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LAND REFORM

in

KENYA

by

Barbara K. Herz
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SR/LR/C-16

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SUMMARY

During the Colonial era -- 1900-1963 -- Kenya's agriculture developed in a dualistic pattern: British settlers raised cash crops in an enclave of large farms, African peasants and herdsmen struggled to survive on the rest of the land as their population expanded. Faced with the bloody Mau Mau Rebellion of 1953-54 caused in part by worsening conditions in the African agricultural sector, the Colonial government undertook a major program of land reform and agricultural modernization. That program has been continued and expanded by the government of the Republic of Kenya after Independence in 1963, as part of Kenya's Development Plans covering 1964-1970 and 1969-1974.

Kenya's land reform comprised two major efforts:

-- Resettlement of Africans in the small but fertile enclave where Europeans alone had operated large and profitable farms over 1900-1960. The major resettlement program, the Million Acre Scheme, began in 1961 and is winding up today.

-- Enclosure and consolidation of plots on the other "African" land. These programs began with the Swynnerton Plan of 1954 and continue today.

Each land reform program promoted conservation and encouraged Africans to undertake cash cropping and dairying, which most of them had known only from their work on European farms. The cash earners were chosen with an eye to minimizing the risks of disaster from shortfalls in earnings on a single key crop; the collection included such diverse products as coffee, tea, pyrethrum, and milk. Other programs emphasized grazing schemes to spur the production of marketable beef.

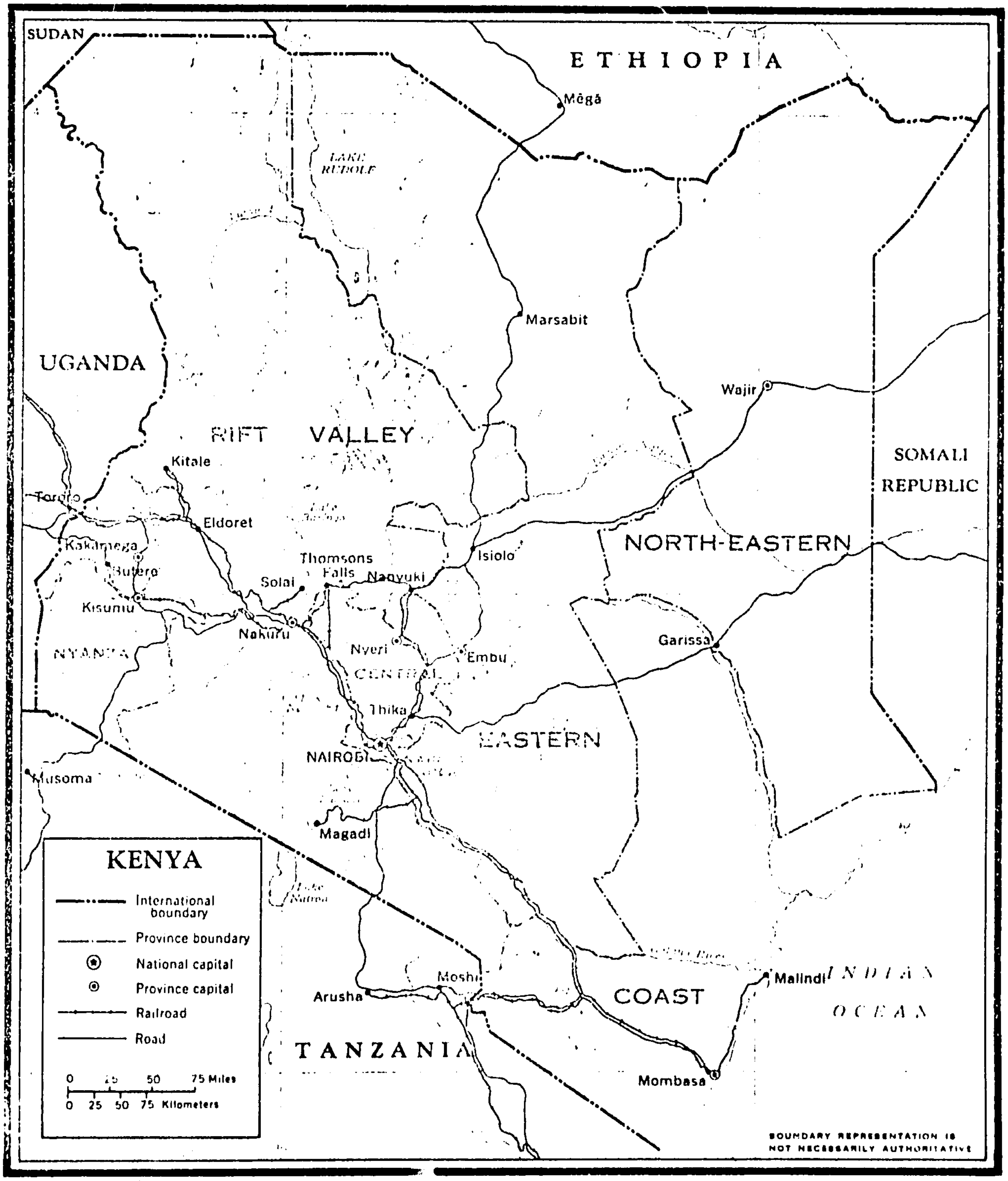
The results of the land reform are impressive:

-- In economic terms, production is up on some -- probably most -- schemes of both types over the levels achieved before land reform. After an excellent extension program, small holders now produce most of Kenya's coffee, much of her tea, and a substantial part of her pyrethrum. They also produce much more of their chief subsistence crops, maize and wheat. Many African farmers now earn substantial cash incomes; they have entered the cash economy to stay. The land reform programs have also promoted employment. Although returns are not all in, early indications are that reform programs on African land provided greater economic benefits for a given cost than resettlement of European land.

-- In social and political terms, the land reform has also paid off. It has answered to a substantial extent the African's demands for access to the small but highly visible tract of rich European land, and so blurred

the distinction between African and European agriculture. It has given other Africans title to consolidated holdings in much of the rest of the country and encouraged them to invest in their land, thus promoting a stabler class of more prosperous African peasant farmers. Through their cooperative movements and group planning and training sessions, these farmers have begun to work together more effectively. With the success of the land reform programs, African farmers have become less rebellious and frustrated. Many now support the government's land reform programs, and from this they have come to support their government as a whole more enthusiastically than they might have otherwise.

Of course, problems have arisen. Many programs helped relatively well-off and forward-looking farmers, but did little for the backward farmers or the squatters or the tenants or the nomadic herdsmen who roam much of Kenya. Many programs have been run inefficiently, largely for lack of qualified people or because of unexpected political frictions. Thus despite the headway made under the land reform programs, most of Kenya's farmers still cling to traditional ways, and the threat that the expanding population will outpace the expanding reform programs is real. But so far the land reform programs have clearly benefitted Kenya's African farmers, and if properly run, they could spell the difference between success or failure as Kenya struggles to develop a viable African agricultural sector in the 1970's.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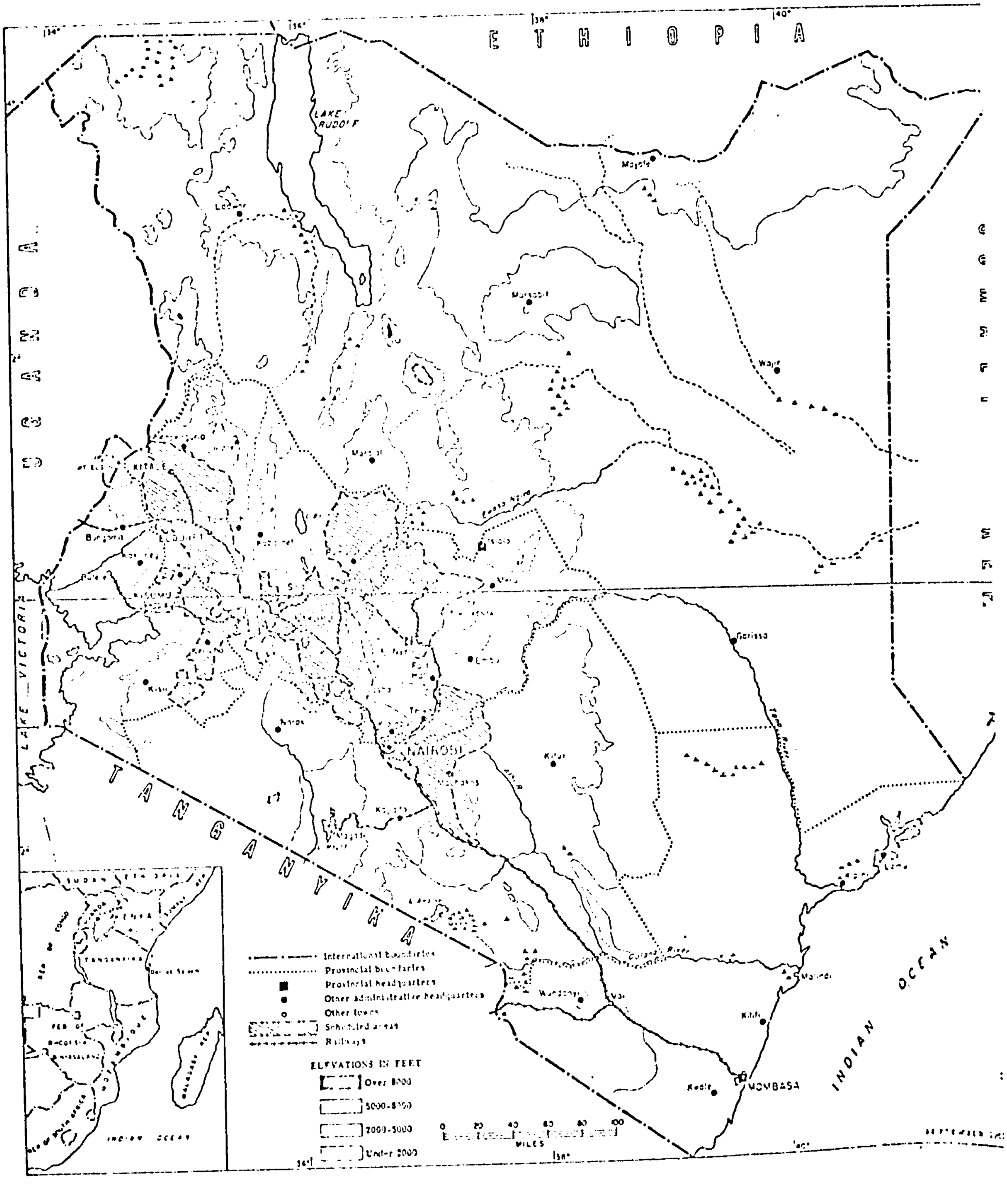
KENYA


ETHIOPIA
LAKE RUDOLF
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TANGANYIKA
NAIROBI
MOMBASA
INDIAN OCEAN
International boundaries
Provincial boundaries
Provincial headquarters
Other administrative headquarters
Other towns
Scheduled areas
Railways
ELEVATIONS IN FEET
Over 8000
5000-8000
2000-5000
Under 2000
MILES

SETTING THE SCENE: THE PRE-REFORM PERIOD 1900 - 1960

Kenya's agriculture has long dominated her economy, furnishing most of the materials of life to most of her people, employing 75% of her labor force, and providing about 70% of her export earnings. The distinctive characteristic of Kenya's agriculture during the Colonial period -- 1900-1963 -- was its almost classic dualism. In an enclave of fertile land carved into plantations and large farms, a few thousand European farmers supervised production of profitable cash crops -- export crops including coffee and sisal and food crops including maize and wheat for local sale. In the rest of the country millions of African peasants and herdsmen eked out a meager subsistence cultivating small plots using traditional and seemingly inefficient farming methods, or roaming barren ranges in search of grazing for their cattle.1/ Whether this dualistic development of agriculture helped or hurt the country remains a hotly debated question, particularly since the government has undertaken a costly two-pronged program of land reform designed not only to eradicate dualism by resettling Africans on any land the Europeans could be persuaded to leave, but also to bring Africans into the cash economy by modernizing African agriculture.

Kenya's land comprises about 220,000 square miles. Only 38,000 square miles will support arable farming. Most of the arable land lies in the Central Highlands, the hilly country spreading North and West from Nairobi across the Rift Valley, with high altitudes of around 5,000-6,000 feet and adequate rainfall of at least 25-30 inches per year. Another 20,000 square miles of land, with lower altitudes and rainfall of 20-25 inches lies scattered in the lower levels of the Rift Valley and in the Southern region near Tanzania. The rest of the land -- about 75% of the total -- is semi-arid desert supporting only the few cattle owned by nomadic herdsmen and some of Kenya's famous wild game.2/

Most Kenyans live on or near the fertile land. The dominant Kikuyu tribe traditionally inhabit the rich Highlands north of Nairobi, growing crops and herding livestock. Until recently, the Kikuyu were not exactly sedentary -- they pulled up stakes when land wore out and moved to other nearby tribal land -- but they were still considered farmers, not nomads. The second major tribe, the Luo, inhabit the region around Lake Victoria, where the land varies in quality. They are also basically a farming tribe, though they attach great importance to owning cattle. The Kalenjin tribes -- the Kipsigis, the Nandi, the Elgeyo, and the Tugen -- inhabit part of the Rift Valley, where the land also varies. They farm good land or roam arid land to find grazing. The nomadic Masai herdsmen once claimed much of the Southern half of the Rift Valley, but now move only within the extreme Southern region bordering Tanzania, where most of the land is arid. The Kamba, rather like the Kikuyu, farm and herd on the land Southeast of Nairobi.

In the early 1900's when the British colonial regime ruled Kenya, about 7.5 million acres of land (including perhaps 30% of the high-potential land) primarily in the fertile Highlands were alienated from indigenous Africans and reallocated to about 3,600 European farmers, who then developed a successful export enclave within the "White Highlands."[3] With small areas on the coast and in the West (Nyanza) farmed by a few Asian settlers, the White Highlands formed the "Scheduled Lands" -- and the Scheduled Lands became the core of Kenya's cash economy. The Africans who had farmed the White Highlands were shepherded none too gently to the remaining "Non-scheduled" or African lands, where they tried to farm or herd livestock. Their lack of success was to prove a critical catalyst to subsequent programs for land reform.[4]

Although opinions vary, recent research indicates that British Colonial policy was designed in large part to assure the economic success of the White Highlands often at the expense of the African lands -- official statements to the contrary notwithstanding.[5] Once it was determined to settle Kenya, British settlers had to be attracted. The promise of good incomes from farms in the cool and beautiful Central Highlands of Kenya was a strong incentive. Land tenure appeared secure. A 1902 ordinance permitted Europeans to hold alienated land on 99 year leases and a 1915 ordinance permitted them 999 year leases and provided the right to convert, which most of them exercised. In 1960 about 560,000 acres of scheduled land were held on freehold terms, about 591,000 acres on 99 year leases, and about 6,350,000 acres on 999 year leases.[6]

Once in Kenya, most British settlers kept to themselves, apparently finding the African's way of life too different from their own and believing the Africans unlikely to change much. They banded together in their enclaves of large farms, limited their contact with Africans largely to the hiring of laborers, and kept in touch commercially and politically with England.[7] The British settlers were careful to maintain ties with their home government strong enough to guarantee adequate support for their own ventures. The British government readily supported this Foggartistic policy, citing the usual economic and political arguments. Moreover, the British government had determined for political reasons to build a railroad across Kenya, and wanted to make the railroad profitable by establishing European farms producing export crops along its route.[8] Much of the route lay across the Rift Valley, which was claimed in large part by the nomadic Masai herdsmen. Like other tribes, the Masai practiced a primitive form of fallow-field conservation by wandering off exhausted land to find better land. In part the British simply mistook the temporarily vacated land for unused land. Still, the Masai had lost both men and cattle in droughts in the early 1900's, so appeared not to need all they claimed. Many Europeans jumped the Masai claim, pushing the Masai South toward Tanzania, and established large farms along this part of the train's route.

This band of farms and the adjoining band in the Kikuyu Highlands formed the backbone of Kenya's cash economy.

Over 1900-1960, the Europeans put time and money into their farms, and the farms prospered. There were few absentee landlords. Living close to the land, the Europeans learned to use it well. They provided jobs for many African peasants and they produced crops earning needed foreign exchange. In some ways the European half of Kenya's dualistic agriculture brought clear economic gains.

But the picture had another, grimmer side. Although the received wisdom long stressed the benefits to Kenya from her enclave of European agriculture, it has become increasingly clear lately that dualistic development accompanied, and possibly caused, increasing hardships to many African peasants.10/ By the 1960's Kenya's per capita income far exceeded per capita income in neighboring Uganda and Tanzania, which generally had less dualistic development, while African per capita income in both countries exceeded that in Kenya. But the case against dualism is far from airtight. Since the Africans retained possession of two-thirds to three-fourths of the good land and almost all of the arid land, it appears that they should have been able to do fairly well. But a combination of circumstances seems to have brought a concentration of good farmers on too little or too poor land and a dearth of good farmers on much of the good land. The Kikuyu, among the abler farmers evicted from the White Highlands, were crowded into too small a portion of the African lands when other tribes holding neighboring lands refused to relinquish their claims. Kikuyu men were forced to hire out as cheap labor to the Europeans who had possessed their land, leaving their wives and children to cultivate subsistence crops on small, fragmented plots in the African areas or packing the whole family off to live at the edges of the European farms. It was not unusual for Kikuyu women to tend the crops -- it was unusual, however, for Kikuyu men to seek employment far from home for lack of land.11/ The Kalenjin tribes, evicted from the Western lands, also often worked for the Europeans. The Masai were forced to relinquish vast teritories in the Rift Valley and retreat to their Southern, generally less productive lands.

When evicted Africans took jobs on European farms, they became more sedentary. They settled on African lands within commuting distance of European farms, and they or their families farmed the African land too. But they could no longer pull up stakes when their own land tired to search for fertile land farther on. They began to work the African lands bordering on the European farms too intensively, encouraging erosion and soil depletion in these densely populated areas.

Other problems hampered African farming throughout Kenya. Tribal custom required extreme fragmentation of land -- splitting plots among all sons of all wives was not unknown -- and reluctance to modify long-standing customs inhibited any attempt at enclosure and consolidation (see Part 2).12/ Tick-borne diseases including encephalitis and hoof and mouth disease plagued both men and cattle throughout much of the potentially useful range land, and forced many tribes to live under increasingly crowded conditions. With the coming of modern medicine, the incidence of malaria and other devastating diseases lessened, and population growth rates crept upward. Increasing population pressures, exacerbated by widely varying population densities resulting largely from the Africans' eviction from the European land, encouraged over-cropping and over-grazing over wide areas of the African lands.

