. DEPARTMENT OF SURVEYA.7.1. Background

The Survey Department and its affiliated Sub-sections (i.e. Land Adjudication and Registration) is a service-rendering department. The department prepares maps required by other departments or organizations. Maps produced include :

1. Those showing administrative boundaries
2. Those showing strategic areas for protection and defence of the people
3. Base maps for town planning
4. Base maps for land settlement and issue of land title deeds
5. Tourist maps
6. Rainfall and soil maps for use in Agriculture
7. Situation maps to show boundaries and areas of all individual properties registered in Land Registry
8. Maps showing forests and their boundaries
9. Air Survey Maps for MoW roads
10. Maps for use in examinations.

The department mainly deal with :

(a)(i) Technical supervision of surveys related to Land Adjudication work. This is the first stage of preparation of the Registry Index Maps used for registration of individual land on which basis Land Certificates are issued.

The actual field work is done by the Junior Survey Assistants under the department of Land Adjudication.

(ii) After the completion of the registration, as already done in Ukwala and Yala Divisions including some Sub-locations in Boro and Bondo Divisions, the hedges demarcating the legal boundaries (also indicated in the Registry Index Maps) are inspected by staff especially employed for the inspection of the hedges or any other form of material used for demarcating such boundaries,

The purposes of the inspection are not only to make the owners of the common boundaries maintain the hedges so that they do not overgrow and/or be overgrown by bushes to the extent that they cannot be air visible, but also administratively and lawfully they should not be destroyed so as to cause boundaries disputes resulting in assaults of any kind, including unnecessary cases over the doubted boundaries.

- (b) Mutation Surveys, which are carried out in parcels within the registered sections (sub-locations) following approval by the Land Control Board
- (c) Cadastral Surveys, which are mainly surveys of plots for business and residence in urban areas and also in trading and in Market Centres.

#### A.7.2 Problems

The department does not have camping facilities such as tentage, water containers and buckets; thus the full force of the survey personnel cannot camp and carry out their work fast enough,

Transport is also a problem as the only single vehicle for the department is not enough to enable the four field officers to do their work including the many unpredictable mutation surveys.

Office accommodation is insufficient. The District Surveyor's office has insufficient facilities.

#### A.7.3. Objectives

The department endeavours to adequately render services related to the survey, subdivision and registration of land for the purposes of providing tangible security which could be used for the acquisition of loanmoney<sup>by</sup> owners for further economic development.

The department endeavours also to provide maps to the other departments and organisations for use in carrying out their development activities.

#### A.7.4. Development Thrust

To-date an area of 152,235 hectares in the district has been surveyed, and another 200,795 hectares of land still remains unsurveyed.

So far Cadastral Surveys in Yala, Siaya Urban areas, Nzoia trading centre and in seven other market centres have been completed. A total number of plots involved was one hundred and twenty two (122).

Under Adjudication Branch, a total of sixty eight plots including a perimeter survey of a trading centre have also been completed.

Finally under Mutation Survey, out of one hundred and ninety nine applications submitted, only twelve are left pending to date.

Generally it appears as if there is no great demand for Cadastral Surveys in urban and rural areas. This is indicated by the rareness of the amount of work in the district for this branch. Market surveys appear to be badly needed, for out of the eighty three markets, twenty two are already much developed. Those owning plots within the twenty two markets are eager to have their plots surveyed.

At present there are 33 Adjudication Sections in progress. The number of mutation surveys to be done is unpredictable. It is anticipated that the number will rise much higher by 1979 as many people are now out for developments and therefore need to have land Certificates to obtain loans for the developments.

As the number of registered areas increases year after year, there will be heavy backlogs of the inspection of hedges by staff especially employed to do this work.

#### A.7.5. Plan of Action

The survey department hopes to complete the surveying of a total of 61,456 hectares of land within the 1978/83 plan period. This will leave a total of 139,389 hectares of land in the district still unsurveyed by the end of 1982/83.

The following are the adjudication sections (or sub-locations) which have not been surveyed and of which some will be completed during the 1978/83 plan period :-

- |                 |                    |                 |
|-----------------|--------------------|-----------------|
| 1. Kokwiri      | 2. Kobong          | 3. Memba        |
| 4. Nyagoko      | 5. Kochieng "A"    | 6. Sigoma-Urar  |
| 7. Mulaha       | 8. Karapul-Ramba   | 9. Ojuando "A"  |
| 10. Mahaya      | 11. Gangu          | 12. Nyajuok     |
| 13. Koyoyo      | 14. Omia Mwalo     | 15. Nyanonye    |
| 16. Bar Osimbo  | 17. Kakumu Kombewa | 18. Barding     |
| 19. Omia Diere  | 20. Bar Olengo     | 21. Usenge      |
| 22. Omia Malo   | 23. Obambo         | 24. Nyadorera " |
| 25. Koching "B" | 26. Nyaguda        | 27. Usigu       |
| 28. Kadenge     | 29. Sumba          | 30. Mageta      |
| 31. Got Agul    | 32. Nyangoma       | 33. Nyadorera " |

It is hoped that if the surveying exercise is speeded up most of the first twenty three (23) adjudication sections listed above might be completed by the end of 1982/83 and only ten (10) adjudication sections might remain to be done in 1984/88 plan period.

In helping to speed up the surveying exercise, it is important that Chiefs and Assistant Chiefs should co-operate with Junior Survey Assistants to facilitate demarcation of more boundaries per day.

More personnel of B.A.C.E. level should be recruited as surveyors to help in overcoming the heavy backlogs of the mutation survey.

On hedges inspection, the Chiefs should be allowed to deal with those who fail to maintain their boundaries to the required standards once the hedges inspectors move to the next adjudication sections.

As stated under problems to this subsector, the survey department requires one more office which should be built in the area already chosen.

Lastly, in order to speed up the adjudication exercise, one more vehicle should be bought for the department to enable the survey officers to carry out their duties more efficiently.

