REGIONAL INEQUALITY IN KENYA

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A B S T R A C T

The purpose of this paper is primarily to present some basic facts about regional inequality in Kenya. After some introductory observations on regional policy in Kenya since independence, estimates of the production levels by province for all one-digit sectors between 1967 and 1976 are presented. Some factors behind the observed pattern of development are tentatively discussed. Then some aspects of regional differences in employment and the distribution of public services are discussed.

REGIONAL INEQUALITY IN KENYA .

1. Background

At independence monetary production in Kenya was concentrated to the former White Highlands and a few urban agglomerations, while subsistence production dominated in the rest of the country. The distribution of infrastructure reflected this pattern. Kenya thus inherited a disintegrated economic structure with large inequalities between different regions.

Since independence Kenya has followed a policy of moderation and tried to preserve political stability. Frances Stewart (1976, p. 84) has summarized the development strategy followed by Kenya since independence as "Kenyanization and modernization (in particular industrialization) in a capitalist framework". The kenyanization has been most far-reaching in agriculture, but also within the administration and the private industry expatriate personnel has been replaced by Kenyans to a considerable degree.

To stimulate industrialization the government has pursued an import-substitution policy. This policy has resulted in an impressive growth in the national product (6-7 per cent per year until the "oil crisis"). The fast growing modern sector has, however, not been able to absorb very much of the fast growing labour force, wherefore small scale agriculture and the informal sector have had to absorb an increasing number of people. Kenya has been striving to create a good investment climate and given foreign investors very favourable terms. This together with the fast economic growth has attracted many foreign investors. In 1970-1973 foreign investment constituted 10-15 per cent of total investments in Kenya (Langdon, 1975, p. 84). The foreign influence is thus very strong particularly within manufacturing.

The import substitution policy, the reliance on foreign capital, and to some extent lack of alternative technologies have lead to the use of a capital intensive technology, which has created little employment. The benefits of the fast growth have been shared by relatively few. In the report of the World Bank mission to Kenya (1975.p.xi) it is pointed out that the performance of the Kenyan economy during the first decade of independence has been quite remarkable in many ways, but that it has been disappointing with respect to the growth of employment and its impact on the poverty of the lowest income groups.

It is argued that the "rapid growth of the urban formal sector has not always
been to the benefit of society as a whole." Therefore the World Bank argues for
a change in the pattern of growth.

The industrial growth has been based on the growth of the market for
western consumer goods, and this market in turn has been created by the growth
of the modern sector and the consequent creation of a wealthy middleclass.
There is thus an interdependence between the type of production that expands and
the type of demand that grows. The small modern sector creates its own demand,
while the rest of the economy becomes of secondary importance. The dual economy
still is a reality.

There are thus economic forces working to preserve the imbalances
in the economy among economic sectors and thus also among regions. What is
needed to change this pattern of development is an active policy on behalf of
the government aimed at improved income distribution and integration of all
parts of the economy into the development process. We will here   take a
quick look at Kenyan development policy, concentrating on the regional aspect.

2. Development Policy

The first attempts to introduce planning for development in Kenya
were made already during the second world war. Between 1946 and 1963 four
different plans were presented, but none of these included any serious discussion
on restrictions or potentials of development. Neither was there much discussion
of policies towards the private sector. The plans were mainly a collection
of investment projects for the various ministries.

Since independence three development plans have been published (the
1st: 1964-69, revised 1966-70, the 2nd: 1969-74 and the 3rd 1974-78). These
have gradually been extended to include discussions of development strategy and
general economic policy, but still the capital expenditures of the government
are central. The private sector is controlled indirectly through fiscal policy,
tax incentives, protective measures against imports, licences and so on.

The plans are fairly general documents, and projects are not
definitely decided upon until they are included in an annual budget. They have
so far been weak in project content, and Ghai (1972,p 127) points out that
another "major weakness of the earlier plans in Kenya has been their lack of

locational specificity". Norcliffe (1977) has surveyed the policy of industrial location since independence and concludes that there has existed no coherent policy in that area. Location decisions have been taken in a "partial vacuum", and the various policies seems to have had a negligible effect. (p 1).

Even if the plans over time have become more elaborate, the planning machinery still seems to be working better on plan formulation than on implementation. The administrative capacity of the government to undertake investment expenditures is low, and this may often be a more pervasive constraint than the lack of financial resources. The World Bank mission (1975, p 38) regards the planning and implementation capacity of the public sector as the major constraint on any rapid restructuring of the economic growth in Kenya.

The conclusion drawn by Ghai from his discussion of planning in Kenya (1972,p. 133) probably still holds. He stated that "the influence exercised by the Ministry of Planning and Economic Development (now the Ministry of Finance and Planning) on the evolution of economic policy and on day to day economic decisions may be more important than the formal responsibility it bears for the construction and implementation of the plan".

Since independence the Kenya government has invarious documents emphasized the need to distribute the fruits of development equitably. In Sessional Paper No 10 from 1965, African Socialism and its Application to Planning in Kenya, the official policy objectives were stated as continued expansion of the economy, wider sharing of the benefits of expansion, national integration of the economy, and attack on extreme imbalances and disparities. Already at this time there was an awareness of the need to do something about income distribution and regional inequality, and it is also reflected in plans and other official documents.

Then in 1972 the very influential ILO-report on employment and earnings in Kenya was published. The ILO-mission found that there were three fundamental imbalances that needed to be corrected if the economy was to be able to provide productive employment and a reasonable income for the entire population (ILO, 1972,p.13-14). The imbalances were

> "1) The imbalance between the rate of population growth and the nature of technology."

"2) The imbalance between the centre and the periphery, i.e.
essentially the imbalance between Nairobi and the rest of
the country, between the rural and the urban in general, and
among provinces and districts."

"3) The imbalance between the formal and informal sectors."

The imbalance between different regions was thus pointed out by the
mission as one fundamental aspect of the general problem of inequality in
Kenya and the mission found that the problem was increasing (ILO, 1972.p.2).

"The tendency of Nairobi and other urban areas to grow at the
expense of the rural, of the richer regions in relation to the
poorer has led to growing imbalances between regions and different
groups of population."

In the report it is furthermore pointed out (ILO. 1972, p.301) that

"differential access on a regional basis to such advantages as
roads, education and development projects is closely related to
(family) economic disparity, and is thus a major force behind
migration, both from the country to the towns and from one rural
area to another. Particularly serious is the way in which regional
imbalances interact with tribal fears and forces, partly as a cause
and partly as a result. The Report of the National Assembley's
Select Committee on Unemplyment showed tribalism to be an aspect
of regional and ethnic inequality with serious effects on social
and economic progress: Where tribalism exists, many of the
recommendations made in this report (for example, equitable
distribution of development efforts geographically, equitable
distribution of incomes, decentralization of industry, efficiency
in Civil Service) cannot be implemented.

In the reply of the Kenyan government to the report of the ILO-
mission it accepts the central themes of the report, namely that "Kenya's
employment and unemployment problems are deeply embedded in the country's social
and economic fabric and that these problems can be significantly alleviated
only by fundamental changes in the pattern of development and in the structure
of key institutions" (Kenya, Sessional Paper on Employment, No 10 of 1973).

As far as regional inequality is concerned there was a declared
readiness to do something about it. In the same sessional paper, (paras.242-43)
it is e.g. stated that

"the Government is aware of the fact of regional inequalities in the
distribution of welfare, services and amenities...The Government
accepts that geographic quotas are probably necessary for a variety
of services, activities and programmes...Current planning practices
and procedures will be examine with a view to introducing geographic
quotas for a variety of services and amenities and for expenditures
during the next Plan period".

There thus seemed to be an acceptance of the analysis of the mission. In the Development Plan 1974-1978 there is also considerable stress on employment and equity objectives, and there it is stated (p. 148) that improved income distribution and greater employment are the primary objectives of the plan.

Killick concludes, however, from his review of various official government publications (1976, p.30) that the response of the Kenyan government to the ILO-mission can be characterised as dilution. This means that it expresses agreement in principle, but is unwilling to commit itself to any specific actions.

In the report from the follow-up ILO-mission (1977, app B) there is a comprehensive summary of the extent to which the recommendations of the ILO-mission of 1972 have been implemented. It is concluded that "while it is true that many of the ILO report's recommendations have been implemented, implementation has been distinctly patchy. Some of the measures taken are perhaps surprising in the extent to which they confront vested interests (e.g. the capital gains tax, taxation of luxury goods, abolition of investment allowance) but on the whole measures implying structural upheaval, such as land cealings and redistribution, land tax and a freeze on the incomes of the higher paid, have been avoided".

One of the main points in the ILO-recommendations was that there should be redistribution from growth. The question is, however, if the present high growth rate can be presserved if there is a radical change in the way the benefits are distributed. The classical conflict between growth and distribution may be impossible to avoid.

Norcliffe (1977) has in an interesting paper reviewed the industrial location policy that Kenya has followed since independence. He finds that during the period 1963-1966 there was a centralization of government to Nairobi, which also had an effect on other activities. The concentration of civil servants to Nairobi stimulated industrial growth there, and Noroliffe argues (p 3) that the policy of this period can be seen as "an implicit policy of industrial concentration to Nairobi". He notes that there are some statements about deconcentration in public documents (e.g. Sessional paper no 10, 1965), but such statements are, however, always qualified in so far as decentralization must not interfere with economic efficiency.

In the first plan(1966-1970 p 237) it is stated that "the government
has a strong interest in ensuring that economic development affects all parts
of the country and is not unduly concentrated in Nairobi and Mombasa. Other
things being equal, therefore, the government will assign a higher priority to
a project that can be economically located outside the two cities. The emphasis
that is being placed in the plan on the development of agricultural processing
industries is motivated in part by the fact that such industries normally
can be located in the areas where the products are grown. This is an effective
way to achieve a wider geographical distribution of industry". Norcliffe
comments on this (p 5) that "left implicit is the not unreasonable assumption
that for most industries the greatest efficiency is to be achieved in Nairobi
and Mombasa." As efficiency considerations are considered to be of overriding
importance there thus is very little pressure for localization outside the
two big cities.

A major shift in policy was however, initiated during the period.
In 1967 the president announced that greater emphasis would be place on suppor-
ting the lagging regions. This was followed up by two different policy measures.
First, between 1967-1970 50% of the Graduated Personal Tax collected in
Nairobi and Mombasa was transferred to minor or rural municipalities. Secondly
the Physical Planning Department was created with the main responsibility of
devising a system of original growth points.

The need for a regional policy is stressed in the second plan
1970-74 (p.304-305). One of the stated objectives is a wider geographical
dispersion of the benefits of industrialization. The main regional policy
the second plan was the design of a system of regional growth centres, which
was belived to facilitate the dispersal of industrial activity. Four categories
of centres were identified. First, Nairobi and Mombasa being the major
cities constituted one category. They were expected to continue to grow, and
due to efficiency considerations no restrictions were put on their growth.
Secondly seven major growth centres were singled out. In these infrastructure
would be developed so that industries would be attracted to locate in these.
Thirdly, there were urban centres which were to serve mainly as commercial
centres but also to have a certain industrial role. Fourthly, there were small
rural markets or local centres that would serve mainly commercial interests.
The fact that such a system of centres was designated, however, seems to have

had negligible effects on the government policy as far as allocation of
government resources are concerned. Much remains to be done before these
centres will play any real role with regard to the government policy making.

Another policy that was initiated and which potentially could have
a positive effect on regional equalization was the build up of industrial estates.
By 1970, however, only the first phase of the Nairobi estate was ready. One
of the positive policies noted by Norcliffe (1977,p 8) is the small industrial
scheme operated by the Industrial and Commercial Development Corporation (ICDC).
This covers loans and management advice to rural areas. He also points to the
plans to expand the Kenya Industrial Training Institute outside Nairobi and
Nakuru. Overall, the second plan offers a variety of schemes designed to
decentralise industry.Still, none of the plans were mandatory, and the main
thrust, which was the physical plan, was only indicative and could have effect
only in the long run.

One positive initiative during the second plan period (in 1971) was the
initiation of the Rural Industrial Development Programme (RIDP) which was
intended to create labour-intensive, local, small scale industries in the rural
areas.

In the third plan strong emphasis is put on rural development, but
"the plan is rather mute on the subject of industrial location" (Norcliffe,
1977,p 9). The physical plan is further refined., but it still has very little
effect on the course of economic policy making. There are few new initiatives,
but the programme of industrial estates continues (only Nakuru and Nairobi are
completed) as do the RIDP (Machakos, Kakamega, and Embu are operational)and the
Special Rural Development Programme (SRDP). The latter programme is experimental,
and is not directly aimed at fostering industrial development. Norcliffe (1977
p 10) concludes that "overall industrial location figures much less prominently
in the 1974-78 plan than in the 1970-74 plan".

In his review of the plan Kiliick (1976,p 17) draws the same conclusion
as Norcliffe. He finds little reflection of the aspirations of regional
equalization in the last plan. There are e.g. no quotas for government services
or for government spending. Killick also finds that in the area of industriali-
zation there seems to be a retreat from regional policy compared with the previous
plan, where the need for a regional policy was pointed out. Still, it should

be observed that the increased emphasis on rural development to some extent may
compensate for this as far as regional equalization in terms of economic
development is concerned.

In 1975 there is a positive initiative. (Norcliffe,1977,p.10). A
policy of selective investment credit allowances was introduced. This was aimed
at stimulating dispersion. The allowance is of the form of a 20% rebate on
capital outlay. Originally it was applied nationally, but from 1975 it has
been denied for investment in Nairobi and Mombasa.

To sum up one can identify three phases. From 1963 to 1967 there
was a phase of centralisation policy. The administration was concentrated to
Nairobi, and industrial efficiency was the only criterion of location. Between
1967 and 1974 there was a swing towards a policy of industrial dispension. "The
major emphasis was on improving the infrastructure of provincial estates"
(Norcliffe 1977, p. 10) The third phase, from 1974 and onwards, Norcliffe
calls a period of ambiguity. Rural development is emphasized, but it is not
clear whether the government is willing to pursue a policy of industrial
dispersion. Norcliffe(p. 10). says that "by and large policy seems to have
drifted with individual locational decisions being made on an ad hoc basis".

So far Kenya has supported the private enterprise economy. The
government has interefered very little to restrict its scope of action, and
there are few signs of a change of policy. The future development of regional
inequality therefore to a large extent will be determined by the location decisions
of the private sector of the economy.

3. The Regional Structure of Kenya

Before presenting data on regional inequality in Kenya some basic
facts about the geography of Kenya need to be given. I also need to motivate
why the provinces are chosen as units of analysis.