Until the 1940's the Colonial government of Kenya provided little effective support or assistance to the African population, while paying lip service to the Colonial Office's instruction to put African interests first.13/ There were abortive attempts to introduce cash cropping in some areas, including projects to encourage production of cotton and maize in Nyanza or coffee in Meru, Embu, and Kisii. Some agricultural officers did effectively assist a few progressive farmers, others collected information on farming techniques that would prove useful later on. But there was no broad-based or systematic effort to transform peasant agriculture. Some authorities assert that such efforts would have been fought bitterly by tribal elders as a challenge to the customs for which they stood. In any case, little or nothing was done.14/

In 1946, however, the Colonial government adopted a ten-year plan which paved the way for the subsequent reform of African agriculture. The Plan allocated greater resources to the African areas, though hardly enough to have broad impact. It was designed primarily to serve two purposes: to promote conservation on African lands and to stimulate African agricultural production.15/

To boost African living standards above subsistence levels, it was clear that many Africans would have to begin producing on at least a moderate scale for the cash market. But reliance on cash crops involved risks -- price wobbles or shortfalls in production on one key crop could wipe out the small-scale farmers' entire income. Many farmers lacked the land required to grow a variety of crops on an efficient scale; even when they held enough land, they lacked the know-how. The government therefore determined to concentrate on encouraging African production of subsistence crops, though it also undertook some programs to encourage cash cropping on an expanding scale. As the plan progressed through the 1950's, its emphasis shifted more and more towards production of subsistence crops and away from cash crops, to the disappointment of African farmers anxious for higher cash incomes. But the government considered the risks of fluctuations in prices of cash crops or in their output too great; a good diversification scheme might have facilitated the early expansion of cash cropping.

But the primary thrust of the 1946 agricultural plan was in conservation -- simply because the need to arrest erosion in the increasingly crowded African lands had become critical. To prevent further deterioration of the land, the government tried to persuade African peasant farmers and herdsmen to adopt soil conservation practices and to learn to manage their water supplies more efficiently. Where persuasion failed, force prevailed. Local African District Councils acting as agents of the central government enforced laws requiring terracing of steep farmland by drafting all able-bodied men into service for six days a quarter.16/ The plan also emphasized establishing group farms and group activities, with government control over agricultural development from production through marketing. For the herdsmen on the eroded ranges, the plan proposed (1) limiting livestock to the proper carrying capacity of the land; (2) controlling grazing through a new rotational system replacing traditional fallow fields with grass leys to hasten restoration of overgrazed areas and permit more productive grazing; (3) marketing through regular outlets to limit unregulated production; and (4)expanding grazing land by developing new water supplies and eradicating tsetse flies over wide areas (See Appendix 1). The plan also called for a settlement agency to direct projects to open up new lands to absorb population from the most overcrowded African areas.17/

The plan absorbed a lot of resources but never accomplished much. The group farming efforts failed from popular opposition to strange, new systems. Programs to spur production of subsistence crops bogged down from lack of interest or because government workers failed to reach the women who did most of the cultivating of subsistence crops. The rotational ley system proved too difficult for most farmers to master, at least with the instruction they received. Indeed, although the soil conservation programs proved successful enough to reverse the trend toward increasing erosion in several major areas, most African peasants never accepted the programs. Others actively opposed them, often from resentment of the Europeans who enforced the programs, and often because they could not see any immediate benefit or understand the need for working for longer term benefits. Popular opposition thus thwarted much of the conservation effort.18/

By the 1950's production on African land was low and unemployment was high and growing. With the spread of modern medicine to more remote areas of the country, life expectancy shot up and population growth rates accelerated. (The African population climbed from 5.2 million in 1948 to about 7.0 million in 1961.[19] It is true that the non-African population climbed even faster, from 159,000 in 1948 to 289,000 in 1961, but these people had advantages -- proportionately more land, greater knowledge of modern farming techniques, and training for jobs outside agriculture.[20] Inevitably the population pressures on African lands increased and erosion worsened as African farmers short cut their traditional fallow-field systems further to grow enough food for the moment. The government's policy toward the Africans continued to involve only ineffective attempts to promote conservation and a paper commitment to "preserving the African way of life."

If the government did little to help the Africans, it did support its more influential constituents, the European expatriates. The contrast between the successful large farms owned by seemingly pampered and prosperous Europeans but manned by Africans evicted from that land and the increasingly crowded lands where the Africans had to live was too visible. Political tensions mounted as the Africans -- particularly the dominant Kikuyu tribe -- pressed for return of the alienated land. The situation exploded in 1953-54 as the Kikuyu radicals, the Mau Mau, declared war on the European landlords and their Uncle Toms -- the Africans in African lands who still remained loyal to the British.[21] The British quelled the Mau Mau Rebellion but the Mau Mau impressed upon the British that the time had come for real reform.

The suppression of the Mau Mau Rebellion brought conditions which some authorities believe facilitated the rapid development of African agriculture that followed.[22] The government could no longer afford to follow a policy based on the primacy of European farming; at the same time, it appeared strong enough to endure to effect -- and if necessary, impose -- the massive economic, social, and political reform required to produce a viable and expanding African agricultural sector. The British could override any remaining resistance to change on the part of tribal elders. But with their political aspirations frustrated, many of the Kikuyu and other tribesmen readily accepted agricultural modernization as a means of attaining the economic, social, and political power they had failed to obtain by force. More and more African peasant farmers enthusiastically sought entry to the cash economy.[23] In this setting the Colonial government undertook and the Republican government has continued and expanded a broad-based program for land reform in the African areas -- consolidating and enclosing African lands, changing land tenure customs to provide Africans with legal title to newly enclosed plots, and encouraging Africans to grow cash crops.

Despite the land reform on African lands, the clamor for expropriation of the rich -- and too visible -- European farms persisted. Economic statistics, though sketch and unreliable, bolstered the Africans' claim that they deserved more good land. African unemployment (the small fraction actually reported) almost quadrupled over 1955-1962, while non-African unemployment fell slightly.[24] Over 1954-1961, the agricultural portion of GDP produced outside the cash economy -- a surrogate for estimated African subsistence production -- barely increased, from £ 45.6 million in 1954 to £ 46.8 million in 1962, while the recorded agricultural output -- primarily European farm production -- rose from £ 28.4 million in 1954 to £ 39.0 million in 1961, and total GDP climed by £ 158.0 million in 1954 to £ 224.8 million in 1961.[25] The African population, 95% of the total, got a far smaller share of the pie. Statistics are too incomplete to permit an accurate guess at income distribution, but it seems clear that the distribution was highly unfavorable to the Africans despite the progress made on the enclosure front. Something had to be done to Africanize the European lands. The second effort at land reform -- the Million Acre Scheme -- did just that.

PART I: AFRICAN RESETTLEMENT OF EUROPEAN LANDS

LAND REFORM: THE MILLION ACRE SCHEME AND OTHER PROGRAMS FOR RESETTLEMENT OF EUROPEAN LANDS

MILLION ACRE SCHEME: PROGRAM OBJECTIVES

In December 1960, "with the specific intention of relieving the serious political tensions that had built up on account of land shortage in many of the African communities, in particular the Kikuyu and Abuluyha," 26/ the colonial government of Kenya took steps to stop the dualistic development of Kenya's agriculture. With the Kenya (Land) Order in Council the government ended 58 years of official distinction between the scheduled European lands and the unscheduled African lands, accepting the removal of restrictions on the transfer of land titles between people of different races. 27/ In this sharp reversal of prior policy, the government sought to repair the damage to African life growing out of the establishment of the European enclave and to resettle the dispossessed African peasants on their tribal lands.

The colonial regime began in 1961 with a modest program to resettle Africans on the European lands. By 1962 this had grown into a major land reform program, the Million Acre Scheme, designed to distribute over one million acres of European land to more than 30,000 African families. The objectives of the Million Acre Scheme were broad and ambitious: 28/

(1) to end the division between African peasant farmers on small plots and European farmers on large, prosperous holdings;

(2) to relieve land hunger in African areas;

(3) to ameliorate unemployment by making farm life more attractive and profitable;

(4) to provide land to African tenant farmers dispossessed during consolidation of African lands (See Part 2.);

(5) to assist in creating a stable land market in Kenya, avoid forcing Europeans frightened by the turmoil of the Mau Mau Rebellion and the struggle for independence to sell at substantial losses, and thereby persuade enough Europeans to stay to prevent drastic shortfalls in production during the disruptions of the land reform;

(6) to introduce modern techniques of production of subsistence and cash crops to African farmers through broadened agricultural extension services;

(7) to increase the value of gross production per acre from ₤ 4 - 5 to about ₤ 8 through intensive techniques of cultivation and intensive labor use;

(8) to increase marketable production by the African farmer enough to permit him to pay off any loans for land and development made to him under the land reform program while leaving him a larger net income and hence a higher living standard.

Understanding the Million Acre Scheme requires a brief explanation of the more modest scheme preceding it. That scheme, adopted in 1961, also aimed at relieving the hunger for land, easing unemployment, and facilitating the orderly transfer of land from European to African ownership with minimal loss of productivity.[29/] It called for resettling about 6,000 peasant families on small holdings designed to produce a net income of about ₤ 25-100 per year and 1800 "yeomen" on somewhat larger small holdings to produce a net income* of about ₤ 250 per annum, at a total cost of about ₤ 7-1/2 million. Under this program, the settler was to receive one-third of the purchase price of his land and permanent improvements in cash and the rest in seven installments, with interest.

The scheme was to be financed almost entirely by foreign loans, chiefly from the U.K. The Kenya government planned to cover administrative costs from the interest differential on the funds it would obtain at 5% and reloan at 7-1/2%.

A few properties were purchased in 1961, but the program did not really get underway because financial negotiations with the British government went on through November, 1961. The U.K. then agreed to furnish a cash grant to the Government of Kenya for one-third of the cost of the land, and a loan for the remainder, and to pay administrative costs. The terms of settlement hardened during the negotiations, however. Sellers were to receive cash for half the purchase price and the balance in three annual installments.[30/]

Despite the hardening of terms, these financial arrangements caused considerable dissatisfaction among the Europeans. In those uncertain times, some expatriates fled Kenya, and many of those remaining for the moment ran down their once efficient farms, put off investments, and slaughtered young dairy cattle. The economy, still revolving around the European export sector, threatened to collapse.[31/] Unemployment rose.

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* Net of subsistence and of repayment of any government loans made in connection with resettlement.

Political tensions mounted once more as Africans pressed for a broader program to satisfy their hunger for European land. Pressures came to a head in the second Constitutional Conference in 1962, and in October of that year the government adopted a far broader program to Africanize the European lands, the "Million Acre Scheme."

INSTITUTIONS

The modest program preceding the Million Acre Scheme was directed by the Land Development and Settlement Board created in January, 1961. The LDSB followed through on the expanded Million Acre Scheme until Independence in 1963, when the LDSB was replaced by the Settlement Fund Trustees. The Trustees included the Minister of Finance acting as Chairman, the Minister of Agriculture, and the Minister for Lands and Settlement. The Trustees retained title to the expropriated land until African settlers had met all their financial obligations. They had legal responsibility for the whole settlement program from the purchase of the land on through settlement.32/

On behalf of the Trustees, the Department of Settlement performed a variety of tasks necessary to implement the reform -- directing land purchases, demarcating and allocating plots, preparing farm budgets, providing loans to African farmers, and administering extension services and water supply programs.

The Department is administered by the Director of Settlement, a Deputy Director, and a Chief Agricultural Officer stationed in Nairobi. They work with four Area Settlement Controllers, 11 senior settlement officers, and 79 settlement officers who supervise the settlement schemes in the field. The Director also has a staff of officers seconded from other government departments, chiefly Agriculture, to assist the Settlement officers in providing extension services (See Part 2).33/

PROGRAM IMPLEMENTATION AND ENFORCEMENT

Under the Million Acre Scheme, different types of settlements were established to reflect the varying types of land available and the varying background of the participating peasant farmers. Each type of settlement consisted of farms of specified sizes designed to yield specified target incomes when operated by African peasant farmers with specified farming experience and capital resources. The peasant farmer was usually expected to earn his target income through "mixed farming" -- producing and selling a variety of cash crops and dairy products. In some cases, the peasant farmers had experience in cash cropping from working on European farms. In many cases, however, they had little or no experience, particularly in dairying which was to be a major cash earning occupation. Thus the government had to provide the knowhow and sometimes the financing to help the African small holder get started. In general, the government recommended that the farmer produce a variety of cash and subsistence crops, to assure that when one crop failed another would succeed and provide the farmer with at least enough to eat. The subsistence crops included maize, dairy products and a variety of vegetables. The cash earners chosen included tea, pyrethrum,*coffee, extra dairy products and maize. The allocation of land among subsistence and cash crops and pasture for livestock varied somewhat with the type of settlement, but in general about 85% of the land on mixed farms was devoted to grazing and about 15% to crops, of which about 8% was allocated to maize and about 7% to other subsistence crops and to cash crops. But on a few settlements, generally those consisting of large farms, only one basic crop was grown.

There were two main categories of Settlement Schemes -- the High and Low Density and "Yeomen" Schemes for small-scale mixed farming, and a collection of miscellaneous schemes, some for mixed farming, some for larger scale monocrop farming or ranching.

High Density Schemes [34/]

The core of the Million Acre Scheme was the 84 "High Density Schemes" established for peasant farmers with little agricultural knowledge and even less money. Each scheme of roughly 10,000 acres comprised about 300 small farms with an average of 11 hectares (about 27 acres) each. These farms were designed to provide the farmer and his family with adequate subsistence, with the means to repay any government loans, and with a net income of Ⱡ 25, Ⱡ 40, or Ⱡ 75 per year depending on the details of farm size and layout. These schemes were largely financed by the British and German governments.

Over 1964-1967 a sample of High Density Schemes showed slightly over 80% of the land allocated to grazing, chiefly for dairy cattle, and slightly under 20% of the land allocated to cash and subsistence crops, with the percentage of land under the main subsistence crop, maize, rising over that period from 6% to 13%. Farmers on High Density Schemes reported hiring hardly any labor. They made increasing profits but only about a quarter of them achieved their target net incomes. (Financing will be discussed below.)

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* A daisy-like flower that can be dried and processed into an effective, non-toxic insecticide.

Low Density Schemes 35/

The Million Acre Scheme also included 30 "Low Density Schemes" for farmers with somewhat more experience and capital. Each scheme of about 5,000 acres comprised perhaps 130 slightly larger farms of about 15 hectares (37 acres) designed to provide subsistence, loan repayments, and a net income of Ь 100 per farm. These schemes have been financed by the International Bank of Reconstruction and Development and the Commonwealth Development Corporation.

Over 1964-1967, farmers on low Density Schemes allocated about 85% of their land to grazing and about 15% to cash and subsistence crops, with the proportion allocated to maize rising over that period from 7% to 12%. These farmers reported hiring roughly 20%-30% of their labor. They made substantial profits, but only about 12% achieved their target income.

Yeoman Farms and 100 Acre Farms 36/

The Million Acre Scheme also established a few somewhat larger "Yeoman Farms" with a target net income of Ь 250 for farmers with considerable experience and capital. These farms were located generally on land unsuited for finer subdivisions, and sometimes specialized in fewer crops or in livestock. They have been financed largely by U.K. funds.

In 1964 the government adopted a new policy designed to preserve the better houses on some 258 of the larger farms. Each housing unit was allocated 100 more or less contiguous acres, regardless of the resulting size of plots remaining in the scheme. The house with accompanying 100 acres was then sold to prosperous farmers able to maintain both land and buildings. (These farmers were required to promote a downpayment of 10% and working capital of Ь 500.) In practice those purchasing "100 Acre Farms" were often community leaders with political influence. 37/

Large Scale Cooperatives and Ranches 38/

The Million Acre Scheme also included a few large-scale farming schemes primarily on dry land better suited to large-scale cattle ranching or wheat farming than to small-scale mixed farming. About 16 cooperatives have been established for about 1700 farm families on about 72,000 hectares (178,000 acres).

Nandi Salient 39/

Not strictly within the Million Acre Scheme, the government also purchased about 17,000 acres of land for £ 129,563 to return to the Nandi tribe. The land had been alienated for European use after the World War I in the mistaken belief that no one claimed or used it.

Assisted Owner Schemes 40/

In the early days of the land reform, landowners were permitted to sell all or parts of their large farms to Africans with substantial experience in farming and capital equivalent to one-third the capitalization of the whole farm. The government tried to persuade the IBRD and CDC, which had financed the Low-Density and Yeoman Schemes, to finance the "Assisted Owner Schemes" as well, but never reached agreement. The Assisted Owner Schemes, comprising settlements of 125 families on 34,000 acres, were absorbed into other schemes, usually Yeoman farms.

Compassionate Case Farms 41/

In 1962-1964 the government pruchased about 160 farms comprising about 130,000 acres from aged or disabled persons who were regarded as security risks either because of their infirmity or their location and who were unable to sell their farms in the constricted land market. These farms have been included in settlement schemes usually as Yeoman farms or resold privately. 42/

MORE RECENT PROGRAM IMPLEMENTATION AND ENFORCEMENT:

OTHER SCHEMES FOR TRANSFER OF FORMERLY SCHEDULED LANDS

The Million Acre Scheme is the core of the Kenyan program to redistribute lands formerly owned by Europeans, but there are other later programs, notably the Harambee Settlement Programme, the Squatter Settlement Schemes, the Ol' Kalou Salient, and the Agricultural Development Corporation and the Agricultural Finance Corporation programs for large farms. Since most of these programs have only recently gotten underway, there are no data sufficient to permit accurate assessment of their success. Subsequent discussion of the effects of land reform will therefore concern only the Million Acre Scheme.

Harambee Settlement Scheme 43/

Under the 1966-1970 development plan subdivisional schemes on 32,000 hectares of land were named the Harambee Settlements in honor of Kenya's new philosophy of Harambee, "pulling together." The Harambee program has had a rough start, getting rolling only in early 1969. Under the current

1969-1974 plan, the Harambee Settlement Schemes will be limited to one settlement at Ol' Arabel on about 6,500 hectares (16,000 acres), most of which was bought in 1969. There will probably be about 420 high-density farms of around 15 hectares each, with a target net income of Ⱡ 40-75. During the Second Plan Period, the cost of the Harambee Scheme will run about Ⱡ 283,000.

Squatter Settlement Schemes 44/

In 1965 the post of Special Commissioner for Squatters was established in the Ministry of Agriculture and later transferred to the Ministry of Lands and Settlement, to supervise registration and resettling of squatters. The Commissioner has since registered about 46,000 squatters who will be placed eventually in settlement schemes. By 1969 about 13,000 squatters had settled 59,000 hectares (146,000 acres) with individual plots of 4-5 hectares including 2.4 hectares of arable land. These settlers are expected to tend their own gardens. They have received small loans to establish crops but not the special development loans that helped more prosperous settlers on the Million Acre Scheme to finance purchases of livestock, fencing, housing, and so forth. So far the squatter schemes have kept a transient air -- the settlers have only temporary occupation licenses and many of their plots have not been demarcated finally. Eventually these settlers should be able to purchase their plots and obtain freehold title. During the current plan, settlement schemes for the remaining 33,000 squatters should be established on land near the coast, on former large-farms in the old scheduled lands, and on other lands at a cost that cannot be estimated precisely until the details are ironed out.

Ol' Kalou Salient 45/

Because conditions of topography, soil, and climate hindered efficient small-scale farming, about 119,538 acres of land in the Ol' Kalou area were organized over 1964-1965 into 19 administrative units run cooperatively as large-scale farms by 2,000 families. Each family also has a plot of 1 1/2 - 2 1/2 acres on which to grow subsistence foods. Although the scheme has been run under central management by the Department of Settlement, it has made losses each year. An appraisal team is currently working on recommendations for reorganization, including transfer of title to the settlers. By 1968 about Ⱡ 1.7 million had been invested in the Ol' Kalou Salient, and investment of Ⱡ 250,000 is scheduled over the current plan period to effect the reorganization.