#### A.7.6. Constraints

1. Lack of a vehicle will be one of the very serious constraints.
2. Lack of staff for mutation surveys will create a constraint to early completion of the surveying work.
3. Lack of camping facilities, necessary to improve the speed of the survey work, will become a constraint.



SECTION B: PHYSICAL INFRASTRUCTURE SECTORB.1. TRANSPORT AND ROADSB.1.1. Background

Siaya District is accessible by road, by water, by railway, and by air transport (see Map..2.....)

The four airstrips in the District maintained by the Siaya County Council are Siaya Airstrip, Sega Airstrip, Yala Swamp Airstrip and Mageta Island Airstrip (see Map 2.....) All these airstrips require improvement and expansion. (Mageta strip is currently unserviceable).

Lake steamers on Lake Victoria can anchor at Asembo Bay, Misori and Usenge, but at present the piers at which anchorages are provided are very old and require complete renovation and proper maintenance.

The Kisumu/Butere railway line cuts through the eastern part of Siaya District for a distance of nine kilometres. The district is served from Yala Station.

By far the major form of transport in the District is by roads. The district is served by an almost adequate road network system. The road network covers a total distance of about 1128 kilometres of which 105.6 kilometres are of National Trunk type, 188 kilometres are of Primary type, 234 kilometres are of secondary type while the rest are of Minor (E and X) type. Rural Access Roads cover a distance of about 53 kilometres in the district and the programme has now been launched to construct more of these roads. Many of the constructed R.A.R.s are not being used because bridges/drifts have not been built.

The Kisian-Bondo-Usenge road is under construction and once it is completed it will increase the distance of tarmacadamed road from 105.6 kilometres to over 170km.

A list of the classified roads is given in appendix B.1.(1).

The major growth centres are served by all weather gravel road network. This loose surfaced all weather road network includes :

1. The Rangala-Mdere-Siaya-Ngiya-Mdori-Uyoma road (C28)
2. Bondo-Uyoma (D246)
3. Bondo-Usenge-Majimbo (C27)
4. Siaya-Rwambwa (C29)
5. Ugunja-Siranga-Ukwala-Sifuyo (D252 and D253)
6. Ugunja-Ungasi (D260)

There are two bridges which were completed in July 1979; these are :-

- (i) the huge Tingwang Bridge across River Yala and connecting Siaya to Bondo along the proposed D246 road not yet properly constructed
- (ii) the Mudumo Bridge across River Sese just after Mdoro Market on Rangala side.

There is a very strong case for a permanent bridge across River Nzoia to connect Alego Uranga to Sifuyo market in North Ugenya. This would enable Siaya Township and the district south of this urban centre to participate in the Socio-economic benefits generated from international trade with Uganda.

The only crossing over River Nzoia in the West of the district is provided by the Rwambwa Ferry which is both unreliable and at most very unavailable, leave alone the fact that it is too small to accommodate a bus or lorry.

#### B.1.2. Problems

The main problems are brought about by rough topography and black cotton soils in some parts of the district which make construction and continued use of especially rural access roads difficult to undertake. Some of the secondary and minor roads also become virtually impassable during the wet season and these become worse if an attempt is made to grade them during the wet season.

Many of the roads in the district are not well-maintained because of problems to do with availability of tractors for grading and constructing roads. The seven tractors given to Ministry of Works, Siaya, quite often break down and usually only about two are found to be in working condition at any particular time.

Also some parts within the district are inaccessible because roads have not been opened up to reach them and so such areas remain under-developed.

Lake Victoria provides the only water transport between Siaya and Kisumu District and Siaya and South Mwanza District and to neighbouring Uganda and Tanzania.

Presently, the few piers at the lake ports within Siaya District are worn out and cannot be used.

The landing airstrips also are poorly maintained: they are usually overgrown with bush and have been gullied by rain-wash as they are of loose surface type.

### B.1.3. Objectives

This sub-sector aims at providing a good network of communication lines to accelerate economic activities and create a market-oriented economy in the district.

Also the communication lines will provide quick access to desired services such as health, education, water, etc.

### B.1.4. Development Thrust

The Ministry of Works, Siaya District, came into full operation in 1971. Its main work has been :-

- (a) the maintenance of existing roads
- (b) the opening up of new roads
- (c) the construction of minor bridges and drifts

The only National Trunk road is the Yala/Bumala bitumen road  
The Primary roads in the district include :-

- (i) the 69.5 km Kisian/Usenge road of which 51 km between Kisian and Bondo is being improved and will be bitumenized,
- (ii) the 89.5km Rangala/Miruka (Uyoma) road,

- (iii) the 63km Luanda/Ebusonga, road of which 37km between Luanda and Siaya Town has been bitumenized and the has been greatly improved to an all weather road
- (iv) the 4.4km Yala/Western Province boundary road has been bitumenized

New roads under construction and some of which have recently been opened up include :-

- (i) the 14.2 km Nyamonye/Usenge Secondary road
- (ii) the 20km Siaya/Bondo Secondary road, to become operational when the Ting'wangi bridge is completed
- (iii) the Goye Causeway joining Usenge/Majimbo in Yimboi

The present Ministry of Works camps in Siaya District are the Siaya Camp at the District Headquarters, the Yala the Rera camp, Kombewa camp, Bondo camp and Manyuanda camp. A Regravelling Unit is now stationed at Kamito (Asembo-District).

The various types of roads and their distances in the district are as shown in Appendix 3.

#### B.1.5. Plan of Action

A denser road network is needed in the district and some of the existing roads should be improved to primary level. The present primary roads should be tarmac-damed.

Presently the Asembo Bay/Akado road, classified as D246 is being improved to all weather road.

Other roads to be improved include :-

- (i) the Siaya/Bondo road (D246) through Tingwang bridge should be made an all weather road
- (ii) the roads classified as D248, E386, and E387 should be made all weather roads
- (iii) the road classified as D242 passing through East Usenge into Busia District should be improved into an all weather road

The Siaya D.D.C. strongly accords highest priority to the tarmac-daming of the road running from Rangala to Miruka through Uyoma in order to accelerate the development of trade and industry. The road runs from Rangala through Siaya (C261), Owimbi through Tingwang bridge (D246) and to Miruka (C281).