Kenya can be subvided into four psysical geographical regions:
(1) the Coastal Plains, (2) the Arid Low Plateau, (3) the Kenya Highlands, and
(4) the Lake Region. The Coastal Plain is relatively narrow, and the climate
is hot and wet with the highest rainfall near Mombasa. The Arid Low Plateau covers
most of the country. Much of this area is desert or haldesert, which is fit
for nothing else than pastoral agriculture. Nearly all of the Highlands has

a reliable rainfall and a pleasant climate. The soils are among the most
fertile in Africa. The Lake Region is warm and wet and is a densely populated
agricultural region.

Of course, these wide ecological and climatic differences have had a
profound influence on the distribution of people within the country. They are
concentrated to the south-west quarter of the country and to the area around
Mombasa, whereas the rest of the country is relatively sparsely populated.

In terms of administration the country is subdivided in eight provinces
(including Nairobi), which are further sub-divided into 41 districts with a
population from around 25000to three quarters of a million. The districts are
fairly homogeneous, but some of them may comprise a variety of physical conditions.

Table 1:   Province and Their Population in 1969

Province	Population	Percentage of population
1 - Nairobi	509.286	4.7
2 - Central	1.675.647	15.3
3 - Coast	944.082	8.6
4 - Eastern	1.907.301	17.4
5 - North Eastern	245.757	2.2
6 - Rift Valley	2.122.045	19.4
7 - Nyanza	2.210.289	20.2
8 - Western	1.328.298	12.1

Source: Population Census, 1969.

When choosing geographical units of analysis one should ideally choose
units that have maximum homogeneity. However, there is in reality little choice
as data on incomes, employment, and public services are collected on the basis
of decentralized administrative units. One might consider using districts, but
considerably less data are available on a district basis. It would not be
possible to get a comprehensive and complete set of data. Furthermore, most
of the provinces are reasonably homogeneous (Nairobi, Western, Nyanza, Central
North Eastern). Within the Coast province there are great economic differences
between Mombasa and the rest of the area, but it still is fairly well
demarcated geographically.

The most problematic provinces are Rift Valley and Eastern. Both
provinces have an oblong shape, but most of the population is concentrated to
the centrally located areas west and east of the Central province. The
districts that are located peripherially in Rift Valley are Turkana, Samburu,
Narok, and Kajiado, but they contain only 20 percent of the population of
Rift Valley. In the Eastern province the districts of Marsabit and Isiolo lie
very much apart, but they contain on the other hand only 4 percent of the
population. The inclusion of these areas should therefore not be too serious a drawback.

Urban-rural differences are not explicitly considered in this paper.
The degree of urbanization within a region is of course one fundamental aspects
of the level of economic development, but this will come into the discussion only
in an indirect way, as it is reflected in the economic structure of the region,
that is particularly the relative size of the monetary sector. By looking
at the economic structure of regions this fact is taken into account, even if
one not can tell whether the production activities and markets are spread
out or concentrated within the regions.

It should, however, be pointed out that even if the urban-rural
distinction becomes blurred at least Nairobi is treated as one specific region.
Therefore, the relation between the very dominating capital region and the
other regions of the country will come out into the open. Furthermore, Mombasa
which is the second largest urban centre completely dominates the Coast province,
as far as the non-agricultural modern sector is concerned. Those two cities
comprise 70% of the total urban population.

4. Regional Inequality in Incomes

In this section some data on the development of provincial incomes
between 1967 and 1976 are presented. The most detailed calculation is made
for 1971. There is quite a lot of data available for this year, among other
things due to the fact that the last Kenyan input-output table was constructed
for 1971. The results of the calculations for each sector as well as the
sources and assumptions used are presented in table 2. In table 3 the percentage
distribution of production among provinces for each sector in 1971 is given.

For the other years of the period 1967-1976 similar estimates are
made, but here somewhat cruder methods are used in some instances. The
manner in which these estimates are made as well the resultant percentage

distribution by province of different types of production is presented in
table 4. In table 5 production values for each one-digit sector for the period
1967-1976 are presented. In the table is also given total provincial production,
the provincial per capita income, and an index showing the relative level
of per capita income compared with Nairobi (Nairobi = 100) It has not been
possible to produce estimates for the period before 1967 due to the paucity
of provincial data.

To give a correct picture of the volume of production one should use
indices expressed in producers' prices net of commodity taxes. Here therefore
value added or gross domestic product at factor cost is used throughout as
the measure of output. Calculations are made in current prices as it is the
distribution among provinces rather than the growth rate that we are interested
in.

The detailed discussion of the assumptions and sources used and of
the reliability of the data can be found in the tables. I will here only
very briefly point to some limitations.

First, the provincial distribution of subsistence production (or
semi-monetary production as it is nowadays usually termed) has been calculated
from the IRS, that was made 1974/75. The percentages obtained there are
assumed to be valid for the entire period, and changes in provincial distribution
that may have occurred are therefore not taken into account. For modern
agriculture, on the other hand, there are quite reliable data. The main
deficiency there is that the share of Nairobi seems to be slightly underestimated
by the procedure used. For mining, manufacturing and construction there are
data by province up to 1971 in the censuses of industrial production, which
should be reasonably reliable. For utilities and transport there is little
data available on production by province. Estimates therefore have to be done
on the basis of earnings data. For commerce there is reasonably reliable
information for 1971, even if the estimate of the development over time is
much less certain. For services, finally, the estimate for restaurants and
hotels should be approximately correct. Incomes from ownership of dwellings
are estimated from figures on urban population, which does not take differences
in housing-stock per capita among urban centres (except for Nairobi) into
account. There may thus be a certain bias. The distribution of miscellaneous
services was calculated from data for 1966 and then assumed to be constant,

which is not very satisfactory. It is however, a small part of the sector.
The dominating part of services are the public services, and also for this
share I have to assume that the provincial distribution is constant and the same
as it was 1973/74. The distribution is estimated from data in the district
development plans, and they should give a reasonably correct picture for
1973/74. There probably has been some changes in the provincial shares both
before and after that time, but I have not been able to find any clear
evidence of any drastic changes. I therefore believe that my assumption of
constant shares is not too much off the mark.

Of course, quite a few single figures may be considerably biased
and small changes in either direction between two years may be due to
deficiencies in the data. Still, I believe that the overall picture given
by my estimates is true, and trends extending over several years should be
taken to reflect real changes.

It should finally be noted that in 1972 there were some changes in
the economic classification of some activities, which primarily concerned
commerce and services. No adjustments have been made here to take this into
account. Instead the figures from 1972 and onwards correspond to the new
slightly changed sectoral classification.

Table 2: Production by Province and Sector, 1971

Section 1: Subsistence production

Value added by province

	Agriculture	Building & owner- ship of huts etc.	Total	Per cent
Nairobi	–	–	–	–
Central	20857	4635	25492	20.63
Coast	3182	1391	4573	3.70
Eastern	18499	4172	22671	18.35
N. Eastern	652	695	1347	1.09
Nyanza	30031	4172	34203	27.69
Rift Valley	17455	4635	22090	17.88
Western	9696	3477	13173	10.66
Total	100372	23177	123549	100

Sources andassumptions:

Agriculture: The percentage distribution of subsistence agricultural
production (that is what is own-consumed and sold on local markets) is calculated
from the Integrated rural survey for 1974/75. No similar data are available
for 1971. Even if there may have been some changes between those two periods,
this still probably is the best estimate that can be obtained.

First, the average value of subsistence output per holding is calculated
(IRS, p66), that is output used on the farm,crops sold on local markets, and sales
of cattle and milk. In the last category is included some sales to e.g Kenya Meat
Commission, which should be excluded. There is, however, no data on in IRS on
this. Therefore the entire small farm output of cattle is included in the estimates
This may give some bias, but as only about 25 per cent of all cattle is sold through
KMC, one can assume that most of this does not come from the small farm areas. From
the estimates of production value must be drawn farm costs relating to intermediate
inputs (not labour costs) and therefore total intermediate cost per farm is
calculated for each province. The cost is then split up between commercial output
and subsistence output in proportion to their respective percentages in total farm
production. Then subsistence farm costs are deducted from subsistence output,
which gives value added in subsistence production by farm in the sample area for
each province.

To find total provincial production one must then know how many farms there are in each province. The population estimates made in IRS differ considerably from estimates made on the basis of the population censuses (estimates for urban and rural population 1975 are presented in Kenya Statistical Digest, Sept. 1976, p.9). The latter should be more reliable, wherefore I use these (The IRS estimate is about 700,000 people higher than the census estimate for the Central, Eastern, and Western provinces).

To start with I thus calculate the rural population in the areas included in the IRS sample frame (District estimates for 1975 taken from Kenya Statistical Digest Sept. 1972). The provincial estimates thus obtained are divided by the household sizes for each province given in IRS (p.32), which gives an estimate of the number of farms within the sample area for each province. Then the rural population in small-farm and ranching areas outside the sample area also has to be calculated (The large farm areas of Trans Nzoia, Uasin Gishu, and Nakuru are excluded, even if there are some small farmers also there). The rural population by province in the areas outside the sample area (West Pokot, Narok, Kajiado, Turkana, Samburu, Marsabit, Isiolo, Tana River, Lamu, Mandera, Wajir, Garissa) was then calculated as the district population minus estimates of their urban populations. The population (totalling 1,017,000) was then for each province divided by the same figures on household size as the population within the sample area, which thus gives an estimate of the number of households in the area. As these are low potential areas and because a considerable part of what is produced is sold to Kenya Meat Commission and thus is registered as modern agriculture I assume that subsistence production within these areas is 50% of what it is in the Coast, which has the lowest per capita subsistence production. I then multiply the estimates of average subsistence production and the estimate number of farms for each province. The estimate of total national subsistence production obtained by this procedure is K£ 155 million, which is consistent with the estimates in the national accounts, which were K£ 131 for 1974 and K£ 165 for 1975. Using the estimates I have obtained I calculate the percentage of each province in total subsistence production. These estimates are then applied to the value added figure for 1971 in subsistence agricultural production, which gives me my estimate of value added by province for 1971.

The production estimates presented here differ quite considerably from what the Central Bureau of Statistics have thought. My estimates for Coast, Eastern, and Western are lower than theirs, while the estimates for Nyanza, Rift Valley, and Central are higher. A note of caution about these

figures is therefore in place. Later rounds of the IRS may make it possible to make more reliable estimates. Building and ownership of huts: The percentage distribution among provinces is made according to estimates made by the Central Bureau of Statistics.

Sector 2: Modern agricultural production

The value of gross marketed production for 1971 is distributed by province. The categories of output are:

	Value (K£'000)
Cereals	10,746
Wheat	5,206
Maize	4,276
Rice	725
Barley and others	539
Temporary industrial crops	7,481
Pyrethrum	2,423
Sugar	3,457
Cotton	878
Castor and other oil seeds	400
Tobacco	28
Pineapples	295
Other temporary crops	3,497
Pulses	303
Potatoes .	1,652
Other temporary crops	1,542
Permanent crops	35,181
Coffee	18,922
Sisal	1,519
Tea	11,803
Cashew nuts	944
Wattle	423
Coconuts	545
Fruit and other permanent crops	1,025

Livestock and related products		26,049
Cattle and calves for slaughter		13,330
Sheep, goats, and lambs for slaughter		733
Pigs for slaughter		593
Poultry and eggs		1,032
Wool		220
Hides and skin		841
Dairy products		9,300
Unrecorded marketed production		3,741
Total -gross marketed agricultural production		86,695
Forestry	GDP	4,470
Fishing	GDP	1,220

Cereals

Gross Marketed Production by Province (K£'000)

	Wheat	Maize	Rice	SUM	Barley etc	Total	Percent
Central	572	74	612	1258	66	1324	12.32
Coast				0		0	0
Eastern	559	2	0	561	30	591	5.50
North Eastern				0		0	0
Nyanza		268	57	325	17	342	3.18
Rift Valley	4075	2329		6404	338	6742	62.74
Western		1603	56	1659	88	1747	16.26
Total	5206	4276	725	10207	539	10746	100

Sources and assumptions:

Wheat: Report of the Kenya Wheat Board for 1.7.1971 - 30.6.1972, app.5, 1972.

Maize: Monthly Statistics from the Maize and Produce Board, 70/71 and 71/72.

Rice: Annual reports from the Maize and Produce Board 70/71 and 71/72. The value given is a weighted average of the periods aug. 70 - july 71 and aug 71 - july 72. The weights are 7/12 and 5/12 respectively.

Barley etc: Production of the remaining cereals (5% of total cereal production) is distributed among provisions in the same proportion as the sum of wheat, maize, and rice is distributed.

Temporary Industrial Crops

Gross Marketed Production by Province (K£'000)

	Pyrethrum	Sugar	Cotton	Castor	Tobacco	Pineapples	Total	Percent
Nairobi								
Central	605		87	13	4	295	1004	13.42
Coast		387	186	76			649	8.68
Eastern	18		33	295	20		366	4.89
N.Eastern							-	0
Nyanza	1446	3070	183	7	4		4710	62.96
Rift Valley	354			2			356	4.76
Western			389	7			396	5.29
Total	2423	3457	878	400	28	295	7481	100

Source and assumptions:

Pyrethrum: Data from the Pyrethrum Board / verage for 1970/71 and 1971/72.

Sugar: Economic Review of Agriculture 1 Vol 3, no 4, 1971 p.45.

Cotton: Data from the Cotton Lint and Seed Marketing Board.

Castor:etc: Maize and Produce Board Annual Reports 70/71 and 71/72.
The two crop years are weighted together according to the number
of months that refer to 1971, that is the weights are 7/12 and 5/12
respectively.

Tobacco: Economic Review of Agriculture, vol.3 no. 4, 1971, p.46.

Pineapples: Kenya Canners handle all industrial processing of pineapples,
and they get all their deliveries from Central province. Pineapples
are grown also elsewhere, but these are insignificant in comparison.

Other Temporary Crops

Cross Marketed Production by Province (K£'000)

	Pulses	Potatoes & Other temp.	Total	Percent
Nairobi		22	22	0.63
Central	47	685	732	20.93
Coast	7	608	615	17.59
Eastern	225	766	991	28.34
N.Eastern	-	-	-	0
Nyanza	5	403	408	11.67
Rift Valley	7	385	392	11.21
Western	12	325	337	9.63
Total	303	3194	3497	

Sources and assumptions:

Pulses: Annual reports of the Maize and Produce Board 70/71 and 71/72.
The figures are weighted as earlier with 7/12 and 5/12 respectively.

Price data for 1971/72 are used to weigh the various crops together.

Potatoes and other temporary crops: No data on production by province are
available. I have therefore calculated the area under these crops
on small farms and large farms (Small farm survey 1969/70 and large
farm survey 1971. See Statistical Abstract 1976). The acreage on
large farms only constituted 1.4% of the total area under these
crops, but an informed guess from the Horticultural Crops Development
Authority says that its share in marketed production would be about
15%. I therefore distribute 85% of total production between provinces
according to small farm acreage and 15% according to large farm
acreage. This unfortunately does not take into account the differences
in market orientation between different provinces that undoubtedly
exist.