Large Farms 46/

Unlike the farms bought for High and Low Density Scheme, most large farms already taken over by Africans were transferred with the assistance of either the Agricultural Finance Corporation (AFC) or the Agricultural Development Corporation (See below), not through the assistance of the trustees. In many cases the Africans assuming control lacked the training and capital needed to run their farms properly. In the new plan period, AFC and ADC have been allocated almost Ь 3 million to use in land purchase and development for large farms, with instructions to screen loans more carefully to be sure they are used efficiently.

FINANCIAL ASPECTS

Settlers' Financing

Alexander Storrar, who directed much of Kenya's land reform, estimates that the total costs per farm settled under the Million Acre Scheme were high -- Ь 246 on High Density Schemes, Ь 750 on Low Density Schemes, and Ь 2,320 on Yeoman Schemes. These costs covered both land purchase and subsequent development. Depending on his capital resources, each settler provided part of the costs of his own settlement -- about 3% on High Density Schemes, about 13% on Low Density Schemes, and about 20% on Yeoman Schemes. Farmers on a High Density Scheme paid in only Ь 6 to cover various fees. Farmers on Low Density Schemes paid Ь 100 and those on Yeomen Schemes paid Ь 500 to cover fees and a down-payment ranging from shs. 1000 - 5000. 47/

The large gap between the total costs and the settler's own contribution was filled by government subsidies*and loans to the settlers, which were in turn financed by foreign grants and loans. The government provided:

(1) a subsidy equal to one-third the purchase price of land and immovable assets (financed by a grant from the U.K.);

(2) a land-purchase loan for 30 years at 6.5% with no grace period to help cover the remaining two-thirds of the purchase price. The loans covered 90% of the Africans' purchase price of land on Low Density Schemes and 100% on High Density Schemes.

(3) a development loan for 10 years at 6.5% to help finance purchases of grade dairy cattle, fencing, tea stumps, tractors, fertilizer, seeds and roofing. The loans were not obligatory, but were made available to settlers who applied. Most settlers did apply. On Low Density Schemes development loans averaged shs. 4,200-5,000 per farm, and on High Density Schemes shs. 2,000 per farm. 48/

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* Cancelled against the settlers account, not granted in cash.

Although the settlers purchased land at only 2/3 the price the government had paid the European owners, the resulting burden of debt proved too heavy for many farmers to carry. Loan repayments covered half of total sales on High and Low Density Schemes sampled recently. Many farmers have been unable to cover their loan repayments, and have fallen into arrears. In 1963/64, the first full year of settlement, about 77% of the repayment installments due were paid -- though payments were often deducted from earlier deposits or downpayments or made from earnings from other lands or other occupations. At the end of 1966, about Ƅ 1.7 million had been billed to settlers, but 55.7% was in arrears, 23.1% for one year or longer. At the end of 1968 about Ƅ 3.9 million had been billed to settlers, but 43.7% was in arrears, 23.7% for one year or longer. Thus the proportion of repayment had improved, but the absolute amount in arrears had grown to Ƅ 1,700,000 by the end of 1968, of which Ƅ 900,000 had been in arrears for one year or longer. 49/

The proportion of payments in arrears was much lower on Low Density than on High Density schemes. Farmers on Low Density Schemes had more experience and so farmed more efficiently. They also had more room to diversify -- the High Density farmer might be wiped out completely by the death of one grade dairy cow. Moreover, the High Density farmer may have accepted too much credit. He was not expected to provide much capital of his own, and may have acquiesced to the temptation to borrow when he did not really have to. Last, many High Density farmers who had formerly hired out to European farmers, particularly the Kikuyu, seemed to feel that the expropriated European land was theirs by right, and showed little eagerness to pay for it even though many were successful enough to earn the necessary income. But the basic problem among settlers on all types of holdings appears to have been that total production and sales did not rise to Ƅ 8 per acre as expected. Production increased, but not enough to permit many farmers to meet their repayments or make their target incomes. 50/

Program Financing 51/

To cover the bulk of the costs of the Million Acre Scheme -- net of the settlers' small contributions -- the Government of Kenya made expenditures of about Ƅ 25 million over 1961-1968; about 75% or Ƅ 18.5 million had been spent by the end of 1964/65.

EXPENDITURES

By 1968 expenditures under the Settlement Program reached £ 26,951,000:

	(k£ 1000)	
Land Purchase		
High and Low Density Settlement and Nandi Settlement	12,668	
Ol' Kalou Salient	886	
Assisted Owners	291	13,845
Operational Expenditure Dept. of Settlement		7,147
Development Expenditure (loans to settlers, etc.)		5,050
Ol' Kalou Salient net running costs, development, and purchase of loose assets		909
		26,951

SOURCE: Settlement Report p. 34.

The high costs resulted primarily from the government's decision to pay Europeans a reasonable price for their land. The government had intended to pay about £ 9 per acre, but in fact paid £ 11-12. Consequently £ 11.7 million of the £ 25 million spent to date went to purchase land. Another £ 5.5 million went to finance administration and supervision. Thus only £ 5.7 million -- about 25% of the total expenditures -- went for development purposes, £ 6.80 per acre or £ 230 per family. This investment is still great, far greater than that made on programs to modernize farming on the African lands; the implications for future choices between the two types of land reform programs will be discussed below.

Over the 1969-1974 plan period, an additional £ 2.0 million will be spent to wind up the Million Acre Scheme. Of this about £ 150,000 will be used to purchase land and £ 1.3 million to provide development loans for settlers and their cooperatives. About £ 486,000 will be used for special sugar settlement schemes.

The Kenya government has refinanced most of its expenditures on the Million Acre Scheme through foreign grants and loans. Of the £ 25 million spent over 1961-1968 (including most expenditures under the 1964-1970 plan), about £ 9.7 million was covered by grants from the British government, and £ 11.3 million by loans (at 6.5%) from other foreign sources including West Germany and the IBRD. Only £ 3.6 million was covered by Kenya Government revenues.

FINANCES

By June 30, 1968, ₤ 27,787,000 in loans and grants had been authorized to finance the settlement program. Sources and amounts were --

	Loans	(k₤ '000) Grants	Total
(1) BRITISH GOVERNMENT			
High and Low Density Settlement			
Land Purchase	7,450	3,952	11,402
Development	1,131	-	1,131
Administrative Costs	-	5,397	5,397
Total High and Low Density	8,581	9,349	17,930
Compassionate Cases Second List For Land Purchase	261	400	661
Ol' Kalou Salient			
Land Purchase, other costs, etc.	1,235	40	1,275
	111	-	111
	1,607	440	2,047
Total H.M.G.	10,188	9,789	19,977
(2) IBRD/CDC			
Low Density Development (1/3 CDC, 2/3 IBRD)	1,274	-	1,274
(3) FEDERAL GERMAN REPUBLIC			
Development in High Density Schemes	1,218	-	1,218
(4) LAND BANK AND AFC			
(From premature repayment of loans outstanding when farm is purchased)			
High and Low Density	1,146	-	1,146
Compassionate Cases Second List	104	-	104
Ol' Kalou Salient	105	-	105
Total Land Bank and AFC	1,355	-	1,355
Grand Total	14,035	9 789	23,824
(5) KENYA GOVERNMENT	1,952	1,477	2,929
TOTAL	15,487	11,266	26,753

SOURCE: Settlement Report, p. 33.

Purchasing the Land

Just before the program of Africanization began in 1960, the scheduled lands consisted of about 3.0 million hectares (7.41 million acres) of land, of which 1.6 million hectares were "mixed farming" on farms of roughly 20-100 acres where the acreage under a cash crop such as coffee or tea did not exceed 100 acres. These "mixed farms" produced about 30% of the total large farm production in 1962, provided 24% of Kenya's agricultural earnings, and employed 11,700 workers with a wage bill of £ 4.4 million. They earned a taxable income (net of squatter cultivation) of £ 15,240,000 and contributed £ 1,917,000 to government revenues. It was the mixed farms that the government selected for Africanization. 52/

In choosing the mixed European farms to be purchased for resettlement, the government considered the following: 53/

--While maintaining the continuity of the farming belt in the highlands, all of the major tribes bordering on the former White Highlands were to be given land for settlement. A sub-committee of the Council of Ministers determined how much land would be allocated to each tribe, ranging from 400,000 acres for the displaced Kikuyu to 5-6,000 acres for the West Pokot.

--The land allocated to each tribe was to be contiguous to or near the tribal land unit, to prove to the tribes concerned that the land they claimed would be given to them, and to avoid giving land claimed by an indigenous tribe to a distant tribe.

--The land was to be reallocated to eliminate islands and salients of European farming in areas of African settlement, to lessen the danger of property crimes and inter-racial frictions.

--The land was to be close to the former African lands with the worst population pressure.

--The land was to be largely underdeveloped but of high potential.

Despite official adherence to these principles, political considerations influenced the selection of land considerably. The land actually selected fell into widely differing ecological categories not all equally suited to small-scale mixed farming. There were two main categories: 54/

(a) arable land with good rainfall of over 30 inches per year well suited to sub-division into small-scale farms.

(b) land with low rainfall of less than 30 inches per year or land with poor drainage, therefore unsuitable for subdivision into small-scale farms.

These differences in land quality prompted the establishment of the different types of settlement discussed above.

Actual land sales were made in accordance with the principle of willing buyer-willing seller. Land values were determined by the Central Land Board, later the Settlement Department. Most purchases were made in the early 1960's. The Land Board often used 1959 valuations as a yardstick to fix the value of the farm, since that was the last year when output was sufficiently large to permit accurate valuation of the European farms. The valuations were adjusted for modest price rises occuring later. Valuations were also based on eight times the average annual profit, assuming 12.5% return on capital invested. All the valuations were made under the following guidelines: 54/

(1) Valuation included land purchase values reflecting appreciation of crop profitability and recent land usage.

(2) Valuation included an allowance for permanent improvements like fencing, soil conservation, water works, and grass leys, net of depreciation, and made to conform to their probable contributions to profits.

(3) Valuation included an allowance for buildings based on buyer-seller negotiations but subject to maximum prices laid down by the Board. The value of a dwelling house was limited to ₤ 1,300 except when it would be valuable to the settlement; then it would be raised to ₤ 2,500.

(4) To discourage speculation against future land purchases for settlement, the Board determined that when land changed hands in forced sale or otherwise after January 1, 1961 at prices below those implied by the above criteria, the valuation would reflect the value at the last sale.

The process of selling a farm took several months. For months the Board publicized proposed farms to be purchased. It contacted each potential seller to obtain permission to sell, and if refused, selected another farm. Where permission was granted, the Board made a preliminary valuation, which could be altered up to 5% after arguments by the seller. It is not clear whether the seller could back out if the modified offer seemed too low to him. 55/

After negotiations wound up, one binding offer was made on condition of vacant possession, and title was cleared when the Senior Estate Agent paid the mortgagor and the seller's own share, in sterling or local currency. The average price for land and immovable assets was projected at about £ 9 per acre though the average price actually paid appears closer to £ 11-12 per acre. The seller negotiated with the Board for any other saleable assets, provided a list of laborers, and paid and discharged them. After this, the seller handed over the property to the Senior Settlement Officer who deducted from payments for any missing equipment or for deteriorated crops. 56/

Between handover and settlement the Board maintained the farm, filling production quotas, managing permanent crops, and tending cattle. This permitted the African settlers to inherit cattle old enough to earn a profit, thereby providing the settlers with cash incomes early. Purchasing, managing, and distributing livestock to over 30,000 families brought the Board countless headaches, particularly as animal health regulations were poorly understood and poorly followed by many new settlers. Where the Board maintained the permanent crops, without harvesting them they passed on costs to the settlers who would do the harvesting. 57/

SUPPLEMENTARY MEASURES

Extension Service

In laying out and operating their farms, the African farmers received help from a variety of government officers including members of the Department of Settlement and members of the Extension Service of the Department of Agriculture seconded to the Department of Settlement. The Agricultural Extension Service will be discussed more fully in Part 2 , since it served as well those farmers remaining on African lands. The Settlement Staff proper included Settlement Officers and their associates in the field plus the executive officials of that department in Nairobi generally responsible for agriculture, veterinary medicine (including artificial insemination), and administration of the settlements on formerly scheduled lands. Each High Density Scheme had a staff including: 58/

(1) Settlement Officer responsible for general problems of farming, provision of ancillary services, and administration. The settlement officer reported to a senior settlement officer responsible for 10-15 schemes. He reported to one of four settlement controllers reporting in turn to the Minister.

(2) Clerk to the Settlement Officer.

(3) Two Agricultural Instructors seconded from the Department of Agriculture to help with crop production.

(4) Two Assistant Agricultural Instructors to assist the instructors.

(5) Veterinary Assistant to supervise stock production.

(6) Three Veterinary Scouts including one trained in artificial insemination.

(7) Health Assistant seconded from the Medical Department to advise in location of houses and latrines and the use of preventive medicine.

(8) Administrative Headman who cooperates with tribal policemen to enforce law and order and collect taxes, reporting to the local District Council.

(9) Tribal Police assigned by the District Administration to assist the Headman.

Each Low Density Scheme had a staff including: 59/

(1) Settlement Officer

(2) Clerk

(3) Two Agricultural Instructors

(4) Two Assistant Agricultural Instructors

(5) Veterinary Assistant

(6) Two Veterinary Scouts

(7) Health Assistant

(8) Administrative Headman

(9) Two Tribal Policemen

The annual cost of such a staff including "hidden emoluments" was about Ƀ 4300, or Ƀ 5300 when transport vehicles are included.

In actuality the extension service has suffered from a lack of qualified personnel and a lack of direction. Many settlement officers lacked farming experience, and many became too wrapped up in the problems of loan administration to give enough time to farming problems. Well trained veterinary technicians were particularly scarce. 60/

Planning Resettlement Schemes [61]

The Department of Settlement planned both the individual farms and the infrastructure supporting all the farms. The schemes thus included:

1) Small holdings of a size adequate to meet the target incomes when run efficiently according to the plans drawn up by the Department of Settlement.

2) A system of access roads linking each small holding to a circulatory road and village center.

3) A watering point within one-half mile of each small holding.

4) Dipping facilities for stock within two miles of each holding.

5) Produce-collection points, usually set up near the dipping facilities.

6) Schools.

7) Village centers.

It was the job of the extension service to provide these components. The first problem was to establish boundaries for the schemes, roughly 10,000 acres for each high density scheme and 5,000 acres on each low density scheme. The scheme boundaries generally followed boundaries of existing farms to facilitate evaluation of the total scheme, but the planners were permitted to use obvious natural boundaries like rivers and cliffs. Once the basic scheme boundaries were determined, the planning officers made a careful contour survey using aerial photographs to measure large contiguous areas of around 5,000 acres and ground methods to measure smaller plots. The land was divided into three types with varying profitability. [62]

Using the surveys, the planners then subdivided the land into individual plots capable of yielding the target incomes established for the scheme. They tried to use natural drainage ways to form plot boundaries, and where drainage was a critical problem, they organized the whole scheme around an overall drainage plan. [63]

The subdivisional plans (and budgets discussed below) were submitted for approval to the District Agricultural Committees, the Provincial agricultural Board, and the Planning Committee of the Department of Settlement. The plan was also submitted to the Town Planning Adviser, who approved on behalf of the Minister for Land Settlement. [64]

Once the plans had received the necessary approval, their final demarcation was carried out by special layout teams of the Soil Conservation Service. The Service then directed construction of roads and cut-off ditches.

The total planning costs for each subdivision were about Shs. 27 per acre:

Contour Map Production	Shs. 6/acre
Planning and Demarcation	Shs. 6/acre
Road and Cut-off Ditch Construction	Shs. 15/acre
	Shs. 27/acre

These charges were met from grants from the British government. 65/

Budgeting the Three Types of Small Farm Settlement Schemes

The Department of Settlement also prepared sample budgets for all plots on each settlement scheme to: 66/

1) indicate the average plot size needed to meet the income target;
2) suggest a loan structure for each farmer; and
3) provide a framework including plans for subsistence and cash crops and livestock suitable for a typical farm.

To reflect varying conditions of soil and climate the Department sometimes provided three or four sample budgets per settlement scheme. In addition, the Department identified any areas better used for common pasture land than individual farms and prepared separate plans and financing for these areas as discussed above.

In budgeting the farms, the costs and scale of production had to be determined. Per unit production costs would ideally form a kind of input/output table for each farm. In general the Planning Officers constructed a reasonable facsimile of an input/output table, though their data were sketchy and not always trustworthy. The planners often used the earlier Farm Economic Survey Unit (FESU) Reports covering farms primarily in the African reserves. Lately they have also assembled data on the settlement schemes proper for use in future work. The budgets assumed the standard plot size and the minimum capital requirements per settler, and also assumed a constant availability of labor on all plots, though the size and energy of families vary considerably among tribes and within each tribe. It is assumed that each family can provide the equivalent of 3 adult workers (2 children = 1 adult), each working 2,000 manhours per year, giving a total of 6,000 manhours per farm per year. 67/

Where the budget implied a labor requirement exceeding 6,000 manhours per year, provision was made for the employment of additional labor or for the renting of machinery for use in land preparation, etc. This happened most often in the Low Density Schemes, where new settlers were hard put to cultivate subsistence crops and establish cash crops without using machinery to plow and harrow. Ideally, the Department of Settlement hopes to establish machinery contractors on all schemes requiring machinery. For contractors willing to reside on the schemes, and able to furnish at least 33% of the capital value of the equipment, the government will provide a loan up to 66% of the value, repayable at 6 1/2% interest over two years. Until enough such contractors are found, the Department provides a machinery pool, which contractors may choose to take over at the terms specified above. 68/

Infrastructure 69/

As mentioned above, the government planned to provide each settlement with a basic infrastructure including village, schools, roads, and machinery services.

Village Centers - One village was planned for each area of about 10,000 acres (15 square miles) comprising about 500 families of about 4,000 persons on High Density schemes with an average farm size of about 20 acres. Each village, covering about 30 acres, was to contain a market, shops, school, housing, playing fields, church, etc. Some also included small plots for evicted squatters and other landless peasants.

Schools - A primary school was planned for every 200 families on 4-1/2 acre sites outside the vaillage. A secondary school was planned for every four adjoining schemes or 40,000 acres, on about 15 acres. The Town Planning Adviser sometimes suggested using existing facilities for schools.

Roads - Road reserves comprised all drainage facilities and footpaths plus a circulatory way of 60-80 feet for main roadways. There are several kinds of roads:

(1) Class C Roads - main arteries 80-120 feet wide.
(2) Class 1 Roads - roads 60 feet wide for main circulation through and about the towns, connecting with minor roads.
(3) Class 2 (Minor) Roads - roads 40 feet wide serving at least 10 plots and connecting with circulatory roads.
(4) Class 3 (tracks) Roads - tracks 20 feet wide giving access to up to 10 plots.
(5) Class 4 (footpaths) Roads - roads 10 feet wide or over 30 feet wide if they carry machinery, serving up to four plots.