The Siaya/Bondo road (D246), besides providing the best link for the southern parts of the district to the District Headquarters, the road will widen the scope for an expanded market for fish from Lake Victoria. The road will also help to accelerate the marketing of farm produce raised from the agricultural area through which the road runs.

The roads classified as D248, E386 and E387 pass through areas where farming activities, such as dairying, sugar cane, maize and cassava growing, are on the increase. The roads will provide a good road network for the marketing of farm produce.

The road classified as D242 will help to open up trade links with Western Province. The road will also provide available access to and between important growth centres being Jera market, Bondo market and Bar-Ober market.

The Ministry of Works has already allocated a total of £2,190,000 (shs. 43.8 million) to the construction of three primary roads in Siaya District during the 1979/83 plan period as follows :-

(K£'000)

	1978/79	1979/80	1980/81	1981/82	1982/83	Total
Siaya-Bondo (C27) L3139070045700.	600	700	200	-	-	1,500
Siaya-Luambwa (C29) L3139090045900.	200	250	240	-	-	690

Roads which should be accorded top priority for renovation and completion under the Secondary and Minor roads Graveling Programme include :-

1. Aboke-Uyundo Access Road
2. Boro/Mawinga/Sidundo Access Road
3. Lana/Rigal/Shiatsala Access Road
4. Gogo/Abir/Malunya Access Road
5. Muga/Tingwangi " "
6. Njigo/Lwala/Mdira " "
7. Ndegwe/Njimbe/Ndere " "
8. Kamito/Boi/Akado " "
9. Imbaya/Hono " "
10. Wagusu/Mango/Wayendhe " "
11. Kamito/Boi/Akado " "
12. Ugunja/Ulembo/Ndere " "
13. Nyagondo/Kathomu/Bar Katado Access Road



14. Mzoia/Nyawara/Ligega Access Road
15. Haga/Mabuga/Bar Clongo " "
16. Sigomero/Uloma " "
17. Nyamira/Othach/Magombo/Got Ramogi Access Road
18. Ulafu/Got Yonga Access Road
19. Luoro/Akala Access Road
20. Komoro/Linahu/Ugela/Lutheho Access Road
21. Edonga/Uriga Access Road
22. Luanda/Murumba Access Road
23. Nyilima/Lwak Access Road
24. Nyawara/Sirando Access Road
25. Ngiya/Aluny/Karapul Access Road
26. Kipasi/Yonga/Kapiyo " "
27. Uranga/Nina " "
28. Ajigo/Lwak Access Road
29. Ngiya/Orembe/Nyangoma/Ting'wang/Upanda/Matera Access Road
30. Lwak/Mahaya/Nyagoko Access Road.

The above roads and many others not listed here but to be constructed under Rural Access Roads Programme, pass through areas with intense agricultural activities and so are intended to provide means for the marketing of farm produce such as cotton, sugar cane and maize.

The following classified roads also require regravelling urgently if they are to remain unsable :-

1. E 152 Bondo/Buhuyi (Murumba Road)
2. D 260 Ugunja/Sigomero/Musanda Road
3. D 259 Sidindi/Sigomero Road
4. D 261 Musanda/Lusumo Road
5. D 245 Kombewa/Asembo Bay Road
6. E 126 Anyuongi/Manywanda/Edigwa Road
7. E 131 and E E 132 Bondo/Lango/Wagusu Road
8. E 127 Bondo/Gobei/Lwak/Asembo Bay Road
9. D 247 Rabuor/Kambare/Akala Road

The Rural Access Roads Programme has been launched in the District. Already a road package of 90km has been approved for phase I and Phase II with a road package of 200km has been identified and construction and maintenance of access roads identified for Phase I and Phase II of the programme will start shortly. Wananchi will be encouraged to identify more rural access roads for construction to ease the bottleneck for the marketing of farm produce.

The Siaya County Council should also step up its efforts in maintaining the four airstrips, pending take over by the Government.

The Siaya DDC, however, strongly recommends to the Ministry of Power and Communications the inclusion of Siaya airstrip and Sega Airstrip in the Minor Airports Programme. These airstrips particularly Siaya Airstrip, can serve as Tourist Airstrips for

tourists on recreation to see fishing activities and other lakeshore attraction sites.

B.1.6. Constraints

These include :-

1. Lack of adequate machinery for the grading and opening up of existing and new roads.
2. Lack of adequate funds for fuel render some machines to be redundant for some time every year. Allocation for operating expenses should be stepped up
3. Lack of adequate funds for maintaining the four airstrips.

B.2. POWER, POST AND TELECOMMUNICATIONS, SERVICE CENTRESB.2.1. Background

The various Service Centres and the services they offer (given numerically for some centres) are given in the Appendix B.2.(1).

It is evident from the appendix that the services offered by any one centre are scanty. Telephone and Post Office services are found in a few centres within the District while rural electrification has virtually not been undertaken in the District except for the Mumias/Siaya Township transmission line. The 33kV power line from Mumias to Siaya Township was completed in Mid.1978 at a cost of £195,000 (i.e. shs. 3.9 million).

As shown in the Appendix B.2(1) telephone services in the District are available at Siaya Township, Bondo Township, Nyangoma Mission, Nyawita Market, Ukwala Township, Uwai market, Nzoia, Idere, Ngiya, Nyangweso and Yala markets.

Post Office services are also available at a few trading centres which include Siaya Township, Bondo Township, Yala Township, Ukwala Township, Ndori market, Nyadorora market, etc.

In general Service Centres are well distributed all over the District but they lack the very essential services they are expected to offer, such as telephone, post office and in some centres, health services. Educational and recreational amenities such as libraries, better schools and cinemas also lack in all the service centres.