Permanent Crops

Gross Marketed Production by Province (K£'000)

	Coffee	Sisal	Tea	Cashew	Wattle	Coconuts	Fruits	Total	Percent
Nairobi							2	2	0.01
Central	14120	411	1825		185		303	16844	47.87
Coast	16	563		944	238	545	297	2603	7.40
Eastern	2911	103	524				191	3729	10.60
N. Eastern							-	-	0
Nyanza	771		451				60	1282	3.64
Rift Valley	891	442	9003				91	10427	29.64
Western	213						81	294	0.84
Total	18922	1519	11803	944	423	545	1025	35181	

Sources and assumptions:

Coffee: Data from the Coffee Produce Board. The two crop years are weighted $\frac{1}{4}$ and
$\frac{3}{4}$ according to number of months in the calendar year.

Sisal: Data from the Sisal Produce Board

Tea: Data from the Tea Produce Board

Cashew: All cashew in Kenya is grown in the Coast according to Land use
statistics (Statistical Abstract 1971).

Wattle: Economic Review of Agriculture, vol.3, no.4, 1971 p. 32.

Coconuts: All coconuts are grown in the Coast according to land use statis-
tics (Statistical Abstract, 1971).

Fruit: In this category are included only fruit from permanent crops.
        There are no data on production by province. Therefore the acreage
        on small farm and large farm under these crops has been calculated
        (Small farm survey 1969/70, Large farm survey 1971. See Statistical
        Abstract 1976). The large farm acreage only constituted about 3.4%
        of the total acreage, but an informed guess from the Horticultural
        Crops Development Authority says that the share of large farms in
        marketed output may be about 20%. I have therefore distributed 80%
        of total production according to small farm acreage and 20% according
        to large farm acreage.

Livestock and Related Products

Gross Marketed Production by Province (K£'000)

	Cattle	Sheep	Pigs	Poultry	Wool	Hides	Dairy	Total	Percent
Nairobi	52	4	40	5	1	3	-	105	0.40
Central	143	31	226	96	9	9	2200	2714	10.42
Coast	802	24	-	97	8	51	79	1061	4.07
Eastern	2274	103	-	261	31	143	199	3011	11.56
N. Eastern	2185	50	-	0	15	138	-	2388	9.17
Nyanza	40	0	-	291	0	3	42	376	1.44
Rift Valley	7834	521	316	83	156	494	6780	16184	62.13
Western	0	0	11	199	0	0	-	210	0.81
Total	13330	733	593	1032	220	841	9300	26049	100

Sources and assumptions:

Cattle: Distributed according to provincial breakdown of number of heads delivered
         to Kenya Meat Commissions factories in Athi River, Mombasa, Ngong, and
         Nakuru. Data from Kenya Meat Commission (KMC).

Sheep & Goats: Distributed according to origin of deliveries to KMC in 1972
         (1971 unobtainable) (Economic Review of Kenya Agriculture, 1972, vol 4,
         no 4, p.15).

Pigs: The origin of total pig purchases (Uplands) july - dec 1971 (Economic
         Review of Agriculture, vol 3, no 3-4, 1971).

Poultry and eggs: Estimates of number of poultry by district 1970 (Statistical
         Abstract 1976, p.127). This survey seems more complete than the one
         for 1971/72.

Wool: Distributed in the same proportions as production of sheep etc.

Hides: Distributed in the same proportions as production of cattle.

Dairy: Distributed according to data on deliveries to Kenya Cooperative
        Creameries in 1974 (earlier years unobtainable). Deliveries are
        given by factories only, wherefore in some cases adjustments have
        been made. Deliveries to Nyahururu is assumed to be split 50-50
        between Rift Valley and Central; 6% of deliveries to Sotik were
        assumed to come from Nyanza (6/94 is the proportion of cattle on
        large farms in Kisii and Kericho); 9% of total deliveries to Central
        province creameries were assumed to come from Meru in Eastern province
        (9/91 is the proportion of cattle on large farms in Eastern and
        Central).

Unrecorded Marketed Production (K£'000)

		Percent
Nairobi	1	.04
Central	1309	34.98
Coast	254	6.79
Eastern	373	9.98
N. Eastern	-	-
Nyanza	444	11.87
Rift Valley	1178	31.49
Western	182	4.87
Total	3741	

Sources and assumptions:

        The unrecorded marketed agricultural production covers crops not
registered elsewhere, and it is distributed among provinces in the same
proportions as total gross marketed production of crops.

Forestry

Gross Domestic Product by Province (K£'000)

		Percent
Nairobi	715	16
Central	894	20
Coast	179	4
Eastern	224	5
N. Eastern	-	-
Nyanza	89	2
Rift Valley	2280	51
Western	89	2
Total	4470	

Sources and assumptions: Data on labour costs from the Forest Department are
used to calculate the percentages.

Fishing

Gross Domestic Product by Province (K£'000)

		Percent
Coast	497	40.74
Nyanza	647	53.03
Rift Valley	76	6.23
Total	1220	100

Sources and assumptions: The total production figure given in the national accounts is distributed according to how the value of fish landed in 1971 is distributed. River fish - 6 per cent of the total is excluded (Statistical Abstract 1976, p. 146)

TOTAL Sector 2: Modern Agriculture, Forestry, and Fishing

Gross Marketed Production

	Cereals	Temporary	Other temp.	Permanent	Livestock	Unrecorded
Nairobi	-	-	22	2	105	1
Central	1324	1004	732	16844	2714	1309
Coast	-	649	615	2603	1061	254
Eastern	591	366	991	3729	3011	373
N. Eastern	-	-	-	-	2388	-
Nyanza	342	4710	408	1282	376	444
Rift Valley	6742	356	392	10427	16184	1178
Western	1747	396	337	294	210	189
Total	10746	7481	3497	35181	26049	3741

	Total gmp in agriculture	VALUE ADDED				Per cent
		Agric.	Forestry	Fishing	Total	
Nairobi	129	108	715	-	823	1.06
Central	23793	19840	894	-	20734	26.76
Coast	5151	4295	179	497	4971	6.41
Eastern	8993	7499	224	-	7723	9.97
N. Eastern	2372	1978	-	-	1978	2.55
Nyanza	7520	6270	89	647	7006	9.04
Rift Valley	35001	29185	2280	76	31541	40.70
Western	3149	2626	89	-	2715	3.51
Total	86108	71801	4470	1220	77491	

Sources and assumptions: It is assumed that value added is distributed as gross marketed output, even if there should be some differences among products in the share of value added in output. The figure for Nairobi may be a bit too low.

According to the survey of employment and earnings there is more employment in Nairobi within this sector than what my estimate suggests. By only looking at where crops are grown, one probably neglects some administrative units in Nairobi.

Sector 3: <u>Mining</u>

<u>Distribution of Value Added by Province (K£'000)</u>

		Percent
Nairobi	533	18.19
Central	4	0.13
Coast	725	24.74
Eastern	82	2.81
N. Eastern	0	0
Nyanza	443	15.12
Rift Valley	1142	38.96
Western	1	0.05
Total	2930	100

<u>Sources and assumptions</u>: Nairobi and Coast production is given in Census of Industrial Production 1968-1971, p.28. The gross product of the remaining provinces, which is not given separately, is distributed according to the respective provincial shares in sectoral earnings in 1971 (Employment and Earnings, 1971). Note that the survey only covers firms with at least 50 employees. This might give a bias if small firms are distributed differently. Still, total value added is distributed according to the percentages obtained from the census.

Sector 4: <u>Manufacturing</u>

<u>Distribution of Value Added by Province (K£'000)</u>

		Percent
Nairobi	38207	53.89
Central	5863	8.27
Coast	15080	21.27
Eastern	2375	3.35
N. Eastern	0	0
Nyanza	2609	3.68
Rift Valley	6665	9.40
Western	99	0.14
Total	70898	100

<u>Sources and assumptions</u>: Data on gross product is given in Census of Industrial production 1968-1971, p.28 for each province except that Eastern and N. Eastern are not separated. I therefore distribute the sum between the two provinces

according to their shares in sectoral earnings. These are zero in North Eastern province, wherefore the whole sum is allocated to Eastern province. Also here only firms with more than 50 employees are covered in the survey, but the percentages obtained are used to calculate the distribution of value added.

Sector 5: Building and Construction

Distribution of Value Added by Province (K£'000)

		Percent
Nairobi	20822	89.79
Central	475	2.05
Coast	928	4.00
Eastern	46	0.20
N. Eastern	7	0.03
Nyanza	42	0.18
Rift Valley	846	3.65
Western	23	0.10
Total	23189	100

Sources and assumptions: Percentages for Nairobi, Central, Coast, and Rift Valley as given in Census of Industrial Production 1968-1971, p.28. The rest of gross product is distributed among the remaining provinces as sectoral earnings. Also here only firms with more than 50 employees are covered, and the percentages obtained are used to calculate distribution of value added.

Sector 6: Electricity and Water

Distribution of Value Added by Province (K£'000)

		Percent
Nairobi	4836	58.94
Central	400	4.88
Coast	1485	18.10
Eastern	354	4.31
N. Eastern	-	-
Nyanza	344	4.19
Rift Valley	717	8.74
Western	69	.84
Total	8205	

Sources and assumptions: For this sector it is assumed that production is distributed among provinces as earnings - with some adjustments. Nairobi's share in earnings seems to be bigger than its share is production as e.g some workers working outside Nairobi are paid through the city. Complementary information from the Central Bureau of Statistics suggests that Nairobi's share could be about ten per cent lower than what the earnings estimate suggests. I therefore

deduct 10 per cent from Nairobi and add 1.5 per cent to Coast and Nyanza, and
3.5 per cent to Eastern and Rift Valley.

Sector 7: Commerce

Distribution of Value Added by Province (K£'000)

	Labour inc.	Capital inc. Com.	inc. Fin.	Total	Percent
Nairobi	21915	12658	8864	43437	58.10
Central	1022	2646	1174	4842	6.48
Coast	5467	5301	2015	12783	17.10
Eastern	509	1727	340	2576	3.45
N. Eastern	13	18	-	31	0.04
Nyanza	1055	1358	826	3239	4.33
Rift Valley	2569	2857	1077	6503	8.70
Western	306	893	147	1346	1.80
Total	32856	27458	14443	74757	

Sources and assumptions: Labour income is distributed among provinces in the
same proportions as modern sector earnings are distributed among provinces
(Employment and Earnings 1971). The distribution of capital income is calculated
separately for distribution and financial services. Distribution: Urban capital
income (about 82% of the total) is distributed among provinces in the proportions
that net profits are distributed according to the Survey of distribution 1971.
The remaining 18 per cent are distributed among provinces in the same proportions
as the production that is excluded from the survey, that is rural distribution
and the produce boards. In the survey only an aggregate figure is given for rural
output. This is distributed among provinces in proportion to the regional shares
of earnings of non-agricultural enterprises in rural areas 1969. This survey
covered activities with a fixed place of work such as market stalls in market
places. The differences between 51.15 million given in the national accounts
as output of the sector and the 49.46 million given in the survey is referred
to the produce boards. Of this sum 90% is allocated to Nairobi, 5% to Rift Valley,
5% to Central province. When this is done 18% of capital income is distributed
among provinces as the sum of output from rural distribution and produce boards.

Financial services: Here only the most important part, banking
activity, is covered. It seems fairly reasonable to assume that insurance and
real estate activities show a similar pattern.

The banking sector is divided in two parts. On the one hand the three big, country-wide banks (about 2/3 of the sector), and on the other the smaller banks with branches in Nairobi, Mombasa, Nakuru, Kisumu, and Thika plus the more dispersed cooperative bank. Profits are assumed to be distributed as deposits. Separate estimates of these have been made for the two categories, based on information from local bankers. These two estimates have then been weighted together to get the total provincial distribution of deposits. Then the profits of the sector has been distributed among provinces as deposits.

Sector 8: Transport

Distribution of Value Added by Province (K£'000)

		Percent
Nairobi	20328	47.12
Central	639	1.48
Coast	16337	37.87
Eastern	1035	2.40
N. Eastern	73	0.17
Nyanza	1337	3.10
Rift Valley	3205	7.43
Western	186	0.43
Total	43140	

Sources and assumptions: As there is no survey available I have had to assume that production is distributed among provinces in the same proportions as earnings. It is not self evident that the share of profits in incomes is the same in different provinces, but there is no basis for a better assumption than this one.

Sector 9: Services

a) Restaurants & Hotels

Value Added by Province (K£'000)

		Percent
Nairobi	3740	47.88
Central	580	7.42
Coast	1929	24.69
Eastern	367	4.70
N. Eastern	-	-
Nyanza	240	3.07
Rift Valley	942	12.06
Western	14	0.18
Total	7812	100

Sources and assumptions: Percentage of turnover for hotels and restaurants in 1966 are calculated from survey of services 1966 (p.A 32). The number of bed-

nights per province in 1966 was calculated (Statistical Abstract, 1976, p.34), and the provincial quotients turnover bednights were calculated. Then the number of bed-nights by province in 1971 was calculated. These figures were then multiplied with the quotients estimated for 1966 for each province. After a proportional adjustment of this to make it add up to the 1971 total had been made, an estimate of the percentage of turnover for 1971 was obtained. It was then finally assumed that value added was distributed among provinces as turnover.

b) Ownership of Dwellings

Value Added by Province (K£'000)

		Percent
Nairobi	12801	52.01
Central	1049	4.26
Coast	5691	23.12
Eastern	711	2.89
N. Eastern	0	0
Nyanza	1243	5.05
Rift Valley	2855	11.60
Western	263	1.07
Total	24613	

Sources and assumptions: Sectoral value added is distributed among provinces in proportion to the estimated urban population of 1971 (Interpolation between 1969 census and estimates for 1975). To take the high rents in Nairobi into account the population figure for Nairobi (and thus its share in value added) was inflated by 25%.

c) Miscellaneous Services

Value Added by Province (K£'000)

		Percent
Nairobi	11627	74.87
Central	722	4.65
Coast	1556	10.02
Eastern	116	0.75
N. Eastern	-	-
Nyanza	497	3.20
Rift Valley	904	5.82
Western	107	0.69
Total	15529	100

Sources and assumptions: The percentages are calculated from the Survey of Services 1966 (p. A 32). These percentages have then beeen applied to the sum of value added in 1971 as given in the input-output table. It has not been possible to make any adjustment of the percentages.

d) Public Services

Value Added by Province (K£'000)

		Percent
Nairobi	34442	34.97
Central	14281	14.50
Coast	10903	11.07
Eastern	10430	10.59
North Eastern	689	0.70
Nyanza	6353	6.45
Rift Valley	16517	16.77
Western	4875	4.95
Total	98490	100

Sources and assumptions: The percentage distribution of recurrent expenditures
is calculated for the budget year 1973/74, and then it is assumed that the same
distribution prevailed in 1971. The reason for choosing 1973/74 is that in most
of the first round district development plans there are data on recurrent expe-
nditures by district and ministry for that year.