Machinery Services - The Department was prepared to provide machinery for renting, especially on low density schemes, and also assist tractor companies willing to come into a particular settlement to rent equipment.

Watering Points - The Department planned for one watering point within a half mile of each small holding.

Cattle Dips - The Department planned for one cattle dip within two miles of each small holding.

Market Collection Points - The Department planned such points, usually near the dips. It is not clear how closely these plans were actually followed, but avilable information is discussed under EFFECTS below.

Cooperatives 70/

The small volume of individual production on some schemes does not permit individual marketing, so primary marketing cooperatives have been set up to collect and move forward settlers' produce from the entire scheme. These cooperatives were established under existing legislation and guided by members of the Cooperative Department seconded to the settlement authorities. Membership in the Cooperatives was not obligatory by law but became obligatory in fact because only the cooperatives were permitted to market cash crops. The Cooperatives have had varying effectiveness, depending on the skill and education of their leadership. The record for cooperatives on Low Density Schemes is better than that on High Density Schemes.

On a few large farms, completely cooperative operation has been tried. Several cooperative ranches and large farms have proved quite efficient.

Some large firms play a role similar to that of cooperatives, but they will probably be replaced by unions covering neighboring schemes within a complex of schemes.

Marketing Boards 71/

The cooperatives for the schemes communicated with the appropriate statutory marketing authority. Kenya has many long-standing Marketing Boards and Organizations:

Milk and Milk Products - Kenya Dairy Board in conjunction with Kenya Cooperative Creameries.

Meat and Meat Products - the Kenya Meat Commission, for cattle and sheep.

Pigs - The Pig Industry Board in conjunction with the Uplands Bacon Factory.

Small Grain Cereals - The Cereal Produce Board.

Maize - The Maize Marketing Board.

Coffee - The Coffee Board of Kenya.

Tea - The Kenya Tea Board in conjunction with the Kenya Tea Development Authority and public and private companies.

Sisal - The Kenya Sisal Board in conjunction with local export companies.

Pyrethrum - The Pyrethrum Board of Kenya.

Horticultural Products - The Interim Horticultural Development Council.

Pineapples - The Canning Crops Board in conjunction with Kenya Canners now run largely by Del Monte.

Cotton - The Cotton, Seed and Lint Marketing Board.

Many boards also have field agents, sometimes small companies in other associations.

Credit - Credit obtained abroad to finance the Million Acre Scheme and credit provided participating farmers are discussed above under FINANCIAL ASPECTS.

EFFECTS OF THE LAND REFORM: COMPLETING THE MILLION ACRE SCHEME

By mid-1968, the Million Acre Scheme was virtually completed. Over 1961-1968 about 1,320,000 acres -- well over the million acre target -- were purchased for about ₤ 12,668,492 and parcelled out to 32,651 African families. All of the Low Density Schemes, all but five of the High Density Schemes, and all but three of the large scale cooperatives were established. The bulk of the work of settling 28,923 families on about 846,209 acres had been accomplished since Independence in 1963. Another 2,000 families were settled on the Ol' Kalou Salient and 1,000 families on the Nandi Salient. Many new villages and townships, 7,500 trading plots, 160 primary schools, and four secondary schools had grown up around the settlements. In round figures, it appears that at full completion in 1970, about 34,000 families will have resettled in 135 schemes on over 1,320,000 acres of land under the Million Acre Scheme. The average farm size will be about 30 acres, the average cost of establishing each farm a substantial ₤ 700, and the average net income target roughly ₤ 50 per year over 1961-1968. The Million Acre Scheme will cost about ₤ 25 million, including ₤ 9.7 million in grants from the British Government, ₤ 11.3 million in loans from other foreign sources, and ₤ 3.6 in Kenya Government funds, and under the 1969-1974 Plan another

£ 2.0 million will be spent to wind it up. 72/

Although all returns are not in, it appears that resettlement will increase the value of production per acre by 15-90% according to Hans Ruthenberg, a noted student of African agriculture. Sales from some settlements appear to have risen over levels achieved by Europeans. Ruthenberg cites supporting data collected by J. D. MacArthur, who held major posts in Kenya for many years: 73/

Comparison of the Economic Performance

of Farms before and after Resettlement*

Scheme	Average Farm Size (acres)	VALUE TOTAL PRODUCTION Before Settlement (Shs.)	VALUE TOTAL PRODUCTION After Settlement (Shs.)	VALUE OF SALES Before Settlm. (Shs.)	VALUE OF SALES After Settlm. (Shs.)
Ainabkoi, Low Density	40	100	115	92	102
Keben, Low Density	24	84	124	71	95
Ndalat, High Density	18	84	110	179	57
Mweiga, High Density	19	111	210	105	153

* Apparently after 4 - 5 years.

But the value of production per acre has not reached the target figure of Shs. 160. The Ministry of Economic Planning and Development gathered data for 1964-1967 showing that on most farms the value of production per acre rose from Shs. 64 in 1964/65 to Shs. 100 in 1965/66 to Shs. 120 in 1966/67, enough to permit most farms to make a profit, but not enough to provide their target incomes after repayment of loans. 74/ Fortunately, the picture is improving. The average farm on a government sample of High Density Schemes reported a loss of Shs. 1 per acre in 1964/65, a profit of Shs. 32 per acre in 1965/66, and a profit of Shs. 73 per acre in 1966/67. The average farm on a Low Density Scheme reported higher earlier profits but lower recent profits, Shs. 39, 35, and 30 per acre in the same year. The average for all settlement schemes was Shs. 5, 33, and 50 per acre in those years. The frequency distribution shows a cluster around the mean, but a second large group barely breaking even or losing money. 75/

The proportion of farms reaching their target incomes is not satisfactory. For all farms, the proportion rose from 10.7 in 1964/65 to 13.1 in 1965/66 to 17.0 in 1966/67. The High Density farms with low target incomes appear to have been most successful, though the targets were supposed to be adjusted to fit the resources of the farms. Thus farms with a target of £ 25 per farm had a relatively good record for meeting their target incomes: 6.3% in 1964/65, 20.8% in 1965/66, and 17.1% in 1966/67. Farms with a target of £ 40 did even better, with 13.6%, 14.7%, and 27.1% in those years. Farms with a target of Ƀ 70 did less well, with 5.7%, 6.2% and 13.2% in those years. Farmers on Low Density Schemes with a target of Ƀ 100 did moderately well, with 7.5%, 15.8% and 12.5%. Yeomen farmers apparently had the most trouble, with only 8.5% meeting the target of Ƀ 250 in 1966/67, when data first became available. 76/

But the statistics on disposal of farm output bode well for future improvement, since they show a significant portion of output allocated to "Valuation Changes," often a surrogate for investment in dairy livestock. Thus a farmer includes as a "valuation increase" a heifer calf that he has decided to keep rather than slaughter, and the milk used to feed the calf. This works to reduce his current income but augments his future income. Unfortunately, however, valuation increases have fallen from 39% of the value of total farm output in 1964/65 High and Low Density Schemes to 29% in 1965/66, and only 16% in 1966/67. 77/

The proportion of farm output used on the farm hovered around 6-8%, rising recently on Low Density Schemes. The Proportion consumed by farmers and laborers rose from 23% to 27-28% on High and Low Density Schemes, rising more sharply on the Low Density Schemes. The proportion of output sold jumped tremendously on the High Density Schemes, 29% to 36% to 47%, reflecting sharp improvements in production, and rose on the Low Density Schemes, 40% to 42% to 45%. On the average, the proportion rose from 30% to 38% to 48%, a marked improvement in only three seasons. Perhaps most of this change reflected a rise in the production and sale of maize and cattle. 78/

As indicated earlier, the picture of loan repayments is improving but still not satisfactory. Loan repayments have accounted for well over half of total sales revenues in most farms. The original projections of repayments were made on the assumption that the value of production would roughly double in 4 - 5 years to about Ƀ 8 per acre. Production has not done quite well enough, and many farmers have been in arrears, though the proportion of those meeting their payments is well over half.

Settling 33,000 families on more than a million acres of land in about four years was a bold venture, one naturally encountering a collection of technical, economic, political, and administrative problems.

The first critical problem was the settling of landless Kikuyu on the plateau of Kingangops in 1963. Lawless, hungry squatters on the plateau threatened to seize land by force if they were denied any longer. Faced with another potential rebellion on the eve of Independence, the government ordered 3,000 families settled in just 21 days on the Kingangops Plateau. In fact, more than 4,000 families were settled, but hardly under the conditions called for in the idealistic statement of the program objectives of the Million Acre Scheme. The extension workers were hastily recruited and several schemes begun before the agricultural and veterinary staff could be seconded to the Department of Settlement. In some High Density Schemes the land distributed was really unsuitable for small farms. Much of the land was heavy clay with severe drainage problems, much of it lay in a cold, frost-prone area where many cash crops cannot be grown profitably. Nevertheless the early settlements were successful enough to relieve the critical political pressures and permit the country the breathing pause it required to sort out the land reform program. 79/

Tribal frictions often prevented using the resettlement program as it was intended, the relieve the greatest population pressures. Demographic pressures varied widely in Kenya in 1960, being particularly high in the Kikuyu Districts of Central Province, the Kamba District of Machakos, and the Luo District of Central Nyanza. In the Rift Valley where most of the European land was located, population pressures were far less. But this land fell outside the "zone of influence" of the crowded tribes, so could not be distributed to them. Thus, some land went to tribes that did not need it, some backward tribes were settled on high potential land though they were incapable of farming it efficiently, and some costly young coffee plants were parcelled out to farmers with only herdsmen's experience. The Kikuyu, who were good farmers, received the most land, but much of it was poorer land on the Kingangops Plateau. Members of the Kalenjin tribes, on the other hand, clearly profited despite their alleged lack of industry because they could claim large stretches of high potential land. Moreover, many Africans who had once worked on large European farms were denied title and later denied jobs on that land when it was resettled. This problem was particularly acute for the Kikuyu, who provided the bulk of the Europeans' cheap labor. Thus, although they carried most of the burden in the struggle for land reform, it remains an open question whether or not the Kikuyu as a whole gained from the Million Acre program. 80/

Even within a given tribe, selection of settlers was not always done with proper regard for the agricultural qualifications of the applicants. People with influential friends sometimes received preferential treatment, others who had failed elsewhere received land that might have been used better by others. On many schemes it appears that wives or hired laborers did the farming while husbands, supposedly working their land, held other jobs. On High Density Schemes the men often hired out to remaining large farms while the women tended subsistence crops as they had done before the land reform. On Low Density Schemes, as many as 50% of farmers may have run shops or taken administrative posts. The danger in this arrangement was that settlers with divided interests might lack the capital needed to invest adequately in all their interests, and so skimp on farming investment. Thus some settlers became poor farmers even though their backgrounds were promising. 81/

Problems of land use were also critical. The size of the plots in the Million Acre Scheme was determined in accordance with target incomes, and many plots were far bigger than those the settler had worked before. Many settlers also failed to find the most efficient techniques of cultivation for their crops. Many holdings in High Density Schemes were too large for the hoe but too small for a tractor or a pair of oxen, while many holdings in the Low Density Schemes were too large for oxen and too small for a tractor. The Settlement officers have not proved very successful in organizing plowing, and private plowing contractors are also having trouble. It appears that the problem may have been that settlers were given small holdings of land really better suited to large-scale cultivation of grains. 82/

The choice of crops was often less than optimal. Most farmers were anxious to plant their subsistence crops first, so that maize was planted in many areas where it could not be grown efficiently, particularly the high-altitude areas where more profitable cash crops like pyrethrum could have been grown. Other crops, such as wheat, which should be grown on a large scale, were sometimes grown on inefficient small plots because farmers refused any sort of larger community plot. Other plantation crops like sugar and sisal could not be grown efficiently on small plots, though sisal hedgerows can be economic. 83/ But the basic problem was the selection of a collection of cash crops that would provide the income the farmer needed, with an "insurance fund" in the form of generally less-profitable subsistence crops that he could use if his cash crops failed.

Perhaps the most critical problem has been that of maintaining high standards of animal husbandry. Cattle, chiefly dairy cattle, were supposed to provide over 60% of most settlers budgeted incomes. Unfortunately there was already a major shortage of grade dairy cattle in Kenya at the start of the Million Acre Scheme, resulting from the slaughter of young stock by Europeans nervous about approaching independence and exacerbated by many African peasants' desire to make a quick cash sale on a calf and avoid the loss of milk needed to feed a growing calf. The government has tried to encourage rearing heifer calves to maturity in a "Keep that Calf" program, but it has only begun the fight. 84/

Because most Kenya farmers lacked experience in dairying, agricultural extension workers specializing in dairy problems were badly overburdened. They have tried to supervise an artificial insemination program to assure maintaining the quality of dairy cattle. They are also working to reduce calving intervals below a highly inefficient 18 months by teaching better standards of general husbandry. It appears that Kenya's dairy industry may now succeed as more and more farmers become interested in producing milk commercially or in rearing calves for sale to other Kenyan farmers or to farmers in neighboring countries trying to establish their own dairy industries. The settlements as a whole have also suffered from a lack of proper supervision and proper organization of the cooperatives, but it appears that the agricultural and extension workers have done a good job of accomplishing an almost impossible task.

Despite the long list of formidable problems, the land reform does appear to have been fairly successful on its own terms. It has also paid off in broader political and economic terms. Political tensions have eased considerably as the government has been able to point to major accomplishments in its programs to resettle the White Highlands. The dualistic character of Kenya's agriculture has been blurred if not erased completely as 35,000 families gained title to holdings that will likely permit them a considerably higher living standard than they had before. They also have greater opportunities to use their entrepreneurial talents and greater incentives to invest in land they will be able to retain. Many peasant farmers who knew nothing of modern farming have now been introduced to the use of fertilizers, sprays, good seeds; others have learned to care for cattle and to grow clover/grass mixtures specifically for cattle fodder.

The program has even made some impact on Kenya's unemployment problem. The High Density Schemes have 25% more landowners than they had hired laborers, and another 25% more people are now employed as laborers by those landowners. The Department of Settlement hopes to increase the additional employment from 50% to 100%, though one expert on Kenyan agriculture, L. H. Brown, finds additional employment of only 10% on some mature settlements he has studied. The Low Density Schemes have increased employment by about 100%, since they generally absorb the same number of settlers as they once had laborers and since each settler hires an average of one outside laborer. 85/

Thus it appears that Kenya's Million Acre Scheme together with its related schemes have provided economic and social benefits to 30,000 families or roughly 120,000 - 150,000 people, a small but significant fraction of her African population of about 10 million. The Scheme also provided hard evidence apparent to all Kenyans that the government can and will undertake real land reform.

PART 2 : AGRICULTURAL REFORM ON AFRICAN LANDS

LAND REFORM: THE SWYNNERTON PLAN FOR CONSOLIDATING AND ADJUDICATING AFRICAN LANDS

LEGISLATION

The Colonial government's 1946 agricultural plan paved the way for the massive reform effort required to modernize traditional agriculture as practiced in the African areas. In 1954 the Colonial government began this reform by adopting the Swynnerton Plan, designed to meet objectives defined for the following five years but set within a broader fifteen-year framework. The Republican government has continued and expanded the work begun in the Swynnerton Plan.

The Swynnerton Plan, formally titled A Plan to Intensify the Development of African Agriculture in Kenya, was adopted by the Colonial government of Kenya in 1954, and backed by about £ 5 million. Kenya's two Development Plans, covering 1964-1970 and 1969-1974, contain further major programs for agricultural reform in the African lands. 86/

The native Land Tenure Rules spelling out the procedure for consolidation and registration were approved officially by the government in October, 1956. The procedure was further modified and codified in the Land Registration (Special Areas) Ordinance of 1959 and the Land Adjudication Act of 1963. 87/

INSTITUTIONS

Until Independence in 1963, the African Land Development Board (ALDEV) more or less directed all the efforts on African lands. In 1963 the Department of Agriculture assumed responsibility for on-going schemes.

In 1966 the Government decided to take advantage of the experience the Department of Settlement had gained in resettling the European lands, and transferred to that Department all schemes on African lands still requiring special assistance. In the future the Department of Settlement will supervise these schemes at the start, though the schemes will still receive extension services from the Department of Agriculture; when the schemes prosper or after a specified period, they will be transferred to the Department of Agriculture. 88/

THE SWYNNERTON PLAN: PROGRAM OBJECTIVES

The Swynnerton Plan was designed to provide African peasant farmers with both the land and the know-how they needed to produce both subsistence crops and enough cash crops to provide a decent net income for each farm family. The Plan comprised: 89/

--a land reform to enclose and consolidate the land and provide African peasant farmers with legal title to the enclosed plots.

--a shift in emphasis from production of subsistence crops to production of cash crops, including coffee, tea, pyrethrum, and dairy products, all formerly produced primarily or almost entirely on European-owned large farms. To assure the high standards of husbandry needed to produce cash crops and dairy products successfully, the government approached individual farmers and offered to provide advice on production of subsistence crops, cash crops and grade cattle. This advice included conservation measures. The cash crop - livestock program served to increase the farmers' cash incomes and so brought many of them into the cash economy.

--new settlements on rain-fed land and several new farming projects involving irrigation of potentially fertile land. These settlements were relatively minor under the Swynnerton Plan.

--Rationalization of land use in eroded pastoral areas by establishing grazing schemes including (1) limitation of livestock to the proper grazing capacity of the soil; (2) controlled grazing on a new rotational system emphasizing introduction of grass leys; (3) supervision of production; and (4) provision of more finance and personnel for auxiliary services, technical services, nurseries, water supplies, education, transport, and marketing to mitigate increasingly severe erosion and stimulate production of marketable beef.

PROGRAM IMPLEMENTATION AND ENFORCEMENT

Land Tenure Structure

There was no single system of land tenure in the former "non-scheduled" or African lands of Kenya. Each tribe determined its own land tenure system. The systems ranged from collective or tribal ownership to family or individual ownership, with many including elements of both. Most major tribes distinguished between land that was owned and land that was rented or lent to tenant farmers, not for cash rent but for allegiance or services or as a gift. These tenants, called ahoi by the Kikuyu and jadak by the Luo, had only a right of usufruct which they could not transfer. 90/

The tenant farmers were often part of a substantial minority of Africans with too little land to live, or none at all. De Wilde notes of the Kikuyu:

"Evidence points to considerable landlessness, although its exact extent is difficult to determine. The large proportion of Kikuyu living and working outside the old [African] 'reserve' consists partly of those who have no land at all and have more

> or less permanently expatriated themselves, and partly of those who have left their holdings temporarily in charge of others. . . . Even among those resident in the Kikuyu districts some proportion is probably landless. In 1962 there were in Nyen 51,728 male adults, but only 43,107 holdings. On the face of it, this difference does not seem significant, particularly considering the inclusion in the first total of people in non-agricultural employment and of young men who normally get land of their own only after they are married. Yet the disparity becomes more marked when account is taken of the fact that a considerable percentage of the holdings is farmed by the wives of men working outside the district, and hence not counted by the census as part of the district's population. A former European agricultural officer, who conducted a field investigation in one of the locations of Nyeri, came to the conclusion that between 30 per cent and 40% of the adult males were landless." 91/

There is some debate over the extent of individualization of land rights among the Africans, but it appears that individualization of land among some tribes was substantial, increasing with the increasing pressure of population on the land, the growing interest in cash crops, and the desire to protect crops from roaming cattle. But even where individual land-owning rights were sufficiently advanced to include rights of inheritance and sale, communal rights to graze on unused or harvested fields persisted, and the right to well was sometimes limited.