B.2.2. Problems

As has been mentioned earlier, essential services at any one service centre are scanty if not completely unavailable and people have, therefore, to travel great distances looking for desired services.

B.2.3. Objectives

The main objectives of E.A.P. & L. and K.P. & T. is to provide the necessary services within a convenient distance to the consumer and at economically low operating costs.

There is a need also to explore possibilities of harnessing River Yala between Yala town and Kudho in order to generate hydro-electricity over this stretch with waterfalls and where the river descends 200 metres in 10 kms.

#### B.2.4. Development Thrust

As has been said in B.2.1. Siaya Township is now connected to the main Jinja Power Line. Yala Township is also connected to the main Jinja Power Line. Postal services and telephone services are listed in the Post Office Directory and Telephone Directory respectively.

#### B.2.5. Plan of Action

There is strong need to locate many of the essential services in many of the service centres in the District. It is suggested that the Posts and Telecommunications Department should carry out a study survey in the district with a view to establishing some of the essential facilities at deserving and rapidly growing service centres. In particular, it is suggested that :-

- (i) Electricity supply should be extended to all Divisional Headquarters, i.e. to Boro, Bondo and Ukwala
- (ii) Subscriber Trunk Dialing (STD) services should be installed in Siaya
- (iii) Telephone Services should be extended to Ugunja and Rangala from Sega and also to Boro market from Siaya Township
- (iv) A fully-fledged post office should be established at Ugunja
- (v) Ministry of Health should also quickly take up and maintain the completed Harambee Health Centres so that they continue to offer better services.

Plainly this programme will be dependent on a) funds and b) estimates of the volume of P & T traffic at each centre

The possibility of generating hydro-electric power on the River Yala should also be studied at an early date.

The Kenya Posts and Telecommunications has, however, proposed to open/improve post offices at various centres in Siaya District during 1978-83 as follows :-

1. New Sub-Post Offices to be Established

Opening of sub-post offices does not require capital funding being operated by agents :

<u>Year</u>	<u>Proposed Offices</u>	<u>Parent Office</u>
1978	Ndara Ober	Busia market
1978	Uwai	Kisumu
1981	Luhano	Ukwala
1982	Eyangoma	Siaya
1982	Yenga	Ukwala
1983	Rabar	Siaya

2. Departmental Post Offices to be Established

This programme aims at improving postal facilities in rural areas through upgrading of many sub-post offices in these areas

<u>Year</u>	<u>Proposed Offices</u>	<u>Controlling Offices</u>
1979	Ugunja	Kisumu
1979	Ngiya	Kisumu
1980	Ndori	Kisumu
1980	Uranga	Kisumu
1982	Wylima, Asembo Bay	Kisumu
1983	Sidindi	Kisumu

3. Capital Expenditure at Existing Offices

The expenditure will be on buildings for existing departmental Post Offices or extensions to such offices.

<u>Year</u>	<u>Name of Office</u>	<u>Apportioned posted</u>	<u>Expenditure Telecoms</u>	<u>Remarks</u>
1979	Siaya	200	100	) (New Post Office and Telecom building to replace the rented one. ) Now building ) replace rented one.
1980	Siaya	200	100	
1983	Bondo	330	170	



Telecommunications development is proposed by Kenya Posts and Telec. Corporation as follows :-

- 1979 : Ilmor 70 lines manual
- Sega 70 lines "
- 1980 : Ugunja 70 " "
- Nyangweso 70 " "
- 1981 : Bordo 20 lines " extension
- 1982 :: Siaya 70 " " "
- 1983 : Asembo 70 " " "
- 1982 : Siaya installation FDI
- 1983 : Asembo installation 2 SPS and RC

B.2.6. Constraints

The majority of the rural population is too poor to afford the initial payment for the installation of a transformer in order to make use of the Rural Electrification Programme. However, it is hoped that the other subsectors' planned programmes will reciprocate with one another in an endeavour to raise the average levels of farm-family incomes.

Secondly, the Posts and Telecoms Department should step up its operations of installing desired facilities in more of the service centres in the district, otherwise lack of such service facilities will encourage inefficiency and retrogressive effects in the development of rural areas.

SECTION B. 3. WATER DEVELOPMENTB.3.1. BackgroundWater Sources and Consumption

Siaya District has three main reliable water sources, viz. Nzoia River, Yala River and Lake Victoria. These three sources can be more widely used to achieve the Government's objective of supplying clean piped water to every household by the year 2,000 A.D. Presently only three sizably big water supplies, namely; Yala, Bondo and Uyoma water supplies, operated and maintained by the Ministry of Water Development draw their water from the above sources; Yala and Bondo draw from River Yala and Uyoma draws from Lake Victoria. Others which draw water from Lake Victoria are Lwak and Usigu; these schemes are run by Siaya County Council and the Ministry of Health respectively.

The district has also been favoured by a few small streams and man-made dams serving as sources for some existing water supply schemes.

A few individuals also obtain their water from boroholes

It can, therefore, be seen at a glance that the whole District is fairly well served with water resources. The only problem is to make this water available within easy reach of every household.

During the past few years the rate of water consumption from the already existing water supplies has been increasing tremendously day by day due to increasing population in the expanding urban centres and also due to increased grade cattle keeping in rural areas. This, in consequence, calls for improvement, extension and augmentations of the existing water supplies. Appendix B.3. Table 1. gives more details concerning the existing water supplies.

At present there are small-scale (or minor) irrigation schemes growing vegetables, fruits in nurseries and some rice. These use water from nearby dams, Lake Victoria or from small streams. Among these minor irrigation schemes are:- Yala, Dienya, Anyiko, etc. using water from streams; Adola, Usia, using water from Lake Victoria; and Nyamisi using water from Nyasite dam.

### B.3.2. Problems

A major problem for this subsector is the inadequacy of qualified personnel to design water projects. Because of this bottleneck implementation of many water projects is usually very much delayed.

A second problem also contributing to the delay in implementing water projects even when designs have been done is the lack of self-help funds contribution by the local people.