     For Eastern, Nyanza, and Western there were complete data for all
districts.

     For Coast the data were complete except that expenditures on police
was not included. Of the total national allocation to police Coast was there-
fore given a share equal to its share in population. For Central Province there
were complete data for Kiambu and Nyeri. For Muranga there were data for some
ministries, while they were incomplete for others. Therefore the average
expenditure per capita in Kiambu and Nyeri on administration, health, information
and broadcasting, and cooperatives was assumed to prevail also in Muranga. The
estimated population in Muranga was therefore multiplied with the average of the
per capita estimates forKiambu and Nyeri to get expenditures in Muranga in these
fields. In education, which constitutes more than 50 per cent of recurrent
expenditures in Muranga, it was assumed that the average of expenditures per pupil
in primary school in Kiambu and Nyeri was valid for Muranga. This figure was
then multiplied with the number of pupils (the average for 1973 and 1974) to
get an estimate of educational expenditures. Of course there are other types
of education than primary, but it is assumed that the development of primary
education can serve as a proxy for the entire educational sector.

For Nyandarua and Kirinyaga the expenditures on administration, education and health was estimated in the same manner. Then it was assumed that these sec ors constituted the same share in total recurrent expenditures as in Muranga, Nyeri, and Kiambu put together (that is 67.2%), which made it possible to obtain an estimate of total recurrent expenditures in these two districts.

For North-Eastern there are only rough figures for the time when the plan is written. An estimate based on these figures is made and then reduced with 1/3 to takt the growth of recurrent expenditures into account. Data for administration are missing, wherefore I assume that the share of administration in total recurrent expenditures in North-Eastern is the same as the average for the provinces discussed above. This makes it possible to obtain an estimate also for this category of expenditure. Then total expenditures can be estimated. For Rift Valley there are no data at all presented in the district development plans, and as far as Nairobi is concerned there does not even exist one. These two provinces therefore is dealt with in a very crude manner. I just split what is left of total recurrent expenditures after the above mentioned six provinces have got their shares according to the share of Nairobi and Rift Valley in total public service earnings for 1974 (Employment and Earnings, 1974). To determine expenditures residually for these two provinces is not a very satisfactory method as all the faults that may exist in my previous estimates may be added together and give a biased picture. Also the use of earnings as a proxy may give a certain bias, even if the differences between share in earnings and my estimates for the six previously discussed provinces are limited in most cases.

Total Sector:9: <u>Services</u>

<u>Value added</u>

	Rest & Hotels	Dwellings	Miscellaneous	Public	Total	Percent
Nairobi	3740	12801	11627	34442	62610	42.75
Central	580	1049	722	14281	16632	11.36
Coast	1929	5691	1556	10903	20079	13.71
Eastern	367	711	116	10430	11624	7.94
North Eastern	-	-	-	689	689	0.47
Nyanza	240	1243	497	6353	8333	5.69
Rift Valley	942	2855	904	16517	21218	14.49
West rn	14	263	107	4875	5259	3.59
Total	7812	24613	15529	98490	146444	

Table 3. Percentage Distribution of Production by Province, 1971

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R.Valley	Western
1. Subsistence	0	20.63	3.70	18.35	1.09	27.69	17.88	10.66
2. Modern Agriculture	1.06	26.76	6.41	9.97	2.55	9.04	40.70	3.51
3. Mining	18.19	0.13	24.74	2.81	0	15.12	38.96	0.05
4. Manufacturing	53.89	8.27	21.27	3.35	0	3.68	9.40	0.14
5. Construction	89.79	2.05	4.00	0.20	0.03	0.18	3.65	0.10
6. El &Water	58.94	4.88	18.10	4.31	0	4.19	8.74	0.84
7. Commerce	58.10	6.48	17.10	3.45	0.04	4.33	8.70	1.80
8. Transport	47.12	1.48	37.87	2.40	0.17	3.10	7.43	0.43
9. Services	42.75	11.36	13.71	7.94	0.47	5.69	14.49	3.59
TOTAL	33.58	13.16	13.49	8.50	0.72	10.09	16.46	4.01

Table 4:   Percentage Distribution of Production by Province and Sector
           1967-76

Sector 1: Subsistence Production

           1967 - 1976

Nairobi	0
Central	20.63
Coast	3.70
Eastern	18.35
N. Eastern	1.09
Nyanza	27.69
Rift Valley	17.88
Western	10.66

Gross domestic product at factor cost (K£ '000)

1967	106,970
1968	109,070
1969	114,740
1970	119,630
1971	125,950
1972	146,570
1973	156,480
1974	175,930
1975	232,560
1976	258,620

Sources: The percentage distribution of subsistence output has nad to be
           assumed to be constant over the period, as there are no time
           series data.   See table 2 for derivation of the percentages.

Sector 2. Modern agriculture, forestry and fishing

Province	1967	1968	1969	1970	1971
Nairobi	0.80	0.88	0.88	0.95	1.06
Central	25.88	21.65	25.63	27.79	26.76
Coast	5.32	5.26	5.48	6.27	6.41
Eastern	10.31	10.80	10.56	10.87	9.97
N. Eastern	2.50	2.08	2.24	2.45	2.55
Nyanza	9.12	9.37	8.23	8.49	9.04
Rift Valley	43.24	46.78	44.30	40.87	40.70
Western	2.83	3.18	2.68	2.31	3.50
GDP$_f$	59990	64910	68650	77270	78500

	1972	1973	1974	1975	1976
Nairobi	0.72	0.84	0.76	0.75	0.54
Central	25.81	29.78	27.43	26.01	37.18
Coast	5.62	6.08	6.51	7.47	4.42
Eastern	12.82	10.22	10.08	10.29	12.89
N. Eastern	2.04	0.83	0.25	0.07	0.06
Nyanza	8.74	8.95	11.17	9.69	7.87
Rift Valley	40.69	39.55	39.68	39.25	31.81
Western	3.56	3.76	4.14	6.46	5.23
GDP$_f$	99170	113040	129950	142970	232230

Note: In the following tables (2:1-2:11) the estimates for the most
important prodcts of this sector are given. For the remaining
products the following procedures were used:
Barley and other cereals: See table 2.
Pineapples: See table 2.
Cotton and other oil seeds: See table 2.

Tobacco: 1967-1969 – for all years in the proportions that existed
in 1968 as there were no data available for 1967 and 1969.
1970-1976 – data from Economic Review of Agriculture.

Pulses, Potatoes, and other temporary crops:The proportions estimated
for 1971 used throughout.

Coconuts: See table 2.

Wattle: See table 2.

Cashew nuts: See table 2.

Fruit etc: Proportions estimated for 1971 used throughout.

Pigs: 1972-1975 – data from Economic Review of Agriculture for
1967-1971 the proportions of 1971 are used. For 1976 the
figures for 1975 are used.

Poultry: Estimates for 1971 used throughout.

Wool: See table 2.

Hides: See table 2.

Dairy: Estimates for 1974-1976 from Economic Review of Agriculture.
The 1974 estimate is used for all previous years.

Unrecorded marketed production: See table 2.

Fishing: See table 2.

Forestry: The estimate for 1971 is used throughout.

The production of Nairobi is probably underestimated, as
data from Employment and Earnings indicate that its share should be
a few per cent. This may be due to the fact that the entire value
product for each crop is distributed according to the actual place
of production. This means that if e.g. head offices are located
in Nairobi, incomes from these will be disregarded.

Development of gross marketed production of some agricultural products
by province

2:1:	Wheat	1967	1968	1969	1970	1971
	Central	13.68	12.7	14.2	10.8	10.98
	Eastern	4.48	7.1	7.1	8.8	10.74
	Rift Valley	81.84	78.7	78.7	80.4	78.28
		1972	1973	1974	1975	1976
	Central	6.6	6.4	6.5	d:o	d:o
	Eastern	13.3	7.7	10.0	d:o	d:o
	Rift Valley	80.1	85.9	83.5	d:o	d:o

Sources: Reports of the Wheat Board of Kenya, 1967/68 – 1973/74.
Percentages 1974-76 are guesses.

2:2: Maize	1967	1968	1969	1970	1971
Central	3.63	2.49	1.14	0.24	1.42
Coast	0.13	0.02	—	—	—
Eastern	1.97	4.24	6.16	2.48	2.05
Nyanza	4.25	5.96	8.66	6.41	3.12
Rift Valley	63.09	60.25	58.73	62.73	60.72
Western	26.93	27.04	25.31	28.14	32.69

Maize	1972	1973	1974	1975	1976
Central	3.75	4.28	5.37	5.37	2.90
Coast	—	—	—	—	0.19
Eastern	5.66	4.85	1.46	1.38	1.11
Nyanza	5.67	6.17	4.14	5.39	11.50
Rift Valley	55.60	56.25	53.18	55.39	55.21
Western	29.32	28.45	35.85	32.47	29.09

Sources: Annual Reports of the Maize and Produce Board 1966/67 –
1976/77 plus some data from the files of the M &PB.
The two crop years are weighted together with weights 7/12 and
5/12, that is the number of months from each in the calendar
year.

2:3 : Rice	1967	1968	1969	1970	1971
Central	88.66	86.59	87.07	86.22	84.53
Coast	0.01	—	—	—	—
Eastern	0.30	0.23	0.35	—	—
Nyanza	6.37	10.20	11.94	6.72	7.77
Western	4.66	2.98	0.64	7.06	7.70

	1972	1973	1974	1975	1976
Central	82.68	85.60	88.52	86.10	83.05
Coast	—	—	—	0.05	0.13
Eastern	—	—	—	—	—
Nyanza	9.57	9.46	8.34	9.82	12.57
Western	7.75	4.94	3.14	4.03	4.25

Sources: Data from Annual Reports from the Maize and Produce Board
1966/67 – 1968/69, 1969/1970 – 1975/1976. Weighted averages
as above (7/12–5/12). Percentages for 1969 are from 68/69 crop
year, 1970 from 70/71 crop year, and 1976 from 75/76 crop year.

2.4 Pyrethrum

	1967	1968	1969	1970	1971
Central	39.94	37.50	35.00	29.18	24.97
Eastern	0.78	0.87	1.01	0.86	0.74
Nyanza	41.14	42.55	42.69	52.61	59.68
Rift Valley	18.14	19.08	21.30	17.35	14.61
Western	—	—	—	—	—

	1972	1973	1974	1975	1976
Central	26.57	23.76	11.41	16.20	14.78
Eastern	1.04	2.09	2.82	2.62	2.37
Nyanza	56.28	55.82	66.77	63.13	60.11
Rift Valley	16.07	18.22	18.85	17.91	22.60
Western	0.04	0.11	0.15	0.14	0.14

Source: See table 2.

2.5 Sugar

	1967	1968	1969	1970	1971
Coast	19.04	17.19	13.68	12.41	11.20
Nyanza	80.96	82.81	86.32	87.59	88.80

	1972	1973	1974	1975	1976
Coast	11*	10*	9*	8*	7*
Nyanza	89*	82*	74*	66	59*
Western	—	8*	17*	26*	34*

Source: See table 2. Estimates for 1972 and onwards are crude
          estimates based on scattered information in e.g. the
          Economic survey.

2:6 Cotton

	1967	1968	1969	1970	1971
Central	—	—	4.28	9.68	9.92
Coast	14.01	12.27	11.32	14.53	21.14
Eastern	17.03	30.13	33.89	17.93	3.80
Nyanza	32.86	22.61	15.75	19.58	20.87
Western	36.10	34.99	34.76	38.28	44.27

2.6 cont'd.

Cotton	1972	1973	1974	1975	1976
Central	11.7.0	17.49	18.33	9.05	4.14
Coast	26.68	24.00	19.81	20.35	21.74
Eastern	3.04	5.06	5.30	8.83	8.83
Nyanza	19.59	14.98	11.97	16.87	20.30
Western	38.99	38.47	44.59	44.90	44.99

Source: See table 2

2.7 Coffee	1967	1968	1969	1970	1971
Central	66.95	58.53	69.96	70.10	74.62
Coast	0.15	0.16	0.07	0.08	0.08
Eastern	20.58	25.61	18.12	18.67	15.38
Nyanza	5.36	9.45	5.51	3.90	4.07
Rift Valley	5.77	5.04	4.84	6.30	4.71
Western	1.19	1.21	1.50	0.95	1.13

	1972	1973	1974	1975	1976
Central	65.44	73.04	70.73	72.30	70.45
Coast	0.06	0.07	0.09	0.20	0.07
Eastern	23.85	18.49	20.38	18.83	17.65
Nyanza	4.83	3.15	4.25	4.76	3.69
Rift Valley	4.96	4.20	3.67	2.92	7.07
Western	0.86	1.05	0.88	1.09	1.07

Source: See table 2.

2.8 Tea	1967-70	1971	1972	1973	1974	1975	1976
Central	15.01	15.46	17.02	17.84	19.73	20.33	21.43
Eastern	3.84	4.44	4.69	4.97	5.90	6.02	6.88
Nyanza	3.01	3.82	4.50	4.76	5.93	6.42	6.53
R. Valley	78.14	76.28	73.60	71.94	67.92	66.75	64.61
Western	—	—	0.19	0.49	0.52	0.48	0.55

Source: See table 2. No data were available for the period 1967-1969, wherefore it is assumed that the percentages of 1970 are valid also for these years.

2.9 Sisal	1967	1968	1969	1970	1971
Central	32.02	28.10	30.96	27.96	27.07
Coast	31.90	33.12	35.05	39.92	37.10
Eastern	3.68	5.17	5.89	7.06	6.76
Nyanza	0.90	0.05	—	—	—
R. Valley	31.39	33.56	27.47	25.06	29.07
Western	0.11	—	0.63	—	—

	1972	1973	1974	1975	1976
Central (Nairobi)	22.28	20.73	18.53	17.35	17.26
Coast	37.21	27.86	19.46	36.44	41.88
Eastern	10.43	9.70	10.88	4.95	5.97
Nyanza	0.49	14.20	22.39	5.08	2.53
R. Valley	29.59	27.51	28.74	36.19	32.36
Western	—	—	—	—	—

Source: See table 2.