Each major tribe had its own quirks in its land-tenure customs; many defined the "individual" holding the land not as one man, but as one family or lineage; some restricted rights of land transfer. Among the Kikuyu, the head of the extended family (the Muramati) could veto the sale of land to strangers or the admission of tenant families to family land, and in some Kikuyu areas the seller could always buy back his land for the purchase price plus the cost of any improvements. 92/

Another major tribe, the Luo, held farming land by family or lineage group, but granted communal grazing rights to everyone. Land held by lineage group could be bequeathed, but it could not be transferred or sold outside the lineage group.

The Kamba of Machakos were an individualistic people -- they had no chiefs until the British appointed some -- and held land as individuals or occasionally as kinship groups, though land tenure customs were complex and varied with the method of acquisition. The Kampa can generally buy and sell their land. In other tribes, tribal elders assigned all cultivation rights.

Where population was dense and land varied in quality, fragmentation often became a problem -- particularly when encouraged by tribal customs as happened among the Kikuyu. One man's land was divided among his sons who in turn parcelled out portions to their several wives, retaining small holdings cultivated by one or more wives, but whose produce was theirs alone to enjoy. The many tenant farmers among the Kikuyu and Luo exacerabated fragmentation. 93/

All the systems of land tenure were in a state of flux in the 1950's -- a state conducive to the reform that was to follow:

> "Kenya was in various stages of transition from a type of land tenure which vested rights in some kinship or residential grouping and gave every member of that group assured rights to cultivate some land, to a system under which individual rights had come increasingly to prevail over the rights of the group and/or its members. During this transition, the traditional authority of lineage or clan elders over allocation of land disputes was becoming progressively weakened. At the same time the volume and costiliness of litigation over land had greatly increased, particularly in those areas characterized by growing pressure of population on land." 94/

Spontaneous Land Reform

Before official *dejure* programs began, farmers in a number of areas began their own *de facto* land reforms. Where land was not sufficiently fragmented to require major consolidation, farmers often enclosed the lands they worked simply by planting hedgerows. In the 1930's and 1940's the Kipsigis, a semi-pastoral tribe in the Rift Valley having no individual land ownership and no rights of inheritance, began to enclose their lands to informally facilitate production of maize for sale to feed laborers on European farms. By the early 1950's, nearly all Kipsigis' land was enclosed, though until recently the Kipsigis did not press for official formal title to the land. 95/ In the 1950's the Kisii and Elgeyo also enclosed their land. And among the Kikuyu the demand for systematic land reform was growing. The Kikuyu had fairly well established individual land rights, and demanded issue and registration of land titles to reduce disputes over land ownership.

Consolidation and Adjudication among the Kikuyu in Central Province

Land consolidation in Kenya's most fertile region, the Kikuyu Highlands of Central Province, took only six years, against a target of 15-20 years. Consolidation was pushed aggressively by the government and accepted readily by the Kikuyu peasants. British suppression of the

Mau Mau Rebellion had prepared the Kikuyu for land reform. The government had imprisoned many of their leaders who might have opposed any reform and removed most of the Kikuyu from their land to hastily constructed villages. Moreover, the government survived the Rebellion with the authority and the funds needed to enforce land reform. Even during the Mau Mau emergency, voluntary demand for consolidation was more than the limited agricultural staff could cope with, after it the government was in firm control and could enforce consolidation over any protests. 96/ But the Kikuyu approved consolidation. The 1958 Annual Report of Nyeri District explains why:

> "The African landowner is prepared to work hard to improve his property, to make it productive and so raise his status among his fellow farmers. He was not prepared to do this before land consolidation, as there was always the fear that he might lose his land after improvement had been carried out, through bribery or jealous relations who were not prepared to see any advancements in their midst." 97/

Moreover, the Kikuyu began to look to agricultural modernization to provide economic gain and political power they could not win by force. The program of consolidation and registration in Central Province began in 1956 and was in full swing by 1957. The general procedure, begun on an _ad hoc_ basis and later ratified and codified by the government, was as follows: 98/

1) Land reform occurred only after the District Commissioner had held an open meeting or _baraza_ in which the majority of local people expressed their approval. The area to be consolidated and adjudicated was then proclaimed an "adjudication area", and divided into adjudication sections corresponding roughly to administrative sublocations of 500 - 1000 landowners.

2) An adjudication officer, generally the District Commissioner, was appointed. He advertised the intention to settle land titles and invited land claims based on native law and custom.

3) The District Commissioner appointed a committee of 25 or more local Africans including tribal elders to decide all land claims in each adjudication section, with the advice of an executive officer, usually a District officer. The first job was to determine who owned what land fragments with the help of an arbitration board, and to record disputed cases in the "Record of Existing Rights."

4) The Record was held open for objection for 60 days; objections to first decisions were referred back to the committee for a second decision which was then confirmed by the adjudication officer.

5) The land area listed in the Record was then reconciled with the land area as estimated from aerial surveys. The Record was adjusted to conform to the surveys.

6) The Committee next determined how much land to allocate to public purposes, obtaining the necessary land by cutting a uniform per cent from the holdings of all landowners.

7) The Committee next gave each peasant a consolidated holding equal in area to the fragments recognized as his claim. Usually the consolidated holding ran in a vertical stripe from ridge to valley to provide the same variety of land the peasant had held before. Smaller holdings of under three acres were situated near villages.

8) The details of the boundaries of each consolidated holding were then ironed out, and the holdings were recorded in a register and on maps. The boundaries were confirmed by aerial survey after each owner had planted hedgerows. Final adjustments were then made.

By 1960 consolidation was about completed in two of the three Kikuyu Districts, Nyeri and Kiambu, through consolidation was not yet complete in the third district, Fort Hall, where the land was hillier and harder to survey and the people more opposed to land reform. Moreover, much of the work has had to be redone since 1960, and progress has been slower lately because of shortages of staff and funds. 99/

The success of the land reform program in Kenya derived largely from the success of the extension service in their attempt to introduce cash cropping and dairying to the African peasant farmers on the core of Kenya's fertile land in the Central Highlands. The cash crops chosen included coffee, which proved most profitable, tea, now a close second in profitability; pyrethrum; some pineapples; and dairy products. Previously most of these crops had been grown only by Europeans. The African farmers enthusiastically seized the opportunity to grow coffee, and in 1963, the last year before Kenya's accession to the ICA, doffee acreage doubled in Nyeri. The farmers proved receptive to the extension service workers' instruction in the planting and cultivating of coffee. They used fertilizer and mulched their plants, though perhaps not as much as they should have. Tea production, which required more organization and management, was encouraged by the Kenya Tea Development Authority. KTDA provided loans to many farmers to cover much of the high initial costs of planting, refinancing its loans in part through IBRD. Dairying, which had previously been confined to European farms, also caught on among the Kikuyu in Central province. European "grade" dairy cattle were imported and segregated from native zebu cattle, which often carried tick-borne diseases. A well-run artificial insemination program helped to encourage dairy production. Pyrethrum and to a lesser extent pineapples, were also tried, but proved less successful than coffee, tea, and dairy products (See below.) 100/

The accomplishments under the Swynnerton Plan and following programs in the Kikuyu Highlands have been impressive. In Nyeri, about 250,000 land fragments were measured and consolidated into about 43,000 small holdings. In Kiambu, 420,000 fragments were consolidated into 50,000 small holdings. In the process sites were also established for 1,860 miles of roads, 285 primary and secondary schools, 225 churches, 47 tea and coffee nurseries, 93 cattle dips, and 110 permanent villages. 101/

In other districts of Central Province, chiefly Embu and Meru, consolidation and registration were more difficult because clan boundaries had been isolated during an earlier push to plant coffee in the 1930's and because tribal elders, not detained in these districts during the Mau Mau Emergency, often opposed the land reform vigorously. Only when tea proved successful where coffee did not grow as well on the higher land was it possible to reconcile conflicting claims to coffee lands. 102/

Consolidation and Registration in Other Areas

Land reform progressed to a lesser extent in several other major areas of Kenya: the fertile Western portion of the Rift Valley, the troubled area of Nyanza in the west near Uganda, and the hot, dry land Southeast of Nairobi.

Among the Kalenjin tribes of the Rift Valley -- the Kipsigis, the Nandi, the Elgeyo, and the Tugen -- there was little serious fragmentation and enclosure proceeded voluntarily as it began. The government tried to support these enclosure movements with soil conservation programs, access roads, and water supplies. The Rift Valley region includes both land suited for cropping and dairying and land suited to grazing. As consolidation progressed, some farmers turned to cropping and dairying while others were primarily interested in grazing schemes. Because the area is remote from Nairobi, little data are available, but it appears that in the Elgeyo-Marakwet area, dairying and production of pyrethrum, wheat, and other vegetables have gone fairly well, while in Baringo progress lagged. The Kalenjin farmers tilling arable soil have accepted new farming opportunities and accompanying extension programs eagerly in recent years despite problems of communication and transportation common in the area. 103/

In Nyanza, inhabited largely by Kenya's second tribe, the Luo, fragmentation was serious and early government attempts at land reform were opposed. The Luo have less good land to farm than several other tribes. Despite the pressures resulting from land shortages, Luo farmers long appeared less interested in reform or in agricultural programs than many other farmers. Lately, however, Luo farmers have shown increasing interest in modern farming as their severe demographic pressures worsened. The Luo have started producing some coffee, rice, and sisal. Problems remain, however. Despite the availability of land in the western portion of Kenya, cattle production is discouraged by the prevalence of tsetse flies carrying encephalitis and cattle diseases. 104/

In the Machakos area near Tanzania, the Kamba have had little consolidation or registration. The Machakos area has relatively little high potential land, mainly because rain is scarce. The population density is high in much of the area, and although the Kamba have had little tribal organization, they are becoming more interested in modern farming. Because the land has suffered extreme erosion, much of the land reform program emphasized restoration of adequate conservation practices. The programs have not always been adequately carried out or well received, but progress is real. Some coffee has been grown on the limited quantity of good land, sisal has been grown in the hot and dry areas, and cotton is being grown experimentally. Because of the abundance of dry land, grazing schemes to promote beef production have been implemented. Though these results are unclear, the programs seem to have helped restore the land and prompted at last a marginal increase in cattle production. (See Appendix) 105/

FINANCIAL ASPECTS

Over 1956-1966, the government spent about £ 3,650,000 to adjudicate 726,000 hectares (about 1,800,000 acres) of agricultural land. The Swynnerton Plan, of course, comprised more than land reform -- it also included soil conservation programs, roadways, schools, and other supporting facilities. 106/ The total cost of the Swynnerton Program itself is not clear, primarily because it overlaps with Plan periods, so Swynnerton expenditures blend with Plan expenditures. But the IBRD estimates that total expenditures under the Swynnerton Plan reached about £ 11 million over 1954-1960, realistically, 1956-60, during which time about 900,000 acres were registered. As a whole, these schemes have cost about £ 1-2 per acre or £ 5-50 per family. 107/

The 1964-1970 Plan shifted emphasis from settlement on the European lands to consolidation, enclosure, and registration of the African lands. The Plan allocated £ 4,360,000 to land consolidation and registration alone, and £ 13,759,000 to all programs for the African areas, also including credit for small-scale farmers, development of semi- arid range-lands, irrigation, other land reclamation (tsetse control), settlement, and rural development schemes for the African lands. This compared to Ł 8,650,000 allocated to resettlement of the European lands and Ł 16,890,000 for all programs related to resettlement of the European lands. Considering other programs that also affect the two categories the proportion of relevant expenditures allocated to the African lands rose from 28% in 1965/66 to 65% in 1969/70. 108/

Enclosure and consideration of African lands permitted farmers to make improvements without fear of losing investments through title changes and to produce cash crops, keep grade cattle, obtain credit more easily, and farm more efficiently.

The main financing for local schools, hospitals, water supplies, etc., was provided by the local District Councils (formerly African District Councils) run by elected African members. The Councils earned income from assessments on marketed agricultural produce. Originally it was thought that the District Councils should finance many of the agricultural extension services, and for a while they did pay a proportion of these costs, which were reimbursed later by the government. Recently, however, the agricultural extension services have been financed entirely by the Central Government. The District Councils continue to finance cattle dips, farmers' training centers, seed and stock farms and water supplies. The Central Government also advances loans to the Councils for these purposes, which the Council repays out of revenues. 109/

The funds for schemes outside the regular responsibilities of the local agricultural staff were provided by the African Land Development Board (ALDEV) through 1963, when the new constitution was promulgated, and later through loans from the Agricultural Finance Corporation (AFC) and grants from the Central Agricultural Board. The Ministry of Agriculture carries out these schemes and the District Commissioner is responsible for issuing and recovering the loans. 110/

LAND ADJUDICATION AND REGISTRATION AREAS REGISTERED AND COSTS INCURRED UP TO 1968/69 AND PROJECTIONS FOR PLAN PERIOD

	AREA ADJUDICATED			
	Agricultural	Range	Total	EXPENDITURE
Before 1966/67	726	-	726	3,650
1966/67	186	-	186	612
1967/68	235	-	235	694
1968/69	249	222		
Total up to 1968/69	1,396	222	1,618	5,885
1969/70	461	761	1,222	1,049
1970/71	548	810	1,358	1,306
1971/72	524	975	1,499	1,321
1972/73	510	1,160	1,670	1,295
1973/74	510	1,177	1,687	1,324
Total for Plan Period	2,553	4,883	7,436	6,295
Grand Total by End of Plan Period	3,949	5,105	9,054	12,180

SOURCE: 1969-1974 Plan; p. 213

SUPPLEMENTARY MEASURES

Agricultural Extension Services

Kenya's agricultural extension services have an importance equal to her programs for changing the patterns of land ownership in the development of profitable African agriculture. A community of small-scale farmers requires successful extension services to insure the efficient use of resources necessary to successful agricultural development. In Kenya, traditional inputs like land, water, labour, and even some capital in the form of cattle, trees, and hoarded savings were available in sufficient quantities to permit substantial increases in output if political, social, and technical obstacles impeding the introduction of new ways and new innovations could be removed.

As we have seen, traditional small holders do not break out of traditional farming methods. They are bound by the traditional ways of farming, which often conflict with good husbandry. Their interests are often tied to their neighbors' interests, leaving no one much incentive to invest himself; most lack the capital to make such investments even if they wanted to. African small holders need information and effective supervision and provision of supporting services just as Japanese small holders got from their landlords. In Kenya the role of the landlord was played by the extension service of the Department of Agriculture. 111/

Organization of the Extension Service 112/

Each province is divided into administrative districts with an Agricultural Officer (A.O.), usually a college graduate, in charge. Under him are Assistant Agricultural Officers (A.A.O.'s) usually with several years of agricultural education, responsible for various Divisions of the Districts. Within the Divisions are Agricultural Instructors (A.I.'s) and Assistant Agricultural Instructors (A.A.I.'s) responsible for supervision at the farm level. In 1962 there were 179 A.O.'s and A.A.O.'s, 1,107 A.I.'s and 2,347 A.A.I.'s of whom more than three quarters were stationed in the formerly unscheduled lands. Typically an A.A.O. served about 8,000 families, with his A.I. serving about 1,200 families and the junior A.A.I. about 500 families. Many of these extension service workers had specialized knowledge in one or two crops.

Animal husbandry (disease control, and breeding including artificial insemination) was placed under the separate jurisdiction of veterinarians, with one Veterinary Officer (V.O.) and/or one Livestock Officer (L.O.) and one or two Assistant Veterinary Officers (A.V.O.'s) in each Veterinary District Office. They have a staff of Veterinary Assistants and Veterinary Scouts.

The specialization by function insured up-to-date information, but limited the extension worker's ability to weigh the costs and benefits of various crops and various livestock. In the current Plan period, the Ministry of Agriculture will be reorganized so that field workers will have general training covering all crops and livestock to permit them to assess relative profitability. They will be served by a staff of specialists on the production of particular crops or livestock who will provide more detailed advice when needed. These extension workers will thus receive training in broad farm management techniques, though this will take time to work out.

Methods of Operation 113/

The extension service workers sought to persuade, not compel, farmers to implement programs for modernization. The extension service workers concentrated on interested farmers with above average farms on selected good land, approaching them on visits, Farmers' Days, and local shows to persuade them to join "Better Farmers' Clubs" and attend Farmers' Training Centers. In addition they tried to enforce the rules and bylaws passed by local councils on the central government to assure good husbandry and conservation practices. Violators were reprimanded or sometimes prosecuted and fined.

Farm Layouts and Plans [114]

One of the most important functions of the agricultural extension service was to provide two general types of farm plans which thousands of small farmers could use in planning layouts of their own small holdings required during consolidation and registration. In small holdings large enough for cash crops, the extension service provided individual farm layouts, siting buildings and allocating land to various uses designed to provide the farmer his minimum income while assuring good conservation practices. This layout was done according to the slope of the land, using flat land for subsistence crops, moderately hilly land for cash crops, and sheep land for grass and trees.

For some progressive farmers with more land the extension service provided more detailed farm plans, siting buildings, allocating land, and in addition outlining a system of crop rotation to maximize the yield of the holding over seven years. Of course, layouts and plans were provided only a fraction of the farms. By the end of 1963 there were about 40,000 layouts covering 420,000 acres and only about 5,400 farm plans covering 95,000 acres. The extension service cut back its fewer layouts and plans in the mid 1960's, and provides hardly any today --mainly because it lacks trained staff. The government is trying to expand that staff today. The new expanded staff will probably develop more general plans which it will distribute through the mass media, rather than by visiting individual farmers, particularly as education is expanded among the peasant farmers.

Farmers' Training Centers [115]

Farmers' Training Centers have been developed recently to offer peasant farmers one or two-week courses on the technology of modern farming and to give refresher courses to the Agricultural Extension Staff and the Cooperative Staffs. Of 13,804 participants in 1963, 10,457 were farmers and 1,741 were personnel of the Ministry of Agriculture.

Each of the roughly 24 FTC's had housing for students, classroom facilities, and a demonstration farm whose produce helped finance its operation. Teachers were assigned to the FTC's from the Department of Agriculture and the Department of Veterinary Services. They offered about 509 brief courses in 1963, 253 on general agriculture, 78 on animal husbandry, 42 on tea pruning, 26 on coffee culture, 8 on poultry 7 on cotton, and 5 on pyrethrum. Home economics was also offered to women, who numbered about 40% of the participants. The courses have proved an effective supplement to the Extension Service, and student farmers have willingly paid the Shs. 1-2.50 per day required to attend. Many of these farmers have enjoyed increasing incomes -- possibly because they were unusually receptive to change in general, or because they used their FTC instruction to advantage.