Another problem contributing to unsuccessful implementation of water projects has been poor selection of water projects without remote prospects of success.

Non-availability of spare parts for the water pumping units also poses a problem to continued operation of water projects.

Some of the existing water supply schemes are too small and only serve a market or institution and leave the rest of the suburban and rural population crying for water.

Small water projects in this category include Lwak, Usigu, Nyajuok, Sigomre and Ukwala.

Another problem has to do with supply of fuel (diesel) used for the engines pumping water. This fuel is usually carried in drums in land-rovers from Kisumu to the water projects. This, indeed, involves a lot of risk of much diesel being wasted by leaking drums leave alone the other untold risks of fire.

Many parts of the district are very dry and the people have problems with getting water for domestic services, for their livestock and for irrigation. Areas so affected include extensive parts of Uyoma, Sakwa and ..sembo locations of Bondo Division; parts of Central, West and even East Alego locations of Boro Division and also some parts of Ukwala and Yala Divisions.

In consequence people have to walk long distances of 2 to 5 or more kilometres to get to any nearest source of water and this involves a lot of wasted time which could have been spent on the garden or in doing other kind of housework.

B.3.3. Objectives

In the short-run, the Provincial Water Supply designers/technicians have to be increased. In the long-run the aim should be to have at least two officers at district level to make designs for water projects.

The District Development Committee will also ensure that proper preliminary feasibility studies have been carried out before approving any water projects.

B.3.4. Development Thrust

Various agencies develop, conserve and maintain water supply schemes in Siaya District. These agencies include the Ministry of Water Development, the Ministry of Health and the Siaya County Council.

The Government has taken a very active part in some water schemes as follows :-

(i) Rural Water Supply Programmes

To-date two major rural water schemes, namely Uyoma (in Bondo Division) and Mauna (in Ukwala Division) commenced in 1970 and 1972 respectively, have been completed and provided water for both human and livestock consumption. People's way of living has been greatly improved in the two areas enjoying rural water supplies.

A larger number of healthy, looking livestock are seen in these areas, especially so in Uyoma and people here also have more time saved from search for water and these people have now intensified their agricultural activities, such as the growing of cotton, maize, sorghum, etc. and the keeping of exotic dairy cattle.

A third major water scheme, now at the construction stage is the Sidindi/Malanga water scheme intended to cover the whole of Boro Division, parts of North and East Gem and some parts of South Ugenya locations. This project is estimated to cost the Government £18 million (i.e. shs. 360 million) and phase I is scheduled for completion in 1980/81. The Government has already allocated £1,880,000 (shs. 37.6 million) to the construction of this water scheme during 1979/83 period.

(ii) Minor Urban Water Supply Programmes

Under this programme, which was commenced in 1974, Asembo water project is at the design stage and will cost a total of £300,000 when completed in 1979/80. The Government has earmarked £250,000 (shs.5 million) for the construction of Asembo Minor Urban Water Supply during the 1979/83 plan period. Currently Minor Urban Centres supplied with water are Siaya, Yala, Bondo, and Ukwala. Standards of sanitation have been greatly improved by the provision of piped water to the above urban centres.

(iii) County Council Water Programme

This programme was initiated mainly to enable the Water Department to take over and rehabilitate County Council Water Supplies. The Siaya County Council currently, operates and maintains among others Segga, Idore, Rangala, Ugiya water supply scheme. Aluor water supply has now been handed to the Government by the Siaya County Council.

(iv) Self-help Water Supply Programme

Under this programme are minor water supplies initiated by the local people. The programme is mainly intended to meet expenditures on planning, design and supervision during the implementation stage of the project. The programme also covers procurement of pipes, fittings, valves, specials, pumps/engines, etc. and transportation of materials to site.

Water projects covered under this programme and now at their initial stages include Bar-Ober, South Sakwa and Uranga.

B.3.5. Plan of Action

During the plan period, the District Development Committee will be called upon to consider, under the above programmes, the following Self-help water projects already identified/initiated by the local people and the Siaya County Council. The projects whose phase one is already completed include Usigu, Lwak, and Ugunja. The proposed water projects include Ramula/Uranga, Riwa Dam and Ajigo Dam. Those designed are Wafwa-North Sakwa, Sinaga, Ugego Dam and Yenga/Siranga water project.



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Arrangements have been made to purchase required materials for the designed projects whose construction will start soon.

Abir water project has already been designed but construction work has been held up due to a shortage of funds.

Each year, the D.D.C. will consider and recommend the construction of more new water projects in an endeavour to supply piped water to every family throughout the District. Depending on the capacity or the establishment of the Provincial Water Personnel to undertake the construction of water projects in the District, it is envisaged that at least three (3) water projects will have to be designed and constructed each year.

As has already been said in B.3.2. and B.3.4. provision of water under the proposed water projects and those to be identified yearly, will go a long way to improve people's ways of living in the district and such availability of water will encourage a diversification of agricultural activities, such as horticulture, and the keeping of more grade cattle.

The existing and proposed water projects are shown on map 4 and in Appendix B.3.

The Siaya D.D.C. appreciates the Government's efforts to construct the Malanga/Sidindi Rural Water Supply and the extended Asembo water supply and hopefully expects the work to be speeded up so that construction is completed within the scheduled period. The Government has allocated funds to the two water supplies during 1979/83 plan period as follows (10):-

Sidindi-Malanga Rural Water Supplies III & IV (KSh'000)

<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>	<u>Total</u>
450	450	450	230	300	1,880

Asembo Minor Urban Water Supply (KSh'000)

<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>	<u>Total</u>
	100	150	-	-	250

The Government has also allocated to Siaya District the following funds for Minor Augmentations, Drainage, Flood and River Control and Minor Irrigation Projects within the Ministry of Water Development as follows : (10)

	(K£'000)					
	1978/79	1979/80	1980/81	1981/82	1982/83	Total
Minor Augmentations	8	10	12	13	17	60
Yala Swamp Drainage	-	-	-	-	10	10
Yala Swamp Flood Control	-	-	-	-	10	10
Yala Swamp Minor Irrigation	-	-	-	-	5	5