2:10 Cattle	1967	1968	1969	1970	1971
Nairobi	0.18	0.29	0.31	0.51	0.39
Central	3.75	2.25	2.12	1.78	1.07
Coast	4.16	4.39	5.07	6.39	6.02
Eastern	17.18	13.90	13.58	14.32	17.06
N. Eastern	14.49	12.31	13.62	15.93	16.39
Nyanza	9.10	4.94	0.36	2.27	0.30
R. Valley	51.14	61.92	64.94	58.80	58.77
Western	—	—	—	—	—

	1972	1973	1974	1975	1976
Nairobi	0.41	1.22	0.19	0.09	0.08
Central	2.82	2.54	1.93	1.41	1.63
Coast	8.40	9.39	8.78	20.18	17.86
Eastern	19.49	11.30	3.92	15.02	26.56
N. Eastern	12.43	5.34	0.20	0.34	0.78
Nyanza	0.23	0.17	0.01	—	—
R. Valley	56.22	70.04	84.97	62.96	53.09
Western	—	—	—	—	—

Sources: 1971 – data from Kenya Meat Commission 1972-76- data from Economic
Review of Agriculture vols. 4-8. Estimates 1967-70 based on the
distribution of deliveries to Athi River, Ngong, and Nakuru, and on
the assumption that the percentage distribution of deliveries
to the Mombasa plant for 1971 was valid also for 1967-1970.

2:11 Sheep & Goats

	1967-72	1973	1974	1975	1976
Nairobi	0.50	0.08	0.09	—	0.24
Central	4.23	2.67	0.43	0.30	—
Coast	3.37	5.01	4.46	1.35	—
Eastern	14.03	10.87	9.19	14.21	35.67
N. Eastern	6.76	10.60	22.34	3.16	—
R. Valley	71.05	70.77	63.49	80.98	64.09
Nyanza	0.06	—	—	—	—

Sources: Data from Economic Review of Agriculture, Vols. 5-8.
No data were available for 1967-71, so the distribution of 1972 was
assumed to be valid also for this period. In 1975 and 1976
large quantities were bought live weight. These were not
distributed by district in the official statistics but all of
it is here referred to Rift Valley. This province's production
therefore probably is somewhat overestimated for these years,
while some other provinces' production consequantly are
underestimated.

Section 3:   Mining

	1967	1968	1969	1970	1971
Nairobi	15.76	12.08	17.03	18.05	18.19
Central	0.33	2.60	1.59	2.41	0.13
Coast	25.38	25.41	22.13	26.89	24.74
Eastern	0.94	2.25	1.73	2.49	2.81
Nyanza	16.79	22.34	20.64	16.39	15.12
R. Valley	40.80	35.32	36.88	33.69	38.96
Western	—	—	—	0.08	0.05
GDP_f	2120	2310	2020	2410	2930

	1972	1973	1974	1975	1976
Nairobi	15.73	11.99	14.15	11.81	11.26
Central	0.24	0.02	0.07	0.02	0.38
Coast	24.69	25.55	31.78	30.52	30.72
Eastern	2.23	2.44	2.39	3.25	5.85
Nyanza	3.05	1.00	1.56	2.43	1.81
R. Valley	53.85	58.87	49.91	51.88	49.95
Western	0.20	0.13	0.14	0.10	0.03
GDP_f	2230	3200	3140	3320	4250

Sources:

1967-1971 - Census of Industrial Production. Estimates for
1972-1976 are based on the development of earnings. Nairobi's
and Coast's shares in earnings are adjusted according to the
quotient (share in production/share in earning 1971).For the
remaining provinces the share in production is assumed to be
the same as the share in earnings.

Sector 4:   Manufacturing

	1967	1968	1969	1970	1971
Nairobi	57.99	54.78	55.15	55.25	53.89
Central	6.45	8.91	8.73	8.31	8.27
Coast	20.53	20.72	21.35	20.11	21.27
Eastern	3.07	1.43	1.23	2.79	3.35
N. Eastern	–	–	–	–	–
Nyanza	3.55	5.88	5.46	4.19	3.68
Rift Valley	8.13	8.06	7.74	8.45	9.40
Western	0.28	0.22	0.34	0.90	0.14
GDP_f	45270	50060	56840	62160	70898

	1972	1973	1974	1975	1976
Nairobi	60.93	55.39	55.60	55.83	55.28
Central	5.81	7.54	8.11	8.18	9.32
Coast	17.15	20.61	20.45	18.86	18.77
Eastern	4.89	4.53	4.73	4.66	4.52
N. Eastern	–	–	–	–	–
Nyanza	3.47	2.64	2.87	2.53	2.46
Rift Valley	7.38	8.18	6.93	7.93	7.35
Western	0.37	1.11	1.31	2.01	2.30
GDP_f	77940	94600	119070	127130	151330

Sources: 1967-1971 – Census of Industrial Production. Estimates for
1972-1976 are based on the development of earnings. The
earnings share are adjusted according to the relation (share
in production/share in earnings 1967-1971). For Nairobi,
Central, Coast, and Rift Valley the average for the period
is used and for Eastern, Nyanza, and Western the averages
for 1967 and 1971 were used.

Section 5: Construction

	1967	1968	1969	1970	1971
Nairobi	86.73	89.31	88.57	88.84	89.79
Central	1.86	0.72	0.75	0.51	2.05
Coast	5.88	5.63	6.47	5.88	4.00
Eastern	0.06	0.36	0.35	0.27	0.20
N. Eastern	–	0.01	0.03	0.02	0.03
Nyanza	1.79	0.66	0.73	0.47	0.18
Rift Valley	3.68	3.15	2.88	3.85	3.65
Western	–	0.16	0.22	0.16	0.10
GDP_f	12470	14790	15310	16810	23189

	1972	1973	1974	1975	1976
Nairobi	70.59	71.97	71.89	76.60	75.08
Central	2.92	3.74	3.58	4.01	3.71
Coast	6.57	7.74	9.24	6.31	5.69
Eastern	8.82	7.36	3.28	3.26	8.26
N. Eastern	0.09	0.12	0.18	0.25	0.16
Nyanza	2.39	1.92	4.08	3.06	2.50
Rift Valley	7.45	5.29	5.46	5.69	4.04
Western	1.17	1.86	2.29	0.82	0.56
GDP_f	35730	38700	43390	44390	50690

Sources: 1967-71 – Census of Industrial Production. Estimates for
1971-76 are based on the development of earnings. The shares
obtained frome earnings are adjusted for Nairobi, Central,
Coast, and Rift Valley according to the relation (production/
earnings 1971).

Sector 6:   El & Water

	1967	1968	1969	1970	1971
Nairobi	54.49	5 7 59	51.31	56.52	58.94
Central	5.37	5.64	6.51	5.85	4.88
Coast	21.53	17.32	18.10	14.85	18.10
Eastern	4.93	5.17	6.61	5.92	4.31
N. Eastern	-	-	-	-	0
Nyanza	4.01	4.39	5.66	5.10	4.19
Rift Valley	8.58	9.49	11.21	10.78	8.74
Western	1.09	0.40	0.60	0.98	0.84
GDP$_f$	6390	6440	6930	7810	8205

	1972	1973	1974	1975	1976
Nairobi	61.51	61.71	51.25	54.51	46.70
Central	2.42	4.33	7.03	5.65	5.18
Coast	18.66	15.14	21.40	13.77	18.39
Eastern	4.59	4.93	6.78	6.55	9.97
N. Eastern	-	-	-	1.69	1.81
Nyanza	5.13	6.37	3.77	7.77	7.73
Rift Valley	7.27	6.79	9.13	8.61	8.62
Western	0.42	0.73	0.64	1.45	1.60
GDP$_f$	8930	9340	10430	13200	16520

Sources: Estimates are based on earnings - figures. Adjustments have
           been made for Nairobi, Coast, Eastern, and Rift Valley as discussed
           in table 2. For Nairobi and Eastern, however, this adjustment
           has gradually been reduced after 1971 to get less drastic
           changes in production shares than what would otherwise be the
           case. It is assumed that earnings over the period gives an
           increasingly better picture of the size of production. Still,
           this table may contain considerable biases.

Sector 7: Commerce

	1967	1968	1969	1970	1971
Nairobi	57.57	58.84	57.74	54.75	58.10
Central	6.18	6.31	6.53	6.95	6.48
Coast	18.10	17.54	17.85	19.32	17.10
Eastern	3.40	3.87	3.91	4.17	3.45
N. Eastern	0.05	0.05	0.05	0.06	0.04
Nyanza	4.39	4.30	4.45	4.78	4.33
Rift Valley	8.52	7.36	7.65	8.06	8.70
Western	1.79	1.73	1.82	1.91	1.80
GDP$_f$	53260	59350	62300	69740	74757

	1972	1973	1974	1975	1976
Nairobi	59.51	59.71	58.90	58.91	58.69
Central	7.07	6.86	7.01	7.18	7.72
Coast	15.48	15.57	15.81	15.99	15.43
Eastern	3.47	3.60	3.62	3.70	3.85
N. Eastern	0.04	0.03	0.03	0.03	0.03
Nyanza	4.29	4.19	4.29	4.24	4.31
Rift Valley	8.49	8.43	8.66	8.21	8.17
Western	1.65	1.61	1.68	1.74	1.80
GDP$_f$	97680	115020	162670	176530	207080

Sources: From 1972 the sectoral designation of some activities is changed.
In this sector 7 is from this year included also "Restaurants and
Hotels" and "Business Services", which earlier belonged to sector
9. It is not possible to transfer these activities to sector
9, as only data for the aggregated sector 7 is available.

Four different income components were considered in the calculation
of total sectoral income. First, labour income was districuted among
provinces as earnings. The share of labour in output was calculated
on the basis of the 1971 estimates one for the period 1967-71, another
one for the period 1972-76 with its slightly altered sectoral com-
position. Capital income from distribution, was for all years distributed
in the same proportions as in 1971. Capital income from finance was
distributed according to an estimate of the development of the provincial
shares in deposits. Fianlly, for 1972-76, hotels and restaurants were
included in this sector.The development of capital income from these
activities was estimated on the basis of hotel bed occupancy statistics
(Statistical Abstract, 1976).

Sector 8   Transport

	1967	1968	1969	1970	1971
Nairobi	46.73	46.37	44.23	44.68	47.12
Central	1.94	1.99	1.53	2.09	1.48
Coast	33.85	35.30	37.10	35.56	37.87
Eastern	1.87	2.55	2.66	2.87	2.40
N. Eastern	0.02	0.02	0.02	0.02	0.17
Nyanza	3.83	3.34	3.33	3.13	3.10
Rift Valley	10.82	9.63	10.19	10.64	7.43
Western	0.94	0.80	0.94	1.01	0.43
GDP$_f$	32910	36190	37810	40840	43140

	1972	1973	1974	1975	1976
Nairobi	53.73	49.72	47.41	47.46	47.67
Central	1.25	1.35	2.37	1.51	1.52
Coast	35.58	39.05	36.53	40.81	41.01
Eastern	1.23	1.89	2.83	1.44	1.57
N. Eastern	0.02	—	—	—	—
Nyanza	3.31	3.34	5.07	3.07	3.53
Rift Valley	4.59	4.39	5.71	5.38	4.31
Western	0.29	0.26	0.08	0.33	0.39
GDP$_f$	39610	46130	53730	60250	69100

Sources: Production is assumed to be distributed as earnings.

Sector 9   Services

	1967	1968	1969	1970	1971
Nairobi	46.80	45.86	45.86	45.95	42.75
Central	10.48	10.78	10.77	10.70	11.36
Coast	12.94	12.86	12.91	13.02	13.71
Eastern	7.23	7.45	7.40	7.30	7.94
N. Eastern	0.43	0.45	0.44	0.44	0.47
Nyanza	5.09	5.26	5.34	5.42	5.69
Rift Valley	13.72	13.91	13.85	13.75	14.49
Western	3.31	3.43	3.43	3.41	3.59
GDP$_f$	86430	99780	111730	122270	146444

	1972	1973	1974	1975	1976
Nairobi	43.02	43.45	43.06	42.83	42.75
Central	11.47	11.35	11.47	11.55	11.59
Coast	13.02	13.01	12.93	12.83	12.70
Eastern	7.94	7.77	7.82	7.83	7.81
N. Eastern	0.49	0.48	0.48	0.43	0.48
Nyanza	5.94	6.09	6.32	6.56	6.80
Rift Valley	14.39	14.17	14.17	14.13	14.05
Western	3.74	3.70	3.75	3.79	3.82
GDP$_f$	154210	167250	197990	229220	263540

Sources and assumptions: Restaurants and hotels: See table 2.
This activity is only included in this sector between 1967–1971.
From 1972 and onwards it belongs to sector 7.

Dwellings: See table 2.

Miscellaneous: It is assumed that the percentage distribution obtained
in table 2 is valid for the entire period. Note that also individual
household services is included here and distributed as miscellaneous
services.

Public services: Also here I ahave been forced to assume that the
percentage allocation among provinces is constant (see table 2).
Data on employment and earnings give contradictory indications about
the development before the after 1973/74. Still, there seems to be no
reason to believe that there has been any drastic changes in the
shares. One would guess that the largest change would have occurred
between 1973 and 1974, when primary education was expanded very much
in the lagging regions. Data on earnings from services (which is
sector dominated by public services), indicate a drop for Nairobi and
Central and an increase of the shares of Nyanza and Western between
these years. This seems fairly plausible, but that would then also
indicate that the shares for Nyanza and Western would be still lower
and the shares of Nairobi and Central in 1971 than what my estimates
indicate. Against this points that if the distribution of the entire
service sector based on my estimates for 1971 is compared with the
earnings figures for 1971 the share of Central instead seems to be
overestimated while the shares of Nyanza and Western seems to be
underestimated. Nairobi seems by this comparison to be correct.
Thus the evidence points in different directions, and no clear indication
can be obtained without a very thorough investigation into the
allocation of government money. My assumption that the regional
shares are approximately constant is at least not clearly disproved
by the available data.