Cooperatives

As deWilde notes:

"African cooperatives have played an increasingly prominent role, particularly in marketing and processing. The African cooperative movement did not really receive any Government impetus until the introduction of the Swynnerton Plan in 1954, but thereafter it grew very rapidly. As of the end of 1962, there were 574 primary African marketing societies with a total membership of 223,105 and a turnover in 1962 of £ 4,415,808. Coffee societies accounted for the greater part of the membership and nearly 83% of the value of turnover in 1962. The primary societies were organized as of the end of 1962 into 25 unions. In 1964, a nationwide federation of cooperatives was formed.

"The growth of cooperatives has been greatly aided by the insistence of the government that all coffee growers join cooperative societies before obtaining permission to plant coffee, and by the fact that African farmers could not obtain quotas for the marketing of pyrethrum, or for the marketing of milk beyond local sales, without joining cooperatives . . . .

"The mushroom growth of cooperatives has undoubtedly created problems. Management and accounting have often been seriously deficient, owing to the shortage of competent people and a reluctance to pay adequate salaries to staff. Standards of probity in handling funds have sometimes left something to be desired. The very fact that societies had a monopoly on the handling and processing of a crop, such as coffee, has often been a disincentive to the improvement of efficiency and the reduction of costs. . . . This has created a tendancy among some of the larger African coffee growers to leave cooperatives and to band together for the establishment of coffee factories. There have also been frequent complaints that societies have had little or no interest in the improvement of standards of cultivation and quality of the crop they handled. In recent years it has also been difficult for the government's Department of Cooperative Development to train and maintain sufficient staff for advising and supervising cooperatives. On the whole, however, the progress of the cooperative movement has been remarkable." 116/

Marketing Boards

The marketing boards which have been discussed in Part I also control marketing of crops produced on the newly consolidated and adjudicated farms.

Credit

This discussion of credit relies heavily on the discussion presented by deWilde.

The Swynnerton Plan called for making substantial credit available to African farmers for the development of cash cropping and animal husbandry, chiefly dairying and beef production. In the event, it appears that the role of credit has been minor, though the government has recently begun expanding credit to promote higher standards of husbandry.

As deWilde notes:

"Credit for African farm development and African cooperatives was provided from three sources: commercial banks, the Government Budget, and funds provided by the World Bank and the United States Government.

Commercial Bank Credit

"Commercial bank lending to African farmers developed only as land was registered and titles were issued so that land could be used as security. Such credit has been made available primarily to the larger African farmers who not only could offer land as security but had some regular income that could also be pledged for payment. Information on the total volume of commercial bank lending is not available, but in Central Province, the only area where it assumed real significance, the total lent in years 1955 to 1963 inclusive is reported to have been Ƀ 437,115. However, the amount of commercial bank credit for this purpose is now tapering off to some extent and the earlier expectation that commercial banks would be an increasingly important and effective agency in the continued financing of African agriculture has been by no means fully realized.

Government Credit

"Government funds for agricultural credit were controlled initially, up to mid-1959, by the African Land Development Board, (ALDEV), and later, by the Board of Agriculture (Non-scheduled Areas) which was subsequently renamed Board of Agriculture (Small Scale Farms). Repayments on loans from such government funds were returned to the Treasury. The only revolving fund was that set up by the International Cooperation Agency of the U.S. Government which amounted initially to Ƀ 100,000 and was subsequently raised to Ƀ 125,000.

"The actual administration of loans was rather complex. Loans were issued at the district level. Most of the funds available for agricultural credit were borrowed by the African District Council from the Central Government for terms of between 10 and 20 years.

In such cases, the District Agricultural Committee made loans from these funds on the basis of recommendations of the District Agricultural Officer. In four districts, the Central Government made grants and loans available to specially constituted Joint Loan Boards. These Boards, too, made loans available on the recommendation of District Agricultural Officers. Interest rates generally varied between 5.5% and 6.5% and the term of repayment was usually less than five years. Loans to cooperative societies were from 4, 6, and 10 years, depending on the purpose of the loan.

"The data on government loans to African farmers point up two facts. One is the modest amount of credit made available to individual African farmers. Thus, in the three-year period 1960/61 to 1962/63, only around 6,000 loans, totalling slightly over Ŀ 400,000 were made. From 1948 to mid-1964 the total amount of loans issued was Ŀ 597,485. The other feature of this credit operation is the considerable amount in arrears. Thus, as of mid-1964, only 42.5% of the principal that had fallen due on loans issued in seven districts had been repaid. In some cases, apparently loans either have not contributed a sufficient increase in farm income out of which payments of principal and interest could be made, or have required repayments before the higher income accrued. In most cases, however, the poor record of repayment has simply been due to an unwillingness to pay, attributable partly to a misunderstanding of the nature of agricultural credit, and to the lack of clearly defined responsibility and institutional organization for the collection of payments.

"Since September, 1963, the provision of (public) agricultural credit has been centralized and institutionalized in the government-owned Agricultural Finance Corporation which has taken over administration of most of the existing loan funds. This corporation makes loans both to farmers and cooperative societies. Loans to individual farmers are made up to a period of five years and a total of Ŀ 500 and at an interest rate of 6%. As under the old system, applications continue to be forwarded by the local agricultural staff together with a recommendation. Loans must have the approval of the District Agricultural Committee and, for amounts over Ŀ 250, of the Regional (Provincial) Agricultural Board. Credit is given only for the development of a holding, which excludes the financing of land purchases. The actual collection of loan payments is handled by the same staff that is charged with collection of taxes, but the Corporation has instituted a more rigorous control of collection and has thus improved the rate of repayment.

"The funds available for lending to African farmers have never been equal to the demand. There is a yearly allocation among regions and districts, and within each district, among its divisions. Thus credit has been severely rationed, and this in turn has often necessitated arbitrary cuts in the size of individual loans to amounts which are reqlly inadequate to achieve the purposes for which credit is extended." 117/

Credit in more recent years has been allocated largely along the same lines, as outlined in the 1969-1974 Plan. Kenyan farmers can now obtain agricultural credit from several sources -- the Agricultural Finance Corporation (AFC), the Settlement Fund Trustees (for resettlement), the Kenya Tea Development Authority (KTDA), the Cooperative Societies, private traders and the commercial banks.

AFC has developed the major public sector agricultural credit program, and has absorbed the Land and Agricultural Bank of Kenya that formerly allocated substantial credit. Other sources of credit are used for specialized purposes; KTDA provides credit for small-scale producers of tea and cooperative societies still administer some short term loans. In the current plan, the government has allocated Ƅ 6.3 million in development funds to agricultural credit, of which Ƅ 2.3 million will go to small-scale farmers, Ƅ 1.5 million to large-scale farmers, and Ƅ2.4 million to farmers in the range areas. The specific credit programs will be: 118/ (See page 48).

Agricultural Credit under the 1969-1974 Plan

	1969/70	1970/71	1971/72	1972/73	1973/74	Total
SMALL-SCALE FARMERS						
IDA Credit Proj.(AFC)	281	315	340	164	-	1,100
Masii/Kericho Proj."	40	30	30	12	-	112
Pineapple Loans (AFC)	10	-	-	-	-	10
Other New Loan Prog."	-	5	30	224	400	659
Loans issued through Coop. Bank	-	50	100	125	150	425
Total Small-S.Farmers	331	400	500	525	550	2,306
FARMERS IN THE RANGE AREAS (AFC)						
Medium Term Development Loans	200	210	300	325	260	1,295
Short Term Loans	130	189	208	230	200	957
Administrative Expenses	25	38	42	45	40	190
Total Farmers Range Ar.	355	437	550	600	500	2,442
LARGE-SCALE FARMERS (AFC)						
Long & Med. Term Loans	318	300	300	300	300	1,518
TOTAL	1,004	1,137	1,350	1,425	1,350	6,266

Source: 1969-1974 Plan, p. 214.

Projected Credit for Large-Scale Farmers [119]/

Most of the large-scale farms were originally owned by Europeans, so they have been discussed in detail in Part I. Kenya's large-scale farmers have generally been able to obtain substantial credit with relative ease. Many have received long-term loans for land purchase (usually for 20 years), medium term or development loans for purchasing livestock, machinery, or farm improvements (usually 5 - 15 years), and short term loans for purchasing seeds, fertilizers, etc., usually made for wheat or maize. The 1969-1974 plan provides for continued long and medium term credit for large-scale farmers and recommends short-term credit for more general purposes than are now permitted.

While there are relatively few serious problems in administering credit to large scale farmers, arrears on loan repayments have been too high. At the end of June, 1968, 62% of the payments due on development loans were in arrears by at least six months. Arrears have been particularly common on loans made to African farmers newly acquiring large farms. Many of these farmers have lacked the capital required to maintain their farms, and have joined together with other farmers similarly ill equipped to try to run the farm cooperatively. Their ventures have been notoriously unsuccessful, and their record for loan repayments is not good, (see above). Their problems were aggravated by the terms of loans which did not provide enough grace period to permit the farms to begin profitable operation.

To mitigate these problems, the government is strengthening its extension services for large farms, considering delaying the early payments on loans, discussing imposed supervision when arrears are serious, and discouraging farmers from acquiring farms larger than they can manage comfortably.

During the current plan, Kenya's large scale farmers are scheduled to receive Ь 1.5 million in large and medium term loans. AFC will also provide Ь 3.0 million from its own revolving funds for these purposes. About Ь 4 million will be issued for short term credit for wheat and maize, mostly for large-scale farmers, and by the end of the plan period these farmers should have received about Ь 6.0 million in short term credit for a variety of purposes.

Projected Credit for Small-Scale Farmers [120/]

There have been more serious problems in supplying credit to small-scale farmers. First, AFC has been able to assist a far smaller proportion of the much more numerous small scale farmers. Second, their record for repayment is not good, with 50% of their payments in arrears in recent years. Part of this is due to inadequate screening of applications, and AFC is trying to strengthen its staff to improve screening. But screening and follow up visits to assure timely payment of small loans are expensive, and AFC will be hardpressed to reach all the farmers it should.

But the programs to provide credit to small-scale farmers have been cut back in the current plan. But if the farms are to use new seeds and modern fertilizer, and if they are to maintain high standards of animal husbandry, they will need credit. AFC cannot undertake the costs of providing short-term credit to small-scale farmers since the costs of processing small loans of shs. 100 - 200 almost equals the loan. AFC will instead specialize in providing medium term development loans, and will leave the problems of short term credit to the agricultural cooperatives who have on-the-spot personnel and who can force repayment by deducting from payments for the produce they collect.

During the 1969-1974 plan, development funds amounting to ₺ 2.3 million have been allocated to agricultural credit schemes for small-scale farms. Of this ₺ 1.9 million will be used for programs administered by AFC and ₺ 425,000 administered by cooperatives. AFC will also have about ₺ 800,000 in its own funds, so should increase its lending to small-scale farmers from ₺ 400,000 in 1969/70 to ₺ 700,000 in 1973/74. Part of these funds will be associated with a small holder credit project sponsored by IDA, which will loan ₺ 1.5 million to small-scale farmers in 15 districts. About ₺ 112,000 will be obtained from West Germany.

Projected Credit for Farmers in the Range Areas [121/]

The Kenya Government has arranged with the IBRD and a Swedish agency to finance a program to develop the semi-arid range areas by organizing production of livestock for market. The project complements a UNDP/SF project to survey the potential of the range areas.

AFC will provide medium and short term loans to farmers in the range areas worth about ₺ 4 million during the current plan period, with the annual rate of lending rising from ₺ 350,000 in 1969/70 to ₺ 1,000,000 in 1973/74.

EFFECTS OF THE LAND REFORM

During the first ten years of the program, 1956-1966, about 726,000 hectares (about 1,800,000 acres) of agricultural land were adjudicated at a cost (net of accompanying services or loans) of ₺ 3,650,000. Another 1,500,000 acres had been consolidated and demarcated prior to registration. By 1966 a conservative total of 3,000,000 acres had been registered, representing only 10% of the total land area, but about 22% of the good agricultural land in the formerly unscheduled lands. Other land had been enclosed or consolidated informally. [122/]

By March, 1963, 1,400,000 acres were consolidated and 2,500,000 acres enclosed, mostly land of high potential.

In the mid-1960's it was decided to accelerate adjudication of the African land and place less emphasis on resettlement of the European land. The government appointed a mission of inquiry chaired by T.C.D. Lawrence to outline an expanded program and recommend ways of stremlining procedures and increasing staff and funds needed to implement the program.

The Lawrence Mission recommended land reform especially for those areas likely to benefit most, implying a substantial expansion in the adjudication program to cover 3,100,000 hectares of land over 1966/67 - 1969/70, of which 1,100,000 hectares were in high rainfall areas and 2,100,000 hectares in low rainfall areas. The total cost of the program was to be Ł 3,400,000. The recommendations included a new procedure for registering ranches in the range areas under group ownership, necessitating new legislation. 123/

Under the 1964-1970 plan, which gave increasing emphasis to settlement on the formerly unscheduled lands against resettlement of the formerly scheduled lands, enclosure, consolidation, and registration proceeded apace. It is estimated that over 1966/67 - 1968/69, about 670,000 hectares (about 1,650,000 acres) of land, the bulk of it agricultural, were adjudicated at a cost of about Ł 2,235,000. 124/

During the current 1969-1974 plan, the program for land adjudication will be expanded to cover an additional 7,346,000 hectares (about 17,145,000 acres) of land, comprising 2,553,000 hectares of agricultural land and 4,883,000 hectares of range land, at a cost of Ł 6,295,000. 125/

Thus by 1975, the plan suggests that the total area adjudicated should reach about 9,054,000 hectares (about 22,363,000 acres) of land comprising 3,949,000 hectares of agricultural land and 5,105,000 hectares of range land, at a total cost of Ł 12,180,000. The adjudication program will affect land in about 30 districts of Kenya, some of which will have complete adjudication. 126/ By 1971, about 7 1/2 million acres will have been adjudicated and registered, 60% of which was arable. Much of the land still scheduled for adjudication was pastoral. 127/

Looking at the land adjudicated over the period 1966/67 - 1969/70 for which the Lawrence Mission had recommended a program, it is clear that the Lawrence Mission's targets for agricultural areas will be somewhat exceeded (1,130,000 hectares will be adjudicated, against a target of 1,050,000 hectares), while the targets for range land will be missed (983,000 hectares will be adjudicated, against a target of 2,100,000 hectares). This shortfall results primarily from delays in passing the legislation required for the group ranches outlined in the Lawrence Mission's recommendations, but should accelerate now that the legislation is passed since the procedure is simpler in that there is little fragmentation of land according to different uses. 128/

The impact of the land reform in African areas has been discussed at length by J. D. MacArthur:

"The beneficial impact of the land registration programme is not really questioned any longer and, on the whole, this attitude is just. Many of the areas where the processes have been completed were previously in a heavily fragmented condition, and although the actual new layout imposed on the countryside is not ideal in the eyes of all critics, the transformation that has been brought about in the appearance of these districts is, in the opinion of those who knew them ten years ago and who see them today, eloquent of the progress made. Of course, other factors have contributed to this change, like improvements in education, government-sponsored development programmes, the introduction of new crops and the improvement of advisory services, but these have not affected such a large proportion of the people as to account for the change that has taken place on so much of the land. It is difficult to pinpoint the exact features of the process which led to improvement. Consolidation obviously saves labour and leads to the better utilization and management of the land. Registration gives the people security in the ownership of their allotted portions, and this is probably very important, particularly in densely populated, highly fragmented areas, where land litigation and the threat of challenge to existing rights is a constant risk and a serious handicap to development. However, a third factor may be of considerable importance. The land adjudication process, the hearing in public of disputed cases (these occasions invariably seem to draw a large audience, in addition to the committee which hears the dispute, which may have up to fifty members) and the upheaval involved in laying out the consolidated holdings; all these factors, together with the barrage of propaganda that accompanies the whole business, serve to make the people land conscious. This probably causes them to take subsequently a more enlightened view of its productive possibilities." 129/

GENERAL RESULTS OF ALL LAND REFORM PROGRAMS

Kenya's land reform programs as a whole have clearly benefitted the small-scale farmer. He has gained access to well over one million acres of land alienated for almost 60 years previously and he has received title to perhaps seven million acres of properly consolidated and adjudicated land. The small-scale farmer has also learned much of the techniques of modern farming and begun to produce with some efficiency a combination of cash and subsistence crops that together promise a higher and reasonably stable income. In areas where cash cropping is a fairly new venture, the farmer has entered for the first time into the market economy. The statistics of recent years reflect the considerable improvement in the small-scale farmer's living standard and the change in his way of life. As the tables below indicate, the small-scale farmer now produces a far larger share of virtually every major crop than he did ten years ago. The most notable changes occurred in the crops the extension service helped persuade the small-scale farmer to adopt.

Coffee 130/

In the early 1950s almost all coffee came from the large European-owned farms, but during the land reform the government encouraged peasants acquiring title to small holdings to diversify from subsistence crops into cash crops, especially coffee. The government arranged loans to assist small-scale farmers interested in growing coffee and provided them with necessary instruction in modern techniques of coffee growing. The effort has been highly successful, and coffee has proved to be the small-scale farmer's most profitable cash crop. Small-scale production -- almost entirely attributable to land-reform programs -- has increased sharply. In 1959 small farms provided only 3,600 tons of coffee against 19,600 tons provided by large farms. By 1968 small farms provided over 50% of total production, 22,133 tons against 16,938 tons provided by large farms. With the sharp increase in total production resulting from the expansion of production on small-scale farms, Kenya's coffee earnings have risen sharply. Nevertheless, further increases are unlikely because the coffee market as a whole is glutted, and coffee producers' exports are regulated by the ICA. But any additional coffee plantings permitted under Kenya's ICA quota are likely to go to small-scale farmers.

Tea 131/

Although tea remains primarily a plantation crop, it has caught on quickly as a profitable and fairly reliable cash crop among African small holders, who began growing tea during the land reform efforts. African production has grown fantastically over the past nine years, from 100 tons in 1959 to 2,800 tons in 1967 to over 5,000 tons in 1968, about one-sixth the total production. Plans indicate that African production will increase another 300% in the next five years to about 15,000 tons, to over one-third the projected total production of 43,000 tons in 1974.

The main barrier to small-holders' production of tea has been the high cost of initial plantings. In cooperation with the IBRD, the KTDA has arranged loans for small holders and given special assistance to small holders receiving title under the land reform if they expressed an interest in growing tea. The tea programs have been outstandingly successful, bringing increased exchange earnings to the country as a whole and higher cash incomes to many farmers. The tea market appears to be suffering excess supplies today, but Kenyan tea is of good enough quality to sell at least at today's levels even if increased sales prove difficult.

Pyrethrum 132/

Pyrethrum, the major component of a non-toxic insecticide, has proved another profitable cash crop for Kenya's small-scale farmers. Production of pyrethrum expanded in the 1950s from 2,000 to 8,000 tons, mainly due to increases in large-farm production. But later small-farm production expanded very fast, from 600 tons in 1959 to about 10,500 tons in 1968, while large-farm production fell from 4,200 tons in 1959 to 1,200 tons in 1968. Total production thus grew from 4,800 tons in 1959 to about 11,700 tons in 1968, reflecting primarily the upsurge in small-farm production. The government has financed extension service efforts to improve the quality of the pyrethrum flowers and has encouraged farmers participating in many land reform projects to grow pyrethrum as a cash crop. As a result, export earnings on pyrethrum have risen substantially, though the development of synthetic insecticides threatens the pyrethrum market.