Other water conservation and use projects within the Nyanza Province have been allocated funds during the 1979/83 plan period as follows : (10) :-

<u>Nyanza Province Allocations (K£'000)</u>						
	1978/79	1979/80	1980/81	1981/82	1982/83	Total
Water Survey and Pollution Control .....	2.5	8.5	6.75	6.75	8.25	32
National Master Water Plan Studies.....	40	70.25	68.25	9.75	9.75	198
Surface Water Survey...	48	17.5	10.25	15	22.5	113
Lake Victoria Hydro-meteorological Survey .....	50	50	50	50	50	250

As a whole, the identified and planned water supplies appear to cover the whole district fairly well, with an exception of Yimbo location and South Gem location. The Siaya District Development Committee, therefore, recommends that the Ministry of Water Development should undertake the designing and construction of a water supply scheme to cover Yimbo location and also another water supply scheme to cover parts of South Gem location to complement the Alur Water Supply.

(Appendix 5 outlines the existing and proposed water supplies in the district.)

### B.3.6. Constraints

Lack of design capacity has been and might continue to be the most serious constraint to the early implementation of many water projects in the District.

Another constraint which might continue to slow down the implementation of water projects is lack of sufficient self-help funds for self-help water projects.

B.4. LOCAL GOVERNMENTB.4.1. Background

The Siaya County Council operates under the Ministry of Local Government and is in charge of growth and maintenance of all markets (trading centres) in Siaya District, maintenance of some water projects and also the running of most of the Day Care Centres (nursery schools) in the district.

At present the Council operates eight (8) water projects, namely :-

1. Rangala water supplies
2. Sega "
3. Karenyo "
4. Ndere "
5. Lyawara " (in North Gem)
6. Malicw/Lwak "
7. Idori/Ramba "
8. Ugunja "

The Siaya County Council runs one hundred and sixteen (116) Day Care Centres. The Day Care Centres have 4,480 children and a teaching staff of 120 teachers.

Table 1 gives a summary of the establishment of Day Care Centres under Siaya County Council for the year 1978.

Apart from County Council run Day Care Centre, there are also ninety-three Parent (or Community) run Day Care Centres and give (5) Mission run D.C.C.s in the district, thus bringing the total of all Day Care Centres in the district to about 214. The Mission Day Care Centres are :-

The 93 parent-run Day Care Centres employ 95 teachers and have an enrolment of 3894 children.

The Siaya County Council maintains the Siaya showground and claims to maintain the four airstrips, namely Siaya, Sega, Yala Swamp, and Mageta Island airstrips. (Of these only Siaya is serviceable).

The Siaya County Council has established housing schemes for renting at Ukwala, Yala and Bondo Divisional headquarters and also at Siaya District headquarters. The Council has also constructed thirty six pit latrines with 102 cubicles in most

of the big rural centres in each of the four administrative divisions given as follows :-

Yala Division	6	latrines completed
Ukwala "	9	"
Boro "	12	"
Bondo "	9	"
<hr/>		
Total	36	
<hr/>		

The Council has also fenced some markets in the district.

#### B.4.2. Problems

Among the problems that face the Siaya County Council are :-

1. Inadequate funds for recurrent and development expenditures
2. Lack of sufficient vehicles for :
  - (a) Survey and supervision of water supplies
  - (b) Supervision of nursery schools, and
  - (c) Collection of revenue from markets and water supply
3. Inadequate personnel to supervise community development programmes.

#### B.4.3. Objectives

The Siaya County Council aims at maintaining a high standard of sanitation in all the markets within the district.

To achieve this objective it is intended to build more pit latrines in the various markets, construct sewers in the bigger urban centres, provide better slaughter houses and slaughter slabs, etc.

The Council also aims at increasing its services in various markets by providing social, educational, health and economic facilities all geared to uplifting the people's standards of living while at the same time providing a source of revenue for the Council.

The Council endeavours to see that all markets grow more rapidly and provide the necessary goods and services demanded by the people. To achieve this objective the council endeavours to have all the plots in the markets surveyed and subdivided for development.



B.4.4. Development Thrust

The first seven of the eight water supplies listed in B.4.1. were constructed by UNICEF during the Cholera epidemic of 1975 and 1976. The County Council eventually took over their operation and maintenance. The eighth water scheme was constructed with D.D.C. Grants and was then handed over to the Council.

The Day Care Centres currently run by the Siaya County Council were constructed by the communities who, in turn, handed them over to the Council. The Council employs teachers of the Day Care Centres and pays them at a rate of about shs. 167/- per month.

The Council also employs and pays for the following staff who supervise the various self-help projects in the district.

District Community Development Assistant .....	1
District Nursery (D.C.C.'s) Schools Supervisor...	1
District Social Worker .....	1
Divisional Community Development Assistants.....	1
Locational " " " "	19

The Siaya Showground was completed in 1976/77 by providing a perimeter fencing at a cost of shs. 80,000/- provided through the District Development Committee from Rural Development Funds. The showground was eventually handed over to Siaya County Council for maintenance.

B.4.5. Plan of Action (See Appendix B.4.(i) for Phasing)

Established only in 1966, Siaya is a relatively young district and its trading centres are just starting to grow up. Many of the trading centres lack basic infrastructure and other services.

It is with this notion in mind that many proposals are made in this section in an endeavour to hasten the growth and development of the markets in the district. It is anticipated that the Local Government Loans Authority will extend funds for the planned programmes.

1. Siaya is a rapidly growing urban centre but recreation and social facilities are still lacking. A modern Social Hall should be built at Siaya Township during the plan period as one does not exist at present. It is envisaged that a well furnished Social Hall will provide some income to the Siaya County Council in terms of hire charges for the use of the hall for dances, films and other recreational activities. A completed Social Hall is estimated to cost about £30,000.