Table 5: Production by Province and Sector, 1967-1976 (K£'000)

Table 5:1
1967

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	Total
1. Subsistence	0	22068	3958	19629	1166	29620	19126	11403	106970
2. Mod. agr.	479	15527	3194	6185	1498	5474	25938	1695	59990
3. Mining	334	7	538	20	-	356	865	-	2120
4. Manufact.	26252	2920	9294	1390	-	1607	3680	127	45270
5. Construction	10815	232	733	8	-	223	459	-	12470
6. El & Water	3482	343	1376	315	-	256	548	70	6390
7. Commerce	30662	3291	9640	1811	27	2338	4538	953	53260
8. Transport	15379	639	11140	615	7	1260	3561	309	32910
9. Services	40449	9060	11183	6246	371	4403	11861	2857	86430
Total Provincial Production	127852	54087	51056	36219	3069	45537	70576	17414	405810
Income per Capita (K£)	280.9	34.4	57.9	20.2	12.9	23.1	34.0	14.2	39.7
INDEX	100	12.3	20.6	7.2	4.6	8.2	12.1	5.1	

Table 5:2
1968

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	Total
1. Subsistence	-	22501	4036	20014	1189	30201	19502	11627	109070
2. Mod. agr.	568	14050	3415	7013	1351	6083	30265	2065	64910
3. Mining	279	60	587	52	—	516	816	—	2310
4. Manufacturing	27423	4460	10372	716	—	2944	4035	110	50060
5. Construction	13209	106	833	53	1	98	466	24	14790
6. El & Water	3709	363	1115	333	—	283	611	26	6440
7. Commerce	34922	3745	10410	2297	30	2552	4368	1026	59350
8. Transport	16781	720	12775	923	7	1209	3485	290	36190
9. Services	45757	10760	12828	7433	447	5247	13881	3427	99780
Total Provincial production	142648	56765	56371	38834	3025	49133	77529	18595	442900
Income per Capita (K£)	296.3	35.0	61.8	21.0	12.5	24.0	36.2	14.5	41.9
INDEX	100	11.8	20.9	7.1	4.2	8.1	12.2	4.9	

Table 5:3
1969

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	Total
1. Subsistence	-	23671	4245	21055	1251	31772	20516	12230	114740
2. Mod. agr.	603	17592	3765	7250	1539	5651	30409	1841	68650
3. Mining	344	32	447	35	-	417	745	-	2020
4. Manufacturing	31347	4962	12135	699	-	3104	4400	193	56840
5. Construction	13560	115	901	54	5	112	438	35	15310
6. El & Water	3556	451	1254	458	-	392	777	42	6930
7. Commerce	35972	4068	11121	2436	31	2772	4766	1134	62300
8. Transport	16723	578	14028	1006	8	1259	3853	355	37810
9. Services	51241	12035	14424	8265	497	5962	15474	3832	111730
Total Provincial Production	153346	63504	62410	41258	3331	51441	81378	19662	476330
per capita (£) income	301.1	37.9	66.1	21.6	13.6	24.2	36.8	14.8	43.5
INDEX	100	12.6	22.0	7.2	4.5	8.0	12.2	4.9	

Table 5:4
1970

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	Total
1. Subsistence	-	24680	4426	21952	1304	33126	21390	12752	119630
2. Mod. agr.	733	21473	4842	8396	1895	6563	31584	1784	77270
3. Mining	435	58	648	60	-	395	812	2	2410
4. Manufacturing	34344	5165	12500	1734	-	2605	5253	559	62160
5. Construction	14934	86	989	45	3	79	647	27	16810
6. El & Water	4414	457	1160	462	-	398	842	77	7810
7. Commerce	38183	4847	13474	2908	42	3334	5620	1332	69740
8. Transport	18247	854	14523	11?2	8	1278	4345	413	40840
9. Services	56184	13085	15923	8930	535	6633	16816	4164	122270
Total provincial production	167474	70705	68485	45659	3787	54411	87309	21110	518940
per capita (K£)	311.9	40.8	70.0	23.3	15.2	24.6	38.5	15.3	45.8
INDEX	100	13.1	22.4	7.5	4.9	7.9	12.3	4.9	

1971

Table 5:5

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	TOTAL
1. Subsistence	-	25488	4571	22671	1347	34211	22091	13170	123549
2. Modern agri.	823	28734	4971	7723	1978	7006	31541	2715	77491
3. Mining	533	4	725	82	0	443	1142	1	2930
4. Manufacturing	38207	5863	15080	2375	0	2609	6665	99	70898
5. Construction	20822	475	928	46	7	42	846	23	23189
6. El & Water	4836	400	1485	354	0	344	717	69	8205
7. Commerce	43437	4842	12783	2576	31	3239	6503	1346	74757
8. Transport	20328	639	16337	1035	73	1337	3205	186	43140
9. Services	62610	16632	20079	11624	689	8333	21218	5259	116444
Total provincial production	191596	75077	76959	48486	4125	57564	93928	22868	579002
Per capita income	338.4	41.9	75.9	24.1	16.4	24.9	40.4	15.9	48.7
Index	100	12.4	22.4	7.1	4.8	7.4	11.9	4.7	

Sources: See table 2.

Table 5:6
1972

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	TOTAL
1. Subsistence	-	30237	5423	26896	1598	40585	26207	15624	146570
2. Mod. agr.	712	25593	5577	12712	2020	8672	40352	3932	99170
3. Mining	351	5	551	50		68	1201	4	2230
4. Manufacturing	47489	4528	13367	3811		2705	5752	288	77940
5. Construction	25222	1043	2347	3151	32	854	2662	419	35730
6. El & Water	5493	216	1666	410		458	649	38	8930
7. Commerce	58129	6906	15122	3389	39	4190	8293	1612	97680
8. Transport	21282	495	14093	487	8	1311	1818	116	39610
9. Services	66337	17684	20075	12250	750	9164	22184	5766	154210
Total provincial production	225015	86707	78221	63156	4447	68007	109118	27399	662070
Per capita income (£)	376.9	46.7	74.5	30.5	17.5	28.2	45.7	18.3	54.6
Index	100	12.4	19.8	8.1	4.6	7.5	12.1	4.9	

Table 5:7
1973

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	TOTAL
1. Subsistence	–	32282	5790	28714	1706	43329	27979	16680	156480
2. Mod. agr.	950	35762	6870	11557	937	10112	44703	4249	113040
3. Mining	384	1	818	78		32	1883	4	3200
4. Manufacturing	52399	7134	18497	4285		2497	7738	1050	94600
5. Construction	27852	1448	2995	2849	46	743	2047	720	38700
6. El & Water	5765	404	1414	460	–	595	634	68	9340
7. Commerce	68678	7890	17909	4141	35	4819	9696	1852	115020
8. Transport	22936	622	18014	872		1541	2025	120	46130
9. Services	72668	18985	21751	12998	795	10182	23691	6180	167250
Total provincial production	251632	102428	95058	65954	3519	73852	120396	36923	
Per capita income (K£)	399.7	53.3	87.4	31.0	13.7	29.4	49.2	19.9	53.3
Index	100	13.3	21.9	7.8	3.4	7.4	12.3	5.0	.3760

Table 5:8
1974

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	TOTAL
1. Subsistence	-	36294	6509	32283	1918	48715	31456	18755	175930
2. Mod. agr.	986	35650	8455	13101	331	14520	51532	5375	129950
3. Mining	444	2	998	75	-	49	1567	5	3140
4. Manufacturing	66206	9658	24348	5629	-	3423	8248	1558	119070
5. Construction	31195	1552	4010	1423	78	1770	2368	994	43390
6. El. & Water	5346	733	2232	707	-	393	952	67	10430
7. Commerce	95813	11403	25718	5889	49	6978	14087	2733	162670
8. Transport	25473	1273	19628	1521	-	2724	3068	43	53730
9. Services	85250	22712	25591	15487	952	12514	28057	7427	197990
Total Provincial production	310713	119277	117489	76115	3328	91086	141335	36957	896300
per capita income (K£)	468.1	50.9	104.2	34.8	12.8	34.7	56.2	22.9	69.1
INDEX	100	12.8	22.3	7.4	2.7	7.4	12.0	4.9	

Table 5:9
1975

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	TOTAL
1. Subsistence	-	47977	8605	42675	2535	64396	41582	24750	232560
2. Mod. agr.	1075	37189	10670	14718	102	13859	56116	9233	142970
3. Mining	392	1	1013	108	-	81	1722	3	3320
4. Manufacturing	70977	10399	23977	5924	-	3216	10081	2556	127130
5. Construction	34003	1780	2801	1447	111	1358	2526	364	44390
6. El & Watr	7195	746	1818	864	223	1026	1137	191	13200
7. Commerce	103994	12674	28227	6532	53	7485	14493	3072	176530
8. Transport	28595	910	24588	868	-	1849	3241	199	60250
9. Services	98182	26467	29409	17947	1108	15040	32380	8687	229220
Total Provincial production	344413	138143	131116	91083	4132	108310	163278	49095	1029570
Per capita income (K£)	49.2.5	67.1	112.3	40.6	15.7	39.5	63.3	29.2	76.6
INDL..	100	13.6	22.8	8.3	3.2	8.0	12.9	5.9	

Table 5:10
1976

	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	R. Valley	Western	Total
1. Subsistence	-	53353	9569	47457	2819	71612	46241	27569	258620
2. Mod. agr.	1253	86347	10274	29925	150	18267	73861	12153	232230
3. Mining	479	16	1306	249	-	77	2122	1	4250
4. Manufacturing	83655	14104	28404	6840	-	3723	11123	3481	151330
5. Construction	38058	1881	2884	4187	81	1267	2048	284	50690
6. El & Water	7715	856	3038	1647	299	1277	1424	264	16520
7. Commerce	121536	15987	31952	7973	62	8925	16918	3727	207080
8. Transport	32940	1050	28339	1085	-	2439	2978	269	69100
9. Services	112661	30556	33457	20584	1276	17927	37026	10053	263540
Total provincial production	398297	204150	149223	119947	4687	125514	193741	57801	1253360
Per capita income (K£)	539.8	95.8	123.3	52.0	17.5	43.9	73.2	33.1	90.1
INDEX	100	17.7	22.8	9.6	3.2	8.1	13.6	6.1	

Table 6:   The Distribution of GDP Among Provinces

	1967	1968	1969	1970
Nairobi	31.5	32.2	32.2	32.3
Central	13.3	12.8	13.3	13.8
Coast	12.6	12.9	13.1	13.2
Eastern	8.9	8.8	8.7	8.8
N. Eastern	0.8	0.7	0.7	0.7
Nyanza	11.2	11.1	10.8	10.5
R. Valley	17.4	17.5	17.1	16.8
Western	4.3	4.2	4.1	4.1

1971	1972	1973	1974	1975	1976
33.6	34.0	33.8	34.7	33.5	31.8
13.2	13.1	13.8	13.3	13.4	16.3
13.5	11.8	12.8	13.1	12.7	11.9
8.5	9.5	8.9	8.5	8.8	9.6
0.7	0.7	0.5	0.4	0.4	0.4
10.1	10.3	9.9	10.2	10.5	10.0
16.5	16.5	16.2	15.8	15.9	15.5
4.0	4.1	4.2	4.1	4.8	4.6

Table 7:   Degree of Regional Inequality - Weighted Coefficient of
            Variation

1967	−	1.34
1968	−	1.36
1969	−	1.34
1970	−	1.33
1971	−	1.38
1972	−	1.37
1973	−	1.3^6
1974	−	1.38
1975	−	1.3^1
1976	−	1.22

Figure 1: The development of provincial per capita incomes (Nairobi = 10)
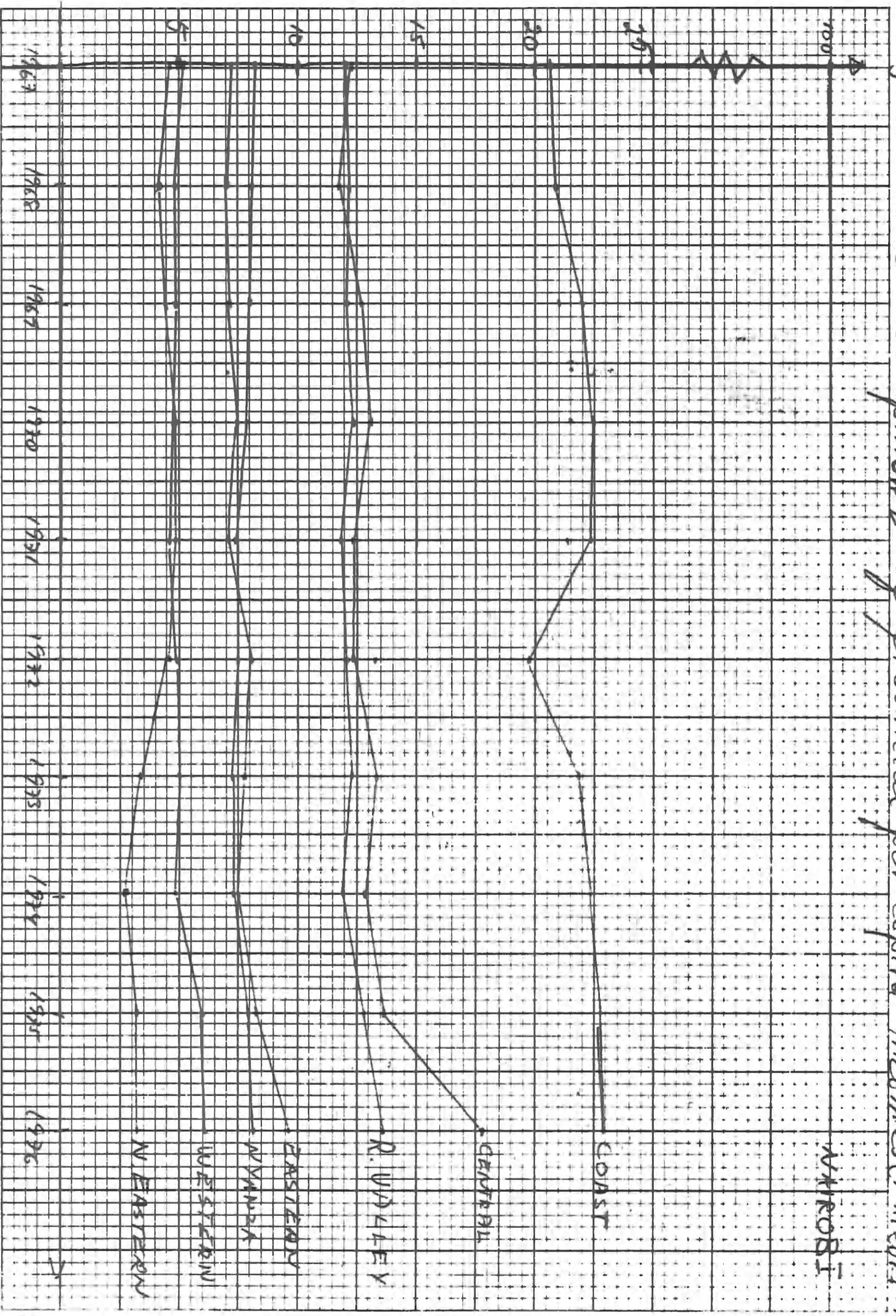
If one first looks at the distribution of total production by province
one finds that the share of Nairobi increased between 1967 and 1974 from 31.5
per cent to 34.7 per cent (See table 6). Over the same period the share
of the Coast province increased by 0.5 per cent, while the share of the
Central province was constant. The shares of all other provinces were
decreasing, which means that their growth rates were below the national
average.