Sisal 133/

With the recent collapse in prices, sisal cannot be grown economically on a small scale except as hedgerows, and statistics indicate the small-scale farmers' lack of interest in sisal. It is worth pointing out, however, that the sisal industry as a whole has seen better days; many of Kenya's large sisal plantations are having trouble making ends meet today. Export earnings in sisal remain sluggish.

Meat and Meat Products 134/

Production of meat and meat products, especially beef, also reflects increasing production on small-scale farms. In 1959 large farms provided 96,800 head for slaughter, against 43,500 head from small farms, while in 1966 small farms provided 105,900 head against 81,000 from large farms. Some of this increase reflects the new range programs the government has implemented. Export earnings on meat and meat products are rising. If Kenya could control cattle diseases more effectively and thus work to increase meat exports, these exports would likely find ready markets.

Dairy Products 135/

Although the data on production are sketchy, the data on revenues indicate a sharp increase in small-scale dairy production, which is vital to the success of the land reform efforts. Whole milk sales increased from 6,423,000 gallons in 1958 to about 21,153,000 gallons in 1968, much of the increase due to small-scale production. In 1964 revenues to small-scale producers were £ 1,630,000 against £ 2,770,000 in revenues to large-scale producers. By 1967, revenues to small-scale producers had climbed to £ 2,440,000 while revenues to large-scale producers reached £ 3,940,000. But the small-scale producers had also substantially increased their own consumption of milk. Thus the effort to promote milk production as a major import substitute has been quite successful. There is also some hope that Kenya will be able to export growing dairy stock to neighboring African states beginning to establish a dairy industry.

Maize 136/

Production of maize, Kenya's primary subsistence crop, has increased from 183,800 tons in 1959 to about 359,000 tons in 1968. Recorded small-farm production has grown from 79,700 tons to about 144,000 tons, while large-farm production has grown even faster, from 104,100 tons to 214,000 tons. Much of this increase reflects the increasing use of improved seeds and fertilizer, which large-scale farmers have been relatively swift to adopt. The government hopes to see production of maize increase substantially in the next few years, with much of the increase coming from small-scale production. There is hope that Kenya will be able to increase her maize exports substantially.

COMPARING THE COSTS AND BENEFITS OF RESETTLEMENT OF FORMERLY SCHEDULED LANDS TO CONSOLIDATION AND ENCLOSURE ON FORMERLY NONSCHEDULED LANDS

It appears that the programs to modernize African lands have been more efficient than programs to resettle European lands. It is estimated that establishing properly adjudicated small farms on the formerly non-scheduled African lands at a cost of £ 1 - 2 per acre or £ 5 - 50 per family brings greater benefits at less cost than resettlement on the formerly scheduled European lands at a cost of about £ 25 per acre (including £ 12 for land purchase and demarcations) or £ 750 per family. The programs for African lands were cheaper because they required no land purchases and because they included less credit and fewer extension services. On the whole, this lowering of costs seems not to have damaged the programs; production has increased on both the scheduled and non-scheduled lands.

It is relevant to examine the profits per acre achieved by the individual farmer -- the value of his output minus the value of his costs of production, before loan payments. It appears that farmers on at least some African lands may have achieved a higher profit per acre than those in settlement schemes, though it is difficult to say much with any confidence. Ideally, one would compare data on cost and output to determine whether resettlement of European land or modernization on African land paid off best. Unfortunately, there are neither complete nor compatible data on the two types of reform schemes. A tentative judgment can be made, however, on the basis of two sets of studies: a study of a sample of settlement schemes referred to under the discussion of the Million Acre Scheme and several studies of samples of farms in basically African areas carried out over the past ten years or so by the Farm Economic Survey Unit of the Ministry of Planning and Economic Development.

There are obvious pitfalls in such a procedure -- the accounting techniques in the two studies may have differed (though they appear fairly compatible on the surface). The studies were made at different times. The rate of inflation in Kenya is slow enough to ignore here, but weather varied and may have influenced the data in different years. The samples of farms studied are too small to permit much confidence in general conclusions. Moreover, the settlement sample includes schemes in a variety of areas with different climate and topography, while each of the FESU Reports covers only one major area. To overcome this last problem to some degree, two FESU Reports covering small farms in part of the Kikuyu Highlands and the Rift Valley will be discussed; unfortunately, no settlement data are available here for those areas along. Two other FESU Reports covering large-farm areas in the Rift Valley, some of which were resettled under the Million Acre Scheme, will also be discussed, to compare the data before and after resettlement and to compare large-scale and small-scale mixed farming, however gross the comparisons. It would take several survey teams several years to collect adequate data on most farms even in one or two key areas. Rather than do nothing until that distant day arrives, it appears wiser to discuss the data at hand, with their severe limitations in mind. The settlement data, presented in the discussion of the Million Acre Scheme, will be compared to the data in the FESU Reports.

<u>Settlement Sample Compared to FESU Report on the Nyeri District of Central Province</u>

The Farm Economic Survey Unit studied about 50 farms at various times during 1961-1964 in the heart of Kenya's rich Highlands, Nyeri District of Central Province. The farms studied were a cross section of those where farmers had made some attempt to modernize along the plans laid down in the Swynnerton Plan and in the other programs for African areas. (There were also a few settlement schemes and some large farms in the area, but basically the sample included small African farms enclosed under the Swynnerton Plan.) The farms in the sample had an average size of 12.9 acres, over twice the average size of 5 acres of all farms in Nyeri. Thus the sample does not reflect typical farms, but rather the farms benefitting to a greater or lesser extent from the African land reform programs. But that specialized sample is what we need to compare the costs and benefits of the programs for the African lands to the settlement programs for European lands, which also provided relatively able (or at least influential) farmers with rather more land than the non-participating farmer was likely to have.*

The land around Nyeri is fertile -- it lies in the heart of Kenya's coffee country. The small-scale farmers studied devoted about 28% of their land to crops (3.6 of 12.9 acres), including about 15% to cash crops, chiefly coffee and tea, sometimes pyrethrum and pineapples. On the average the farmers allocated about 7% of their land to coffee and 5% to tea, though in practice most farmers had 1-2 acres devoted to one or the other. They also grew subsistence crops, including maize (13% of the land), beans, and potatoes. The remaining 72% of their land (9.3 of 12.9 acres) they devoted to grazing for their dairy cattle and other livestock.

In comparison with the sample of settlement schemes, it appears that the Nyeri farmers had about the same pattern of land use, with slightly more land devoted to crops, particularly cash crops like coffee. On both schemes farmers also grew tea.

On the average each Nyeri farmer produced about Shs. 447 worth of output per acre, including farm consumption, divided almost equally with Shs. 200 from cash crops and Shs. 247 from dairy products, chiefly milk and butterfat. The farmers earned about Shs. 60 per acre on coffee and tea. They sold milk worth about Shs. 120 per acre and consumed milk worth about Shs. 73 per acre.

Total costs on each farm reached about Shs. 153, including Shs. 66 for hired labor. (There was no imputed value for family labor.) Resulting profits were high -- about Shs. 294 per acre, not including any repayments on loans or any interest, but including depreciation. Compared to the settlement schemes, it appears that the Nyeri farms had rather higher costs per acre: the settlement schemes' costs per acre were only about Shs. 50 on the average, although they paid rather more for labor. The Nyeri farmers appear to have spent more on livestock feed and more on modern crop inputs, chiefly fertilizer. Although accounting techniques on the two samples may have differed considerably, the Nyeri farmer's greater costs appear to have brought even greater results -- the settlement schemes produced output worth only about Shs. 96 per acre, leaving profits

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* Note, however, that the average size of farms on the settlement schemes studied over 1964-67 was about 25 acres -- about twice as big as the Nyeri farms studied.

of Shs. 56 per acre (before loan payments), a fraction of those achieved in Nyeri. Two warnings are in order, however: first, the settlement schemes included farms in areas without Nyeri's rich soil; second, it is hard to determine precise accounting techniques,but techniques in the two studies were bound to differ. Still, although there are no data on settlement schemes available here in Nyeri alone to prove the point beyond dispute, it appears that the African land reform programs in Nyeri paid off very well indeed. For a more detailed discussion of these results and associated finances, labor use, etc., see the dissertation referred to in the bibliography.

Settlement Sample Compared to FESU Report on the Elgeyo-Marakwet and West Pokot Districts of the Rift Valley 138/

The Farm Economic Survey Unit also studied a few rather progressive peasant farms in the Western Rift Valley in 1961-1962. In the hills of the Elgeyo-Marakwet District, African farmers traditionally produced maize and cattle and sheep. As the reform spread, they began producing grade dairy cattle, pyrethrum, and potatoes, selling the crops and milk to earn cash income. Since the area is remote, establishing cooperatives to market the milk was a critical problem. The farms studied were about 8 acres on the average -- smaller than the Nyeri farms and smaller still than the settlement farms. On the average, these farms devoted a little over 3 acres or 60% of their land to grazing, less than either the Nyeri farms or the Settlement farms. They devoted the rest of their land to crops, over one acre to pyrethrum and a little less to maize, potatoes and other crops. They allocated a higher proportion of their land to cash crops, less to maize and other subsistence crops than the farmers in Nyeri or the settlement schemes. They produced output worth about Shs. 335 per acre, less than the Nyeri farmers but more than the settlement farmers. They incurred costs of Shs. 118 per acre, leaving a profit of Shs. 217 per acre -- close to the Nyeri levels and far above the settlement levels.

The West Pokot District was more backward. The four relatively progressive farms studied in the FESU report produced only small amounts of maize, coffee, and pyrethrum for sale, in addition to their subsistence crops. Unfortunately the farms were too different to permit meaningful average data, but all produced fairly low outputs and profit.

Settlement Sample Compared to FESU Report on the Trans Nzoia District of the Rift Valley.139/

The Farm Economic Survey Unit also studied 12 large farms in the Trans Nzoia district of the Rift Valley which were later purchased by the Land Development and Settlement Board for resettlement. Their average size was 1,458 usable acres; their average output per acre Shs. 131, average cost Shs. 88, and average profit Shs. 43 -- rather less than the Shs. 51 per acre achieved on roughly similar land after resettlement. This may be because some farmers cut back on investment in anticipation of resettlement.

<u>Settlement Sample Compared to FESU Study of the Uasin-Gishu District of the Rift Valley</u>[140]

The Farm Economic Survey Unit also studied 11 large-scale farms in the Uasin-Gishu District in the West Central portion of the Rift Valley near Uganda. This is a smaller sample than the Nyeri sample, and it occurred during a period of unusually bad weather, though this affected the Uasin-Gishu area less than other areas. The farms again were those where some modernization had been tried. They were large farms, of about 1,530 acres, of which 1,482 acres were ¹able; they are thus comparable only to large-scale settlement schemes which are <u>not</u> included in the settlement sample. It is interesting to note, however, that these large farms produced output worth about Shs. 134 per acre with expenses of Shs. 97 per acre, leaving a profit of about Shs. 97 per acre -- somewhere between the data recorded for Nyeri and the settlement schemes. About 70% of the profits were derived from cash crops -- rather more than on either the settlement schemes or the enclosure schemes for small farms. Most of this profit derived from sales of wheat, some from maize. The remaining 30% of the profit came from livestock, chiefly dairy cattle. It is reiterated again that any conclusions drawn from this data must be extremely tentative.

The Kenya government has also come to believe that to achieve about the same economic benefits, the government incurred greater costs in settlement schems than it did in consolidation schemes. In a basic policy statement issued in April 1965, "African Socialism and Its Application to Planning in Kenya," the government said: "We have to consider what emphasis should be given in future to settlement, as against development, in African areas. The same money spent on land consolidation survey, registration, and development in the African areas would increase productivity and output on four to six times as many acres and benefit four to six times as many Africans. It therefore follows that if our resources must be used to achieve maximum growth, we must give priority in the future to development in the former African areas (para. 82). The present practice of spending a large portion of the government budget in the settlement and development of a limited acreage in former European areas should be phased out and future funds channeled to the development of the great potential of the Africa areas." (para 102)[141]

L. H. Brown supports the government:

"Leaving out land purchase, some £ 17 million could have been ... spent on extending and developing irrigation schemes and on improved services and land consolidation in African areas, a comparable number of landless families could have been settled at least at equivalent standards, and there would have been a greater upsurge in the overall production and standard of living."[142]

But as Ruthenberg points out, resettlement of the European lands also answered political needs. The question is, how well:

"But this [more African land programs] was not the alternative -- large parts of the former White Highlands had to be Africanized rapidly before and after Independence. The only alternatives to resettlement which might have been considered were (1) African large farms, (2) cooperative farms and (3) state farms. Considering the performance of African large farms in Kenya, of cooperative farms in East Africa and elsewhere, and considering the losses which are usually incurred by state farms, resettlement might have been, after all, the better choice in most locations, though certainly not in all.

"However, one relevant set of questions remains: Would not an unplanned settlement have been more economically and politically even more advantageous? Was it worthwhile to provide the additional development loans and the manifold services supplied by the government staff? Will not vigorous action against non-payers of loan installments create more bad feeling than expected? Would it not have been better to purchase the land, to compensate the outgoing British farmer with British funds, and to hand the land over to tribal committees for distribution without any specific loan schemes for development purposes?

"Clearly this would have meant the expansion of the type of farming prevalent in the poorer parts of the farmer reserves. There would have been no grade cattle, little milk production and but a few acres of cash crops in an area of unplanned settlement. The market production would have dropped a great deal to perhaps a third or half of its former value. However, roughly £ 17 million would have been saved and could have been invested productively elsewhere.

"The correct answer to these questions will certainly depend on the future performance of the resettlement schemes. If production increases significantly and if most of the loans are repaid in time, then the present form of resettlement might well be considered to have been the better choice. It is true that present information shows some increase in production and some improvements in loan repayments on a limited number of schemes. But it is not yet possible to assess the position for all schemes. In any case, the economic impact of settlement should not be overrated. We fully agree with L.H. Brown when he says that 'the steam is still in the kettle, because the basic source of heat, the 3 percent per annum increase in population, is still beneath it. Since 1962 one may calculate that the better part of another million people have been added to Kenya's population, or

> over 100,000 familes, several times as many as the number of new families settled on all the schemes...after spending £ 25 million ostensibly to relieve population pressures and land hunger, the overall position in Kenya in 1965 is worse than it was in 1962.'"143/

And the population of Kenya is still growing at over 3% a year.

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FOOTNOTES

1/ See, *e.g.*, deWilde, Ruthenberg, Wolfe, *passim*.

2/ See, *e.g.*, IBRD, S.A.

3/ See, *e.g.*, Ruthenberg, pp. 3-6.

4/ See, *e.g.*, Ruthenberg, Wolfe.

5/ van Arkadie, *passim*; Wolfe, *passim*.

6/ IBRD, p. 65-66.

7/ See, *e.g.*, Ruthenberg, Wolfe.

8/ Ruthenberg, p. 3.

9/ *Ibid*.

10/ van Arkadie, *passim*; Wolfe, *passim*.

11/ de Wilde, p. 38.

12/ FAO I, *passim*; Ruthenberg, pp. 8-9.

13/ *Id*. at pp. 5-6

14/ *Id*. at p. 9.

15/ *Id*. at 6-8.

16/ *Ibid*.

17/ *Ibid*.

18/ *Ibid*.

19/ SA, Tables 11-12, and IBRD.

20/ *Ibid*.

21/ Ruthenberg, 8-9.

22/ IBRD, *passim*; Ruthenberg, *passim*.

23/ *Ibid*.

24/ IBRD.

25/ *Ibid*.

26/ Nottige, p. 1.

27/ Ibid.

28/ Ruthenberg, p. 62.

29/ Nottige, p. 1.

30/ Id. at p. 1-2.

31/ Ibid.

32/ Ruthenberg, p. 65.

33/ Nottige, pp. 28-29.

34/ See, e.g., Ruthenberg, Plan II, Settlement Report, Settlement Sample.

35/ Ibid.

36/ Ibid.

37/ Plan II, p. 202; Settlement Report, p. 2.

38/ See, e.g., Ruthenberg, Plan II

39/ Nottige, p. 8.

40/ Ibid; Settlement Report, p. 3.

41/ Ibid.

42/ Nottige, p. 8.

43/ Plan II pp. 207.

44/ Id. at pp. 207-208.

45/ Ibid.

46/ Ibid.

47/ deWilde p. 195-197; Ruthenberg, p. 68-69.

48/ Ibid.

49/ Ibid and Plan II, pp. 203-204.

50/ See, e.g., deWilde, Ruthenberg.

51/ See, e.g., Plan II, Ruthenberg, Settlement Report.

52/ Ruthenberg, pp. 66-67

53/ Ruthenberg, p. 67.

54/ Nottige, p. 11-14, and Ruthenberg, p. 68.

55/ Ibid.

56/ Ibid.

57/ Ibid.

58/ Nottige, p. 28-29.

59/ Ibid.

60/ Plan II, pp. 219-220.

61/ Nottige, p. 25.

62/ Id. at pp. 16-17.

63/ Ibid.

64/ Ibid.

65/ Id. at p 18.

66/ Id. at pp. 18-20.

67/ Ibid.

68/ Ibid.

69/ Id.at pp. 21-25.

70/ Id. at pp. 39-40; deWilde, pp. 199-200.

71/ Nottige, p. 39.

72/ Plan II, pp. 202-204.

73/ Ruthenberg, p. 80.

74/ Plan II, p. 203.

75/ Settlement Sample, passim.

76/ *Ibid*.

77/ *Ibid*.

78/ *Ibid*.

79/ Ruthenberg, pp. 71-72.

80/ *Id*. at p. 72.

81/ *Id*. at pp. 72-73.

82/ *Id*. at p. 75.

83/ *Id*. at pp. 74-75

84/ *Id*. at pp. 73-74.

85/ deWilde, pp. 188-189.

86/ deWilde, p. 9; Ruthenberg, pp. 8-9.

87/ *Ibid*.

88/ Plan I, p. 147-148.

89/ Ruthenberg, pp. 9-11.

90/ deWilde, p. 6.

91/ *Id*. at p. 91.

92/ *Id*. at pp. 6-7, 38-40, 89-90, 129-133.

93/ *Id*. at pp. 6-7.

94/ *Id*. at p. 7.

95/ deWilde, pp. 7-8.

96/ deWilde, pp. 8-9, 39-40; Ruthenberg, pp. 8-9.

97/ 1958 Annual Report of Nyeri District, GOK, 1958.

98/ deWilde, pp. 10-12.

99/ *Id.* at p. 12.

100/ See, e.g., deWilde, Plan I, Plan II, IBRD.

101/ deWilde, p. 12.

102/ *Id.* at pp. 13-15.

103/ *Id.* at pp. 157-187.

104/ *Id.* at pp. 121-156.

105/ *Id.* at pp. 84-120.

106/ Plan II, p. 213.

107/ Plan I, p. 126.

108/ Plan I, pp. 126-129.

109/ deWilde, pp. 22-23.

110/ *Ibid.*

111/ *Id.* at pp. 16-17.

112/ Ruthenberg, pp. 15-16.

113/ *Id.* at pp. 16-18.

114/ deWilde at pp. 17-19.

115/ *Ibid* and Ruthenberg, p. 17.