2. Proper slaughter houses and their slabs are lacking in all the markets within the district. As a result unhygienic handling of meat is inevitable.

Slaughter houses and their slabs are to be constructed by the Council in all the bigger markets during the 1979/83 plan period and a total of £17,800 has been proposed for this work at Siaya, Ukwala, Bondo and Yala Townships.

By providing better slaughter houses the Council will be justified to raise more of her income from charging slaughter fees per slaughter house. Slaughter slabs will be provided at nine of the markets in the district at a total cost of £2 (See Appendix B.4.).

3. Town streets and lanes are lacking at Siaya Urban Centre to ease communication and accelerate development of the allocated plots. A total sum of £20,000 has been proposed for the construction of the streets and lanes at Siaya during the plan period. Street lights will also be provided.

4. There is no Bus Park at Siaya Urban Centre in spite of the fact that the Matatu and Bus population has shot up very sharply. A sum of £7,000 has been recommended for the construction of a Bus Park. A suitable site has already been set aside.

5. ...Siaya Urban Centre is growing very rapidly and already there is a shortage of houses. This problem is likely to be very acute in the very near future when the urban population shoots up due to the opening of the Siaya Farmers Training Centre, the Siaya Rural Industrial Development Centre and the expansion of staff deployment in the various departments of operating Ministries in the District.

A loan of £878,000 should therefore be extended to the Siaya County Council by the National Housing Corporation for the construction of Rental and Tenant Purchase Houses in the 1979/80 financial year.

6. The Siaya Airstrip was constructed by KOW. The Siaya County Council now requires 365,000 to spend on drainage and proper maintenance of the airstrip during the plan period.

7. As pointed out under Public Health Subsector, at least eight pit latrines are required to improve the standard of sanitation in every market in a bid to prevent the spreading of infectious diseases such as cholera, dysentery, typhoid etc. The council needs £5,000 for the construction of such pit latrines during the 1979/83 plan period.

The Council proposes to construct 58 more pit latrines as follows :-

<u>DIVISION</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>TOTAL</u>
Yala	3	3	2	2	2	12
Ukwala	4	3	3	3	3	16
Boro	3	3	3	3	3	15
Bondo	3	3	3	3	3	15
<b>Total</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>58</b>

8. A modern market is virtually necessary at Siaya Township. A total of shs.500,000/- has been approved for the construction of the market during the plan period. Fees collected from the use of market stalls will provide revenue to the Council.

9. A number of the markets are difficult to man as the barter areas are not fenced all round. If these barter areas are properly fenced around, the Council can successfully collect fees from those selling goods in the markets. An application will be made to the Local Government Loans Authority for a loan of £3,750 to the council for the fencing of barter areas within the markets during the 1979/83 plan period.

It is hoped that if the foregoing proposed programmes are undertaken and fees are collected from the various respective sources (i.e. social hall, slaughter houses, rental and tenant

purchase houses, modern market and fenced barter areas) the Council's revenue will tremendously increase to enable her to diversify her services to the local people. Such services will include the construction and/or taking up and operation of more small water supplies and cattle dips which have been constructed by grants provided through the Siaya District Development Committee (See Appendix B.4.).

#### Urbanization

Siaya District has many small markets with very few service-offering facilities and yet their populations are increasing at a remarkably high rate. People are increasingly moving into the small market and urban centres to establish businesses and trades of various kinds. It has, therefore, become increasingly difficult for the Siaya County Council to continue providing basic services.

It is recommended that Yala, Bondo, Asembo Bay and Ndere should be elevated to Urban Councils so they can run their own affairs and relieve the County Councils of the costs of providing services.

The DDC will propose to Director Physical Planning Department during the plan period a number of rural and market centres for upgrading to urban and rural centre respectively.

As mentioned in B.4.1. above, there are 93 sector parent-run Day Care Centres in the district and the Siaya County Council intends to take them over during the 1979/83 plan period so as to enable the communities to construct more new Day Care Centres. At least two Day Care Centres should be constructed in each Location every year (thus a total of 36 in the district during the 1979/83 plan period so as to cope with the increasing number of children.

The Council plans to take over the maintenance and operation of the following water supplies which were also constructed by U.N.I.C.E.F. and have been under Ministry of Health:

1. Rabar water supplies
2. Ngiya "
3. Usigu "
4. Mwer (Uranga) water supplies.

Three of the four administrative divisions in the district do not have Community Development Assistants and the Council plans to re-instate C.D.A.s in the other three administrative divisions to help in spear-heading the co-ordination of self-help projects whose management has weakened tremendously.

If the financial position of Siaya County Council improves during the five year plan period, the Council plans to :

1. Improve the present cemetery to a reasonable standard.
2. Instal a sewerage system for Siaya Township
3. Construct a District Training Centre at Siaya Township.

5.4.6. Constraints

The Council hopes to receive loans from the Local Government Loans Authority, the National Housing Corporation, and also revenue collected from local sources. If these funds are not forthcoming as expected, the planned programmes will face a serious financial constraint.