Over this time, however, there was migration, which means that
these calculations does not reflect the development of per capita incomes
in the provinces. These were given in table 5, and there development is
illustrated in figure 1. As can be seen there is a considerable stability
up to 1974, even if the drought affected North Eastern province severely from
1973.

An often used measure of regional inequality is the weighted
coefficient of variation, that is

$$CV = \frac{\sqrt{\sum (y^r - \bar{y})^2 \, p^r}}{\bar{y}}$$

y^r - per capita income in region r

$\bar{y}$ - national per capita income

p^r - regional share of national population

The measure has been caculated for each year, and according to this measure
regional inequality increased slightly up to 1974 (see table 7). Migration
was thus not large enough to offset the imbalances in the growth of
production. Between 1974 and 1976, however, there was a considerable
reduction in regional inequality. The inequality index was reduced by 13
per cent, and the share of Nairobi in total production was reduced by three
per cent. It is easy to verify that this was mainly due to the coffee boom.
It primarily benefited Central and to some extent Eastern province. The
share of Central in total production increased from 13 to 16 per cent and its
share in marketed agricultural production increased from 26 to as much as
37 per cent. Thus it was the most developed agricultural area that benefited
most, but as can be seen from the figure all provinces drew closer to Nairobi
over this two year period.

One can thus conclude that the dominance of Nairobi has remained over
the period, even if it has been slightly reduced during the two last years
due to the (temporary?) increase in commodity prices. The main beneficiary
of this was Central province, but even before that Central province had
managed to improve its relative position. e.g. in manufacturing. Coast
province, with the secondary centre of Mombasa,has managed reasonably well.
The relative position of Eastern deteriorated slightly up 1974, whereafter
the coffee-boom raised provincial incomes considerably. North Eastern was
hit very hard by droughts from 1973, which almost wiped out the cattle sales
that were flourishing before that time. The shares of both Nyanza and
Rift Valley have been decreasing throughout the period, but Rift Valley still
is fairly favoured. It must also be kept in mind that the Rift Valley
province is far from homogenous and that the inclusion of pastoral areas draws
down the figures for the province. Western finally has improved its
position in the last few years by increasing its share of both modern
agricultural production and manufacturing. Still, it is next to North
Eastern province the poorest province in Kenya.

Under the conditions that existed before the oil-crisis and the
coffee-boom there thus at least did not seem to be any tendency towards
regional equalization. The provincial economic structure and the policy
pursued seemed to preserve or increase the differences. The
increases in commodity prices has changed the picture, but it is uncertain
whether this situation will remain. If the prices of agricultural products
fall to lower levels it seems plausible to guess that the previous patter
of development will occur once again. We also saw that some provinces
benefited only little from the boom, wherefore the need to give these
areas an increasing share of production in any case remains.

5. Regional Inequality in Public Services

In the previous section we looked upon the distribution of incomes between different provinces, which is the most important determining factor for consumption of private goods. In this section we will look at the distribution of public services. I will concentrate on just a few types of services, namely education, health services and roads. Some remarks are also made on the regional incidence of Harambee projects. First, however, we will take a quick look at the historical background of public services in Kenya and the institutional structure through which they are provided (see Colebatch, 1974a).

5.1 Institutional Structure

In colonial Kenya public services were ɨprovided by a number of agencies. Some were provided by the central government and some by peripheral bodies, which often received some sort of subsidy from the centre. The more complex services such as secondary education,hospitals, and trunk roads, were controlled by the central government and they were oriented towards the larger towns.

The more basic services in the rural areas were handled by the peripheral bodies. The most important of these were the local authorities, that is County Councils in the Scheduled (European) areas and African District Councils in the African areas. Both types of councils financed their operations with money from local taxation and from grants, but while the European councils raised only a small fraction of their revenue locally the African councils had to raise most money within their own community.

The second category was voluntary agencies, mainly Christian missions but also various organizations within the Asian community and e.g. the Kikuyu Independent School Association.

Finally, there existed a private sector that provided some of the mentioned services for profit.

The central government directly provided education only in towns, while African education was provided mainly by the voluntary agencies. Some of these received subsidies. There were also a few private schools.

The structure of health services was similar. The centre provided
hospitals while rural health centres and dispensaries were established by
missions and local authorities. These received very little support from the
Central government. There were also a few private medical practitioners in
the towns.

The government was responsible for almost all roads. It maintained
the trunk roads and gave grants to local authorities for road maintenance.

A general feature of the colonial system of public services was that
it reflected the existing socio-political stratification. This meant that
the service sector primarily catered for the needs of the Europeans, secondly
for the needs of the Asians and lastly for the needs of the Africans. (Colebatch,
1974b, p.52). Also within the African communities there existed great differences
which among other things were due to the distribution of missionaries. The
responses of the Africans to the European penetration also differed. In the
thirties there were for example established independent schools within the Kikuyu
area. Furthermore, the establishment of local government administration in
1925 with African representation may have increased spatial disparities, as the
more wealthy districts could raise more money locally to finance e.g. primary
education.

At independence attempts were made to strengthen the local authorities.
Each region got a Regional Assembly, which controlled most of the education,
health and road functions of the government. County Councils were established
at the district level, and subordinated to these were Area Councils. The County
Councils derived their income partly from grants from the regional authorities,
partly from the Graduated Personal Tax.

The Majimbo Constitution of 1963 represented an attempt to decentralize
power, but during the next few years it became increasingly centralized to the
KANU central government. In the mid-sixties the regions were dissolved, and
the former system of provinces was reinstated. The provincial administration
was transferred from the Ministry of Home Affairs to the Office of the President
and the Provincial Commissioner became the personal representative of the
President.

During the rest of the sixties there were numerous conflicts between
the centre and the councils (Colebatch, 1974a, p.7). They almost always
concerned money and not the operation or standards of services. The cost of

running the services increased continually, and the councils had very little possibility of increasing their revenue from local sources. This led to continual financial crises, which obviously were used as a means to pressure for larger grants from the central government ("crisis financing", Colebatch, 1973, p 4).

In October 1969 it was announced that the services were to be transferred to their respective ministries. This operation seems to have caused relatively small problems as far as education and health services are concerned, whereas there were some problems with the roads (Colebatch, 1974a, p 8). Generally, the transfer of power seems to have had only minor effects on the structure of the services. The central control was strengthened, and the provincial administration became a vital link between the centre and the local communities.

5.2 Education

Colonialism had a very uneven impact on service development in different areas and once the imbalance was established there was a cumulative tendency towards increasing inequality. If for example an area had gone ahead in education, it could then draw on the graduates to get more teachers. Furthermore, people who got education could earn more money and then contribute more to the education expenditures within the area.

As one example of the uneven impact of colonialism we can look at the level of primary education among various tribes at independence. As we can see the Kikuyu are ahead of the other tribes, and this head start may in part explain the dominating role that the Kikuyu have had since independence.

Table 8. Ethnic Breakdown of Primary Education, 1962

Tribe	Population	Percentage of age-group 5-9 with some schooling
Kikuyu	1,642,065	56.0
Luo	1,148,335	37.7
Luhya	1,086,409	24.0
Kamba	933,219	20.5
Kisii	538,343	34.6
Meru	439,921	32.0
Mijikenda	414,887	14.9
Kipsigis	344,771	36.2
Nandi	170,085	50.8
Masai	154,079	13.0
Tugen	109,691	17.7
Elgeyo	100,871	24.1

Source: Berg-Schlosser, 1970, p 40.

Education is obviously a prerequisite to be able to obtain power, and the possession of power tend to improve the access to education and other public services. Therefore, the imbalances tend to be self-perpetuating. Both primary and secondary education is even today distributed in favour of the wealthy and politically influential areas; even if the concentration has decreased in the last four years.

Education is considered by parents to be very important as it determines the life chances of the children. There is a strong political pressure for education in Kenya and primary education is the most widely spread of all public services. The establishment of schools has largely been a matter of response to local demands, and the expansion of primary education therefore has not followed any exact plan. The secondary schools are either government aided schools, self-help community Harambee schools or commercial schools. In secondary education Harambee schools play a large role. In 1973 there were 600 Harambee schools compared to 381 government aided schools. The former catered for 90,000 of the 180,000 pupils (Social Perspectives, No. 1, 1976, p. 2). Recently also colleges of technology have been started on a Harambee basis. Generally the quality of Harambee schools is much lower than what it is in the government-aided schools.

What we are interested in here is, however, primarily regional differences. Other issues in education will be neglected. At first we will take a look at the distribution of primary and secondary schools in 1969. One problem relating to these figures is that children migrate from the educationally advanced areas of Central, Eastern and Western Provinces to more backward areas to get education. This may be due e.g. to the fact that their are fewer there who compete for the educational opportunities (Kinyanjui, 1974, p. 12). There may thus be some bias in the figures (table 9).

There were   very large quantitative differences in enrolment between provinces in 1969. In 1974, however, a very profound change occurred, when school fees were abolished for the four first years of primary school. This lead to an enormous increase in enrolment figures. In e.g. Nyanza enrolment is reported to have increased from 291 thousand in 1973 to 573 thousand in 1974. In the whole country the increase was almost a million in one year.

Of course figures on enrolment must be treated with some caution. All pupils registered are not in school, some not at all and some only part of the time. Pupils may e.g. drop out to help at home on the farm

Table 9. Distribution of Population, Primary and Secondary School enrolment in Kenya, 1969

Provinces	5-14 yr.age group	Primary school enrolment	15-19 yr.age group	Secondary school enrolment	Enrol.% of 5-14 age grp. in Prim. Sch.	Rank	Enrol.% of 15-19 age grp. in sec. school	Rank
Nairobi	99.152	60.944	49.843	22.919	61	2	46	1
Central	487.102	311.970	152.976	26.911	64	1	18	2
Coast	243.125	76.805	93.653	10.508	32	5	11	3
Eastern	564.684	269.652	192.634	13.782	47	3	7	5
North-Eastern	76.818	3.301	30.344	.143	4	8	1	8
Nyanza	656 .355	206.462	221.489	15.548	31	6	7	5
Rift Valley	640.820	182.263	225.048	13.710	29	7	6	7
Western	420.427	169.930	139.012	11.725	40	4	8	4
Total	3.188.483	1.282.327	1.104.999	115.246	38 5		13	

Source: The table is taken from Nyangira (1975, p. 144), who has made his calculation from the Kenya Population Census, 1969 and Kenya Ministry of Education Annual Report 1969.

or because the parents cannot afford to pay the various fees. The
increases between 1969 and 1975 are shown in table 10.

Table 10. Primary and Secondary School Enrolment, 1975 and
           Percentage Increase Between 1969 and 1975

	Primary	% increase	Secondary	% increase
Nairobi	83.4	+ 37	22.6	-1
Central	558.1	+ 56	55.4	+106
Coast	156.9	+104	16.1	+ 53
Eastern	545.9	+102	38.5	+179
North Eastern	7.0	+112	0.5	+250
Nyanza	602.9	+192	31.4	+103
Rift Valley	495.7	+170	29.1	+112
Western	931.3	+154	31.3	+168
KENYA	2.881.1		225.1	

Source: Economic Survey 1976, p. 155-156.

There thus has been a considerable equalization in primary school enrolment,
but there are also qualitative differences. In the colonial days the
quality of schools reflected the social stratification of the colony.
The best schools were reserved for the white, the second best were for
the Asians, and the third rate schools catered for the Africans. Much of
the qualitative differences have been carried over to post independence
Kenya. The best schools are today found in the cities and the centrally
located areas (Kinyanjui, 1974). Data on the quality of primary school
teachers confirm this, and as one would suspect it has been difficult to
recruit a sufficient number of qualified teachers to cope with the rapid
increase in enrolment in primary education.

We see from the table that in Nairobi practically all primary
school teachers were qualified, but also in Central province the proportion
was above 80 per cent. In the remaining provinces the percentage 1976 was
between 50 and 60 per cent. The differences has increased in the last
few years.

The quality of the primary education is important as the passing
of the Certificate of Primary Education is very much dependent on the
quality of the teaching staff, and the results obtained in East African

Table 11.   The Quality of Primary School Teachers, 1975 and 1976

Province	Percentage of teachers who are qualified		Rank	order
	1974	1976	1974	1976
Nairobi	97	98	1	1
Central	81	82	2	2
Coast	57	53	8	8
Eastern	61	59	6	4
North Eastern	71	61	3	3
Nyanza	64	55	4	7
Rift Valley	64	59	4	4
Western	59	57	7	6

Sources: Ministry of Education, Annual Report, 1974, p 18
           Social Perspectives, vol 2 no 5 1977: Education 1976: Status
           Report, p. 11.

Certificate of Education is very much better in the aided secondary schools.
Children who manage, to get into schools with high quality staff therefore
are the ones that have the best chance qualifying for higher education.
Figure on enrolment of course give some indication of how resources for
education is distributed by province, but to know more about the priorities
of the government one would like to have data on the allocation of public
money. Such data are, however, difficult to come by. Still, I have some
partial data on the distribution of recurrent expenditures on education in
1973/74.

Table 12. Recurrent Expenditures on Education by Privonce 1973/74

	Expenditure per capita (K£)
Central	4.98
Eastern	3.79
North Eastern	0.87
Nyanza	1.62
Western	2.16

Sources: District Development Plans

As so little data on the provincial allocation of government expenditures
on education is available, it may be of some interest to see how capital
expenditures is allocated (even if this type of expenditure is small compared
to recurrent expenditure). Only data for secondary schools are available.

Table 13: Development Expenditure on Secondary Education by province 1974-1978

	Expenditure per capita (K£)
Nairobi	0.31
Central	0.53
Coast	0.25
Eastern	0.20
North Eastern	0.20
Nyanza	0.15
Rift Valley	0.19
Western	0.23

Sources: Development Estimates 1975/76-1977/78. The figures for
1974/75-76/77 concerns approved expenditures, the data for
1977/78 concerns estimated expenditures.

It can be seen from these two tables that primarily Central province
is favoured, while for example Nyanza gets relatively little. These partial
data seem to be in accordance with Nyangira's (1975) hypothesis that the money
tend to flow to the most developed regions. Kinyanjui (1974, p. 39) also
concludes from his study that educational benefits are being distributed
in favour of the economically and politically powerful districts and
provinces in the country.

Even if the distribution of education expenditures among provinces
reflects existing inequalities, they are considerably more dispersed than
economic activity in general. They therefore can be assumed to counter-
balance to some extent the regional imbalances generated by the production
apparatus.

5.3 Health Services

Health services, like education, were originally shaped according
to the needs of the colonists, wherefore the health services are highly
urban oriented. Apart from the services managed by the government there are
a number of private practitioners and missions. The activities of the
missions are to some extent coordinated with the activities of the government.