116/ deWilde, p. 28-29.

117/ *Id.* at pp. 22-24.

118/ Plan II, pp. 212-213.

119/ *Id.* at pp. 213-216.

120/ *Id.* at pp. 216-218.

121/ *Id.* at pp. 218-219.

122/ *Id.* at pp. 210-212.

123/ *Ibid.*

124/ Plan I, pp. 124-130; Plan II, pp. 210-212.

125/ *Id.* at pp. 210-213.

126/ *Ibid.*

127/ IBRD estimate.

128/ Plan II, pp. 211-212.

129/ MacArthur, p. 7.

130/ See, *e.g.*, Plan I, Plan II, S.A.'s, IBRD.

131/ *Ibid.*

132/ *Ibid.*

133/ *Ibid.*

134/ *Ibid.*

135/ *Ibid.*

136/ *Ibid.*

137/ FESU Report No. 24, *passim*.

138/ FESU Report No. 15, *passim*.

139/ FESU Report No. 14, *passim*.

140/ FESU Report No. 16, *passim*.

141/ deWilde, pp. 188-189 FN.

142/ Ruthenberg, p. 85.

143/ *Id.* at pp. 85-86.

PRINCIPAL CROPS

Production for Sale, 1959–1968

Table 70

Thousands Tons

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968*
Sisal										
Small farms	1·5	3·0	6·1	2·0	7·0	5·0	5·0	1·2	1·0	(0·8)
Large farms	53·7	59·7	56·0	56·7	63·2	61·4	58·0	55·1	50·0	(47·8)
Total	55·2	62·7	62·1	58·7	70·2	66·4	63·0	56·3	51·0	(48·6)
Pyrethrum										
Small farms	0·6	1·8	2·8	2·7	1·8	2·2	3·3	6·8	9·6	(10·5)
Large farms	4·2	6·7	7·5	7·3	3·9	2·1	2·9	2·5	1·5	(1·2)
Total	4·8	8·5	10·3	10·0	5·7	4·3	6·2	9·3	11·1	(11·7)
Tea										
Small farms	0·1	0·1	0·2	0·3	0·5	0·9	1·4	1·9	2·8	(5.1)
Large farms	12·3	13·5	12·2	15·9	17·3	19·0	18·1	32·1	19·7	(24·8)
Total	12·4	13·6	12·4	16·2	17·8	19·9	19·5	34·0	22·5	(29·9)
Wattle Bark[1]										
Small farms	18·8	19·2	16·8	22·0	22·3	21·6	14·8	25·6	26·8	(27·8)
Large farms	28·3	31·0	37·1	39·0	26·5	23·2	20·1	23·6	27·2	(30·1)
Total	47·1	50·2	53 9	61·0	48·8	44·8	34·9	49·2	54·0	(57·9)
Sugarcane[2]										
Small farms	..	..	..	..	104·1	72·7	62·1	70·8	229·3	(306·1)
Large farms	..	..	..	..	400·3	518·7	447·4	435·7	465·9	(613·2)
Total	..	..	..	..	504·4	591·4	509·5	506·5	695·2	(919·3)
Pulses										
Small farms	12·5	11·3	13·7	11·8	11·8	10·1	12·9	19·2	14·4	(16·0)
Large farms	—	—	—	—	—	—	—	—	—	—
Total	12·5	11·3	13·7	11·8	11·8	10·1	12·9	19·2	14·4	(16·0)
Wheat										
Small farms	—	—	—	0·2	0·4	0·6	0·7	0·9	2·3	(5·0)
Large farms	95·2	126·1	107·7	82·7	117·4	127·3	141·2	130·2	175·3	(222·5)
Total	95·2	126·1	107·7	82·9	117·8	127·9	141·9	131·1	177·6	(227·5)
Maize										
Small farms	79·7	72·2	63·0	69·3	96·7	33·2	47·9	71·9	75·0	(144·0)
Large farms	104·1	95·6	90·2	80·8	102·7	53·7	56·6	60·2	160·1	(215·0)
Total	183·8	167·8	153·2	150·1	199·4	86·9	104·5	132·1	235·1	(359·0)
Clean Coffee										
Small farms	3·6	4·6	7·3	7·8	10·0	16·0	15·3	26·4	28·5	(22,133)
Large farms	19·6	18·8	20·4	41·4	29·9	24·9	23·4	28·1	18·8	(16,938)
Total	23·2	23·4	27·7	49·2	39·9	40·8	38·7	54·5	47·3	(39,071)
Rice Paddy										
Small farms	..	10·7	14·3	15·0	12·8	12·3	13·8	16·8	15·8	(19·4)
Large farms	—	—	—	—	—	—	—	—	—	—
Total	..	10·7	14·3	15·0	12·8	12·3	13·8	16·8	15·8	(19·4)
Seed Cotton[3]										
Small farms	10·0	11·0	9·0	5·3	8·7	10·8	12·2	13·1	12·5	(13·8)
Large farms	—	—	—	—	—	—	—	—	—	—
Total	10·0	11·0	9·0	5·3	8·7	10·8	12·2	13·1	12·5	(13·8)
Raw Cashew Nuts										
Samall farms	(1·6)	4·5	2·5	6·2	6·4	8·9	8·1	8·9	10·5	(11·0)
Large farms	(0·3)	0·3	0·3	0·3	0·3	0·4	0·8	0·9	1·1	(1·2)
Total	1·9	4·8	2·8	6·5	6·7	9·3	8·9	9·8	11·6	(12·2)

Source: Sisal Growers' Association; The Pyreturm Marketing Board of Kenya; Tea Board of Kenya; Kenya Wattle Manufacturers' Association; Coffee Board of Kenya; The Maize and P. .duce Board; Cotton Lint and Seed Marketing Board; Kenya Farmers Association.

*Provisional.

[1]Purchases by Kenya Wattle Manufacture's Association of green and stick bark.

[2]This includes only cane delivered to the sugar factories for production of white sugar.

[3]Figures for 1959 to 1962 are for crop years, thereafter for calendar year.

Source: Statistical Abstract, 1968

LIVESTOCK

Purchases for Slaughter by Statutory Boards*, 1959–1968

Table 72

'000 heads

Livestock	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Cattle										
Sold off small farms	43·5	53·8	59·0	62·4	62·2	(65·6)	(102·0)	(105·9)	..	..
Sold off large farms	96·8	100·9	116·0	119·6	(100·0)	(90·5)	(81·3)	(81·0)	..	..
Total	140·3	154·7	175·0	182·0	162·2	156·1	183·3	186·9	215·6	(221·5)
Sheep and Goats										
Sold off large farms	48·1	56·3	70·1	69·2	52·1	29·9	76·0	..	..	..
Sold off small farms..	108·4	104·4	89·5	120·9	112·8	78·5	33·6	..	..	..
Total	156·5	160·7	158·7	190·1	164·9	108·4	109·6	55·3	59·1	(60·8)
Calves	4·0	3·4	2·1	1·4	2·1	1·5	1·3	0·8	0·5	(2·9)
Lambs	4·5	5·2	4·4	4·9	7·9	6·2	7·1	7·8	7·6	(8·0)
Pigs										
Baconers	67·1	56·7	41·0	32·7	31·4	30·0	33·4	35·5	33·2	(37·6)
Porkers	21·1	22·6	17·6	14·3	15·1	13·7	19·7	18·0	13.7	(11·2)
Larders	5·8	4·1	2·3	1·8	1·8	1·3	2·2	1·8	1·4	(1·3)
Total	94·0	83·4	60·9	48·8	48·3	45·0	55·3	55·3	48·3	(50·1)

Source: Kenya Meat Commission; Pig Industry Board.

*A small proportion of the purchases of the Kenya Meat Commission are sold to Tanzania or exported live.

Source: Statistical Abstract, 1968

AGRICULTURE AND LIVESTOCK

Cash Revenue to Producers, 1964-1967

£'000

Table 75

ITEM	1964			1965			1966			1967		
	Small Farms	Large Farms	Total	Small Farms	Large Farms	Total	Small Farms	Large Farms	Total	Small Farms	Large Farms	Total
Wheat	122	3,406	3,528	265	4,051	4,316	313	3,168	3,481	493	4,082	4,575
Maize	1,487	982	2,469	820	1,028	1,848	1,416	1,281	2,697	1,346	2,872	4,218
Barley	—	407	407	—	427	427	—	278	278	—	242	242
Rice	291	—	291	311	—	311	367	—	367	387	—	387
Other Cereals	39	59	98	42	65	107	128	43	171	160	58	218
Total (Cerials)	1,939	4,854	6,793	1,438	5,571	7,009	2,224	4,770	6,994	2,386	7,254	9,640
Castor and other oil seeds	222	90	312	216	65	281	359	29	388	349	94	443
Pyrethrum	422	485	907	796	757	1,553	1,791	741	2,532	2,275	424	2,699
Sugar	209	1,281	1,490	244	1,300	1,544	109	882	991	565	1,032	1,598
Cotton	594	—	594	641	—	641	681	—	681	603	—	603
Tobacco	80	—	80	27	—	27	30	—	30	10	—	10
Total (Temporary Industrial Crops)	1,527	1,856	3,383	1,924	2,122	4,046	2,970	1,652	4,622	3,803	1,550	5,353
Pulses	263	11	274	308	14	322	629	15	644	438	28	466
Potatoes	147	56	203	66	68	134	180	77	257	190	98	288
Other fruit, Vegetables and flowers ..	139	27	166	112	29	141	156	75	231	203	72	275
Total (Other Temporary Crops)	549	94	643	486	111	597	965	167	1,132	831	198	1,029
Coffee (including mbuni)	5,808	8,655	14,493	5,398	7,709	13,107	9,335	9,284	18,619	8,409	5,556	13,965
Sisal	796	5,895	6,691	197	3,720	3,917	65	3,025	3,090	15	2,376	2,391
Tea	366	7,424	7,790	542	6,789	7,331	754	9,152	9,906	1,081	7,846	8,927
Coconuts and products	324	30	354	403	30	433	419	30	479	450	30	480
Wattle	281	349	630	218	352	570	329	442	771	344	516	860
Cashew nuts	156	30	186	393	30	423	395	30	425	392	30	422
Fruits and Other	442	184	626	491	206	697	487	188	675	625	181	806
Total (Permanent Crops)	8,173	22,597	30,770	7,642	18,836	26,478	11,814	22,151	33,965	11,316	16,565	27,881
Total (Crops)	12,188	29,401	41,589	11,490	26,640	33,130	17,973	28,740	46,713	18,336	25,567	43,903
Cattle and Calves for slaughter ..	7,091	2,340	9,431	7,271	2,100	9,371	8,738	2,183	10,921	9,169	2,156	11,325
Sheep and Lamb for slaughter ..	244	174	418	252	193	445	247	191	438	131	223	404
Pigs for slaughter	21	475	496	84	470	554	62	538	600	75	502	577
Poultry and eggs	85	253	338	8	222	230	80	195	275	[illegible]	202	312
Wool	6	340	346	24	404	428	37	440	477	[illegible]	457	[illegible]
Hides and Skins	472	—	472	470	—	470	592	—	592	630	—	[illegible]
Total (Livestock)	7,919	3,582	11,501	8,109	3,389	11,498	9,756	3,547	13,303	10,228	3,540	13,768
Total (Dairy Products)	1,630	2,770	4,400	1,450	3,280	4,730	1,9500	3,710	5,660	2,410	3,940	6,380
Total (Livestock and Dairy) ..	9,549	6,352	15,901	9,559	6,669	16,228	11,706	7,257	18,963	12,668	7,480	20,148
Unrecorded Monetary	2,832	—	2,832	2,752	—	2,752	2,987	—	2,987	3,032	—	3,032
Total Gross Revenue	24,569	35,753	60,322	23,801	33,309	57,110	32,666	35,997	68,663	34,036	33,047	67,083

Source: Statistics Division.

Source: Statistical Abstract, 1968

Appendix 1

GRAZING SCHEMES (Summarized from Ruthenberg, deWilde, and other sources.)

PRE-REFORM PERIOD

Kenya's 166,000 square miles of semi-arid land supports 1,500,000 people and about one-third her stock resources. This land comprises 38,000 square miles receiving 20-30 inches of rainfall per year, potentially good ranching country of which all but 4,500 square miles are taken by European ranches; 73,000 square miles receiving less than 10 inches, useless semi-desert. Agricultural assistance to these areas consists primarily of "grazing schemes" to rationalize the use of communally held grazing lands for individually held stock on about 9 million acres as of 1960.

LAND REFORM: GRAZING SCHEMES

LEGISLATION

The grazing schemes were established by the colonial regime in the 1950's as part of their expenditures on agricultural development.

INSTITUTIONS

The grazing schemes were operated by Range officers appointed by the central government, who relied on local District Councils to collect fees and help enforce the program.

PROGRAM OBJECTIVES

The grazing schemes served the usual general purposes of small holder programs -- and specific purposes as well. Over the years the semi-arid lands have been badly used; overstocking of cattle has caused widespread, severe erosion which can be reversed only with the expenditure of vast sums of money and considerable time. L. H. Brown notes that in the Baringo District, overgrazing has destroyed the grass and topsoil, leaving only useless thornbrush that is costly to eradicate. Land in the 35-40 inch rainfall area that once supported one stock unit per 4-5 acres now scarcely supports one per 30-40 acres. In Baringo "the human population, in an attempt to maintain enough stock for their own needs, have already to a large extent destroyed their own habitat."

In consequence, the contribution of the semi-arid lands to Kenya's agricultural production has been negligible. The 162,000 square miles supporting pastoral tribes provide only £ 1.5 million, largely from the sale of hides and skins -- against slightly over 1 million provided from the sale of beef produced on only 4,500 square miles of European ranches. In the pastoral areas the value of gross production per acre is a scant /5 cts -- shs. 7/. In the ranching country, the value ranges from shs. 1/25 - 20, up to shs. 40 in the best areas. The pastoral areas drag on the rest of the economy. In a dry year the pastoral tribes always need famine relief, claiming most of the £ 5 million in relief provided in 1961-2. The bush continually encroaches on even good range land, destroying cattle fodder and supporting deadly tsetse flies. The semi-arid lands thus require good grazing schemes to reverse the trend of worsening erosion, heal the land, and encourage production sufficient to provide enough income to tide the pastoral tribesmen over a lean year or two.

PROGRAM IMPLEMENTATION AND ENFORCEMENT

The villain of the piece in the semi-arid lands of Kenya appeared to be the system of property rights -- with communally held range but individually held cattle, each herdsman tried to graze what cattle he could, but if he held back, his colleagues only expanded operations. Communalization was necessary to limit the number of stock to what the land could bear and to conform grazing within each area to a rotational pattern to permit rejuvenation of cropped over land. Hit-or-miss programs for expanding water supplies, controlling tsetse flies, reseeding, etc., all missed the mark without communalization.

Thus the government began using a carrot and stick approach, offering to provide water only if the cattle owners would accept adequate range management. A typical grazing scheme included

1) demarcation of the area under the grazing scheme and limitation of stock to the carrying capacity of that area.

2) Extension of grazing through burning encroaching bush and eradicating tsetse flies. (This process has to be repeated periodically as the bush grows back.)

3) Provision of water by constructing dams and wells.

4) Introduction of rotational grazing -- simple alternation, irregular rotation, or hopefully, regular rotation.

5) Improved animal husbandry:

   a) culling program and stock disposal;
   b) castration of scrub bulls;
   c) provision of veterinary services and construction of dips to combat tick-borne diseases.

FINANCIAL ASPECTS

Establishing a grazing scheme thus involved recurrent expenditures described above. It also involved recurrent expenditures for maintenance, operation of water supply program, and wages to herdsmen. Part of the non-recurrent expenditures were covered by selling culled stock. The rest was covered by government loans to the local District Councils, who were in turn required to collect fees sufficient to repay the loans and cover the recurrent expenditures, net of the salaries of government workers. L. H. Brown estimates that average costs net of government workers' salaries amounted to £ 57 per square miles, or shs. 1/60 per acre -- £ 800 per 10,000 acre scheme. The total investment cost of the program -- excluding government workers' salaries -- was about £ 812,000.

Range control ultimately brought a squeeze on range land, as cattle belonging to farmers outside the grazing scheme were excluded from the scheme, forcing cattle owners in that area to accept water and range control on pain of even more serious overstocking. The range officers setting up the grazing schemes sought the cooperation of a "grazing committee" made up of community leaders. When this failed, they sometimes called in tribal police units. The ultimate aim of the program was to transfer control to the community. This has not happened though in a few successful schemes. "Grazing associations" of owners were established to raise funds and manage the scheme.

EFFECTS OF THE GRAZING SCHEMES

MOBILIZATION OF THE PEASANTRY

Unfortunately, the attempt to mobilize the nomadic herdsmen of Kenya came close to failure. The first grazing schemes were established where the need was greatest, not necessarily where the potential for profit was significant. To prevent further serious erosion, land rehabilitation took precedence over animal husbandry. But reducing the number of stock met fierce opposition from the herdsmen, whose customs put great weight on the number, not the quality, of cattle. Pastoral societies work around an intricate system of landing, renting, exchanging, and giving cattle in any number of situations -- the bride price is paid in cattle. Thus culling cattle meant relative reduction was felt by the wealthier members of the tribe -- those also started with the most cattle. Often these leading citizens were among the strongest opponents of culling programs. Somebody often had to wait to get married, or at the very least endure an apparent reduction in his wealth.

And the reduction in wealth was more than apparent. Many herdsmen lived so close to the margin of subsistence that they could not tolerate any loss of milk or meat -- culling, for whatever future benefits, meant immediate economic disaster. They themselves lacked, and the government never offered, the means to tide over until a stronger, more valuable herd could grow out of the culled stock.

The limitation of stock forced separating family herds, sending that portion of the herd excluded from the grazing scheme somewhere else. The separation of the herd meant the separation of the family, which was naturally unpopular.

Last, the schemes brought together too many people of conflicting interests, and too few of the herdsmen felt any allegiance to the District Councils running the grazing schemes. The Councils had considerable difficulty collecting fees per capita of cattle for water and dips.

In the 1950's the colonial regime overcame by force those it could not persuade, and those schemes begun in the early years became well established and profitable. But the pressures for independence eroded regimes' authority and the drought and flood of 1960-1961 decimated the grazing schemes. From 1961 to 1963 the area under controlled grazing fell from 9.1 million acres to only 800,000. £ 812,000 invested -- and the additional salaries of the government workers -- was largely wasted. The only lasting benefits were the established control on the 800,000 acres and an apparent change of heart among many herdsmen taking place since 1964.

The success of remaining ventures such as the Riwa Scheme in West Pokot show the potential gains from better range management.

THE POLITICS OF IMPLEMENTATION

The grazing schemes failed not because the were poorly designed or because the weather did not cooperate, but because the colonial regime could not enforce its policies as independence approached. Ruthenberg notes that "If the move for grazing schemes had started several decades earlier, we would probably have firmly established grazing institutions over most of the good ranging land in Kenya today. As matters stand, the vast semi-arid lands of Kenya still need a massive program to ensure efficient preserving the fertility of the soil."

GRAZING SCHEMES UNDER THE CURRENT DEVELOPMENT PLAN

These are discussed in Credit' in Part 2 above.