1	100	100	100	100	100
2	100	100	100	100	100
3	100	100	100	100	100
4	100	100	100	100	100
5	100	100	100	100	100
6	100	100	100	100	100
7	100	100	100	100	100
8	100	100	100	100	100
9	100	100	100	100	100
10	100	100	100	100	100
11	100	100	100	100	100
12	100	100	100	100	100
13	100	100	100	100	100
14	100	100	100	100	100
15	100	100	100	100	100
16	100	100	100	100	100
17	100	100	100	100	100
18	100	100	100	100	100
19	100	100	100	100	100
20	100	100	100	100	100
21	100	100	100	100	100
22	100	100	100	100	100
23	100	100	100	100	100
24	100	100	100	100	100
25	100	100	100	100	100
26	100	100	100	100	100
27	100	100	100	100	100
28	100	100	100	100	100
29	100	100	100	100	100
30	100	100	100	100	100
31	100	100	100	100	100
32	100	100	100	100	100
33	100	100	100	100	100
34	100	100	100	100	100
35	100	100	100	100	100
36	100	100	100	100	100
37	100	100	100	100	100
38	100	100	100	100	100
39	100	100	100	100	100
40	100	100	100	100	100
41	100	100	100	100	100
42	100	100	100	100	100
43	100	100	100	100	100
44	100	100	100	100	100
45	100	100	100	100	100
46	100	100	100	100	100
47	100	100	100	100	100
48	100	100	100	100	100
49	100	100	100	100	100
50	100	100	100	100	100
51	100	100	100	100	100
52	100	100	100	100	100
53	100	100	100	100	100
54	100	100	100	100	100
55	100	100	100	100	100
56	100	100	100	100	100
57	100	100	100	100	100
58	100	100	100	100	100
59	100	100	100	100	100
60	100	100	100	100	100
61	100	100	100	100	100
62	100	100	100	100	100
63	100	100	100	100	100
64	100	100	100	100	100
65	100	100	100	100	100
66	100	100	100	100	100
67	100	100	100	100	100
68	100	100	100	100	100
69	100	100	100	100	100
70	100	100	100	100	100
71	100	100	100	100	100
72	100	100	100	100	100
73	100	100	100	100	100
74	100	100	100	100	100
75	100	100	100	100	100
76	100	100	100	100	100
77	100	100	100	100	100
78	100	100	100	100	100
79	100	100	100	100	100
80	100	100	100	100	100
81	100	100	100	100	100
82	100	100	100	100	100
83	100	100	100	100	100
84	100	100	100	100	100
85	100	100	100	100	100
86	100	100	100	100	100
87	100	100	100	100	100
88	100	100	100	100	100
89	100	100	100	100	100
90	100	100	100	100	100
91	100	100	100	100	100
92	100	100	100	100	100
93	100	100	100	100	100
94	100	100	100	100	100
95	100	100	100	100	100
96	100	100	100	100	100
97	100	100	100	100	100
98	100	100	100	100	100
99	100	100	100	100	100
100	100	100	100	100	100



SECTION C. SOCIAL SERVICESC.1. MEDICAL HEALTH(i) MEDICAL HEALTHC.1.1. Background

The first Medical Officer of Health was posted to Siaya District in 1975 and took over all the responsibilities of a health officer in Siaya District which was previously under the Medical Officer of Health who combined both Kisumu and Siaya Districts.

The new Siaya District Hospital started to function in late 1976; it has a capacity of 190 beds.

Existing health facilities in the district are listed in Table C.1.1. below :-

Table C.1.1. Health Units and Their Patients- Siaya District

Name of Health Unit	Admin. Div.	Average Attendance per Month		No. of Beds
		Out Patients	In Patients	
1. Siaya District Hospital	Boro	10,815	353	190
2. Nambale Mission Hospital	Boro	686	13	12
3. Nyangoma Mission Hospital	Bondo	832	19	6
4. Lwak Mission Hospital	Bondo	1,267	379	42
5. Aluor Mission Hospital	Yala	598	31	18
6. Rangala Mission Hospital	Ukwala	929	208	46
7. Soga Mission Hospital	Ukwala	1,073	134	47
8. Mbaga Mission Hospital	Boro	1,349	211	23
9. Yala Rural Health Centre	Yala	5,928	310	22
10. Akala Dispensary	Yala	1,791	-	-
11. Nyawara Sub-Health Centre	Yala	2,359	-	-
12. Maronyo Sub-Health Centre	Yala	2,936	-	-
13. Malanga Dispensary	Yala	1,570	-	-
14. Ndore Sub-Health Centre	Yala	4,362	-	-
15. Rera Dispensary	Yala	2,917	-	-
16. Bondo Health Centre	Bondo	4,939	233	40
17. Madiany Health Centre	Bondo	2,113	113	39
18. Usigu Sub-Health Centre	Bondo	1,100	-	-
19. Uyawi Dispensary	Bondo	3,141	-	-
20. Got Agulu Dispensary	Bondo	992	-	-
21. Ongielo Dispensary	Bondo	2,438	-	-
22. Manywanda Dispensary	Bondo	3,221	-	-
23. Naya Dispensary	Bondo	1,623	-	-
24. Rabar Dispensary	Boro	2,804	-	-
25. Boro Dispensary	Boro	728	-	-

Name of Health Unit	Admin. Div.	Out Patients	In Patients	No. of Beds
26. Rwambwa Dispensary	Boro	2,382	-	-
27. Ukwala Health Centre	Ukwala	4,737	116	16
28. Urenga Sub-Health Centre	Ukwala	5,707	--	-
29. Sigomro Sub-Health Centre	Ukwala	4,391	-	-
30. Ambira Dispensary	Ukwala	639	-	-
31. Tingaro Dispensary	Ukwala	433	-	-
32. Got Natar Dispensary	Bondo	1,825	-	-

Table C.1.1. shows that some of the health units receive an average of over 150 out-patients per day while most of them receive not less than 30 out-patients per day.

It can also be seen from the table that in those health units with accommodation for in-patients an average of about 5-15 in-patients appear to be sharing one bed per month.

Map 5 shows the distribution of the various health units in the district.

#### Disease Distribution in the District

The patients listed in the above table suffer from a number of diseases, the commonest of which are :-

- (i) Malaria
- (ii) Gastro-entiritis
- (iii) Upper respiratory track infection
- (iv) Scabies

About 70% of the reported cases are usually due to malaria infection.

Table C.1.2. gives a picture of disease incidence in the district.

#### Table C.1.2. Diseases and Their Spread in Siaya District

Diseases	Reported Cases in 1978	Area of Concentration	Proportion of people affected In.
1. Malaria	29,952	Boro Div. Bondo Div.	18,952
2. Gastro-entiritis	6,479	Boro and Bondo Div.	4,001
3. Uper Respiratory Track Infection	4,046	Yala and Boro Divi.	2,140
4. Scabies	4,932	Bondo and Ukwala	2,930