Also for health services there is relatively little data, but there are some indicators that we can look at. In the first table we look at some indicators of the development of health services in the various provinces.

Table 14:   Health Centres, Hospitals, Beds & Cots, Doctors, and
            Attendances per Million People and Rank Order

	HC	H	BC	D	A
Nairobi	21.4 (2)	38.6 (1)	4500 (1)	1451 (1)	$0.42 \cdot 10^{6}$ (2)
Central	14.6 (4)	18.0 (4)	1600 (2)	33 (4)	
Coast	6.0 (7)	18.8 (2)	1400 (3)	128 (2)	$0.37 \cdot 10^{6}$ (3)
Eastern	8.9 (6)	13.8 (5)	1200 (4)	14 (6)	$0.44 \cdot 10^{6}$ (1)
North Eastern	0 (8)	11.4 (6)	900 (7)	0 (8)	$0.32 \cdot 10^{6}$ (4)
Nyanza	10.2 (5)	10.2 (8)	600 (8)	28 (5)	$0.65 \cdot 10^{6}$ (7)
Rift Valley	22.5 (1)	18.6 (3)	1200 (5)	43 (3)	$0.30 \cdot 10^{6}$ (5)
Western	18.5 (3)	11.3 (7)	1000 (6)	5 (7)	$0.14 \cdot 10^{6}$ (6)
Kenya	14.1	16.0	1300	101	

Sources: HC - 1975: Social Perspectives No. 1, 1976, p. 4.
         H - 1975:   - " -
         BC - 1973/74: Economic Survey, 1976, p. 159
         D - 1969: Meck, 1971, table 13.
         A - 1968: Bonte, 1974, p. 78.

The health centres are the backbone of rural health services, and in 1975 there were 189 in all districts. The centres are manned by paramedical personnel and are visited occasionally by doctors. The quality of the centres, however, vary considerably, wherefore not too much importance can be attached to the comparison of their numbers.

There existed in 1975 215 hospitals, and there is a great concentration to Nairobi and centrally located areas. There is also an urban-rural bias that is not reflected in these figures. One must, however, keep in mind that hospitals in the cities serve patients from rural areas as well.

As the scale of hospitals differ, a better estimate of real differences is obtained if one looks at the number of beds. This may be the best estimate of differences in health services of the crude ones presented here.

Of course, Nairobi dominates enormously, but this is to some extent due to the fact that hospitals in Nairobi (and Mombasa) serve as referral hospitals and thus cater for patients also from other areas. Still, Nairobi, Mombasa, and Central Province seems to be well supplied while particularly Nyanza is lagging behind.

The enormous bias towards Nairobi and Mombasa is even further accentuated if one looks at the distribution of qualified staff. About two thirds of all doctors are to be found in Nairobi. Data on attendance does not show any large differences except for Nyanza and Western who are lagging behind.

A better indication of government priorities can be obtained from data on recurrent health expenditures by province. Data are available for 1973/74 for all provinces except Nairobi and Rift Valley.

Table 15: Recurrent Health Expenditures by Province, 1973/74.

	Expenditure per capita (K£)
Central	0.97
Coast	0.90
Eastern	0.53
North Eastern	0.71
Nyanza	0.33
Western	0.51

Sources: District Development Plans.

Of the provinces for which data are available Central comes out on top followed by Coast. Also here Nyanza gets least.

It can in this context be of some interest to see if investments are allocated in such away that the regional differences are decreased. The large dominance of Nairobi is due to (table 16) large investments at Kenyatta National Hospital, and does not reflect the concentration of private practitioners and hospitals in the city. North-Eastern and Western get relatively little resources, while the high share of Nyanza should indicate that its very low standard of health services is improving.

It can be said about health services as about education that they are concentrated to the more developed areas, but still they are more dispersed the economic activity in general.

Table 16:   Development Expenditures on Curative Health by Province,
                              1974-78

	Expenditure per capita (K£)
Nairobi	6.59
Central	0.50
Coast	0.97
Eastern	0.64
North Eastern	0.04
Nyanza	0.58
Rift Valley	0.34
Western	0.18

Sources: Development Estimates 1975/76-1977/78. Data for 1974/75-1976/77
           concern approved amounts, data for 1977/78 concern estimated
           amounts.

A special problem as far as health is concerned is the large
private sector that is completely located to urban areas. Furthermore,
the large municipalities provide some services of their own. These factors
work against the poorer areas, and the lack of central control makes it
difficult to remedy the situation.

Furthermore, even if funds were available there is lack of
qualified people that are willing to take jobs in the rural areas. In
the mid-seventies only 1/3 of all doctors was in government service
(Economic Survey, 1976, p. 160). The rest are private practitioners,
who naturally choose to work where the money is, that is primarily in
Nairobi.

5.4: Roads

Roads obviously are very important determinants of how well an area
can become integrated within itself and with the rest of the country.
To be able to take advantage of expanding markets elsewhere it must be
possible to ship goods out of the regions without too high costs.

Before the transfer of functions from local to central government
in 1970, there was a more clearcut distinction between the two levels as
far as roads were concerned than there was within education and health.
Therefore, there were larger changes in the organization within this sector.
Here the centralization had some negative effects, which where more or less
absent in the case of education and health. Especially it caused problems

for the maintenance of small roads, as the local authorities since the
centralization lack funds that make it possible to respond to local
demands. "An organization that is 'better' for building highways may not
be 'better' at providing maintenance for bush tracks" (Colebatch, 1974a).

It would be of great interest to get some measure of road quality
by province, that is both quality of internal and external links. The
problem here is that it is difficult to devise a good measure of the
relative communication standard of different regions. One should need to
take their size, population density, and location in relation to all other
regions into account, and this would require a more thorough study than
what I can do here.

It is possible to get data on km. of road/population or km. road/
km^2 land area from government data (Road Reclassification, 1970), but such
data are rather meaningless. However, if one looks at the distribution
among districts of good roads it becomes very clear that the linkage with
is best developed along the axis Mombasa-Lake region,
other region. The best trunk roads are to be found in Kwale, Taita, Tana
River, Kitui, Machakos, Kiambu, Kajiado, Nakuru, Baringo, Narok, Uasin
Gishu, and Kisumu. Nairobi dominates the overall network, with another
major node at Nakuru, and secondary nodes at Kitale, Eldoret, Kisumu,
Kericho, Nyeri, and Mombasa (Soja, 1968 p. 34)

Even if we have no data on the present quality of the road system
in different regions, it may be of interest to look at how the govern-
ment allocates investment resources among provinces.

Table 17.   Development Expenditures by the Central Government on Road
by province, 1974/78

	Expenditures per capita (K£)
Nairobi	4.42
Central	9.67
Coast	6.25
Eastern	4.85
North Eastern	3.84
Nyanza	1.90
Rift Valley	5.50
Western	4.74
KENYA	5.17

Sources: Development Estimates 1974/75-77/78.
Data for 74/75-76/77 concern approved expenditures, data for 77/78
estimated expenditures. Note that only expenditures that it is
possible to locate by province are included. Excluded are thus
expenditures on rural access roads and some general expenditures.
Excluded is of course also the expenditures of municipalities.

We see that there are two provinces that stand out in terms of expenditures per capita, namely Central at the top and Nyanza at the bottom. Among the other the differences are not so large, even if the rank order approximately follows the usual pattern. Note, however, that Nairobi ends up way down the list, which is due to the fact that the Nairobi City Council caters for the streets of the city.

The tentative conclusion also from this section must then be that the government puts high priority on the expansion of roads within areas where there is considerable economic development. The allocation of expenditures on road does at least not seem to be a part of any concious regional policy.

5.5. The Location of Harambee Projects

The Harambee (or self-help) movement in Kenya has since independence played a significant role in the development effort in the rural areas. The total value of self-help projects in 1976 was K£ 5,141 (Economic Survey, 1977, p. 164), and the total sum contributed from the mid-sixties to the mid-seventies is around K£ 20 million (Social Perspectives, no. 1, 1976, p. 2). It is estimated that Harambee activities constitute about 30 per cent of total capital formation in rural areas (Ng'ethe, 1977, p. 3).

Education is the dominating type of expenditure within the movement. It accounts for about half of total expenditures. Apart from education a whole range of socially or economically oriented projects are initiated. It should be pointed out, however, that often projects are started without proper planning and have to abandoned before they are completed or one may find out when they are finished that there is no money to cover the expenses of running the services. There may thus be some vastage of resources.

Here I will not consider the value of Harambee as such, but just look briefly at the regional aspect of the movement. As it is a self-help movement it is to a large extent dependent on the contributions of the people within the community, and therefore it is natural that it is easier to initiate Harambee projects in the economically more advanced areas. The distribution of Harambee activities therefore can be assumed to reflect the regional inequality that exists. They can hardly be expected to contribute to the equalization of the availability of infrastructure among areas.

It may be possible that Harambee has the opposite effect. There often is a substantial amount of money coming from individuals or groups of individuals in the urban areas and as Harambee is more common in the

relatively developed areas these flows would tend to increase the inequality
among regions. Furthermore, Harambee projects are in some cases started
on local resources only to later on constitute the basis for demands of
funds from the centre. It has been pointed out that there is a tendency
to initiate projects unlikely to be initiated by the government, but likely
to be taken over (Mutiso and Godfrey, 1973). For example a school may be
started and when the community cannot raise the money needed to cover the re-
current expenditures locally, the local people start to press the govern-
ment to supply the money. Therefore the localization of Harambee projects
may to some extent determine where the money of the government flows.

   I here only make a mini-investigation of the regional distribution
of the Harambee project for 1972 (Kenya: A Statistical Analysis on Self-
Help Projects, 1972). The total value of the Harambee-projects this year
was K£ 3,115,933 (p. 57), and the distribution among provinces of this
total is given in table 18.

Table 18. Value of Self-Help Projects by Province, K£, 1972

| Province | Total | Contributions by | | | |
		1) the people	2) Central gov.	3) Local	4) other
Central	1,003,071	922,420	47,372	7,114	26,165
Coast	239,222	180,098	32,937	368	25,819
Eastern	483,998	419,523	40,336	2,859	21,244
N. Eastern	63,887	40,351	20,009	1,676	1,851
Nyanza	459,245	407,165	25,385	1,320	25,375
Rift Valley	635,923	550,670	38,289	8,051	38,913
Western	230,577	186,852	3,745	10,291	43,725

Source: Kenya: A Statistical Analysis on Self-Help Projects 1972, p. 55.

To get a better picture of the differences one should look at the per
capita figures instead.

Table 19: Value of Self-Help Projects by Province Per Capita, 1972 (K£)

Province	Total	Ranks order	Contributions by the people	Central gov.
Central	0.54	(1)	0.50	0.025
Coast	0.23	(4)	0.17	0.031
Eastern	0.23	(4)	0.20	0.019
N. Eastern	0.25	(3)	0.16	0.079
Nyanza	0.19	(6)	0.17	0.011
Rift Valley	0.27	(2)	0.23	0.016
Western	0.15	(7)	0.13	0.003

We see that Central province is way ahead of the others, which is what one would expect. It is also interesting to note that the government is spending relatively much money on Harambee in the lagging North-Eastern province, which is positive as far as regional equalization is concerned. On the other hand the relatively poor Western and Nyanza provinces get very little.

To get a still better picture of the differences in economic potential among areas we will look at how much is contributed in cash per capita in the various areas. It can also be assumed to be a good indicator of how much money people have in the area. It is also easier to make/ a correct estimate of this part.

Table 20. Contributions in Cash to Harambee Projects by Province, 1972 (K£)

Province	Amount	Percentage of all contributions	K£ per capita	Rank Order
Central	517,773	56	0.28	(1)
Coast	68,986	38	0.07	(5)
Eastern	204,507	49	0.10	(3)
N. Eastern	13,669	34	0.05	(6)
Nyanza	141,640	35	0.06	(4)
Rift Valley	304,212	55	0.13	(2)
Western	230,577	37	0.05	(6)

This table even stronger underlines that it is communities within the Central province that most easily can raise cash. This should indicate that the people there (or at least some of them) are more well off than those within other provinces.

Of course, no definite conclusion can be drawn from this small investigation. It is not quite clear whether Harambee contributes to increasing inequalities or if it just is a manifestation of those that exist. To be able to say anything more definite one should need to look more carefully at who contributes to the projects, and where they come from. It for example well-to-do people living in Nairobi primarily contributes to Central and Rift Valley provinces, one could argue that Harambee movement creates or sustains inequalities. A system of taxation and a conscious regional distribution of infrastructure investments by the government, would make an equitable distribution more likely.

5.6 Concluding Remarks on Public Resource Allocation

In this study of public resource allocation in Kenya Nyangira finds support for his thesis that the greater the level of modernization, the greater the resources allocated to the area. More developed areas tends to get more public resources than poorer ones. He also finds that political influence also (of course) influence the allocation of government money, but interestingly enough he finds that it is secondary to economic forces in explaining the regional allocation of public resources. By using factor analysis only very tentative conclusions can be reached, but his findings still support the hypothesis that cumulative economic forces are fundamental determinants of the development of regional inequality. Once an area has gone ahead it tends to preserve its advantage.

Amsden (1974) and Bienen (1974) both emphasize the fact that ethnic politics are important in this context. Bienen (p. 130) argues that the politics of distribution in Kenya is perceived by the actors primarily in ethnic terms. There is the tradition of the "big man", who can provide patronage and protection for his clients. This implies that there is few attempts to seek support across tribal barriers. Instead rich and poor within the same area work together to get public money to the area.

In section 4 an estimate of the provincial allocation of recurrent expenditures was presented. Here total recurrent expenditure per capita by province is given.

Table 21: Recurrent Expenditures by Province 1973/74

	Expenditure per capita (K£)
Nairobi	70.76
Central	9.69
Coast	13.07
Eastern	6.42
N. Eastern	3.54
Nyanza	3.28
Rift Valley	8.84
Western	4.09

Sources: See table 2.

There is an enormous dominance of Nairobi, which of course to a large extent is due to the fact that central government authorities are located there. These, of course, cater for the entire country. Still, it certainly is true that Nairobi and Mombasa are well catered for in terms of public services. Among the other provinces Central get the most money followed by Rift Valley, while Western, North-Eastern, and Nyanza get least per capita. These overall figures support the tentative conclusion drawn from the analysis of individual services that the most developed regions get the largest shares of public resources.

A similar conclusion is drawn in the World Bank report (1975, p. 22) where it is stated that the "direct impact (of the public sector) on the problems of income distribution has certainly been largely negative". This of course also has to do with the type of development strategy that has been followed. To make industrialization possible the government has been forced to provide the modern sector in the more developed regions with infrastructure to make it possible for it to grow. A change in the allocation of public services might be difficult to accomplish if the development strategy is not changed.

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