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COLONY AND PROTECTORATE OF KENYA



Report of Committee on the Working of the Resident Native Labourers Ordinance, 1925

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APPENDIX I**Scheme for Government-aided Purchase of Private Land for
the Purpose of Settlement**

See Section VI, Sub-section 1 (i)

Applications will be considered from intending settlers who desire to acquire land for their personal occupation, at present privately owned or leased, under the following main conditions:—

(1) The amount of the purchase price to be contributed by Government shall not normally exceed £1,500 (only in exceptional cases will this sum be exceeded and in no case will the Government contribution exceed £1,800). The Government contribution shall not exceed 90 per cent of the total purchase price. The contribution of one-tenth of the purchase price by the applicant is a minimum, and the Government may require in individual cases that the applicant contribute a larger proportion.

(2) Additional assistance for permanent improvements may be provided by loans through the Land Bank on a £ for £ basis subject to a Government guarantee; Advances for approved irrigation and water-boring schemes up to a total of £250 may also be made through the Land Bank on Government guarantee provided that such advances shall not exceed 25 per cent of the cost of the works.

The terms on which advances may be made under this section will be the subject of negotiation in each case or will be governed by Rules of general application.

(3) An option to purchase the farm must be obtained in favour of the Commissioner of Lands and Settlement for a period of two months.

(4) The purchase of land will not be considered unless a clear and unencumbered title can be transferred.

(5) Applications must be made in writing to the Commissioner of Lands and Settlement giving a full description of the land including the following particulars:—

L.R. Number.

Locality.

Area.

Owner's Name.

Title.

Development already effected on the land.

The total price to be paid;

and

Proof of ability to contribute at least 10 per cent of the purchase price, and to finance the development of the farm.

The applicant must also give full information of his financial position, farming experience and development proposals.

An option of purchase in favour of the Commissioner of Lands and Settlement must be enclosed with the application.

(6) An applicant must—

(a) be at least 21 years of age;

(b) be physically fit;

(c) intend to occupy, develop and work the holding;

(d) have had at least one year's farming experience in Kenya;

(e) be of good character;

(f) not be the registered holder of other agricultural land in Kenya;

(g) be accepted by the Land and Settlement Board as a suitable applicant for Government assistance.

(7) If after inspection of the holding Government approves of the purchase of the land the Commissioner of Lands and Settlement shall complete the purchase and obtain transfer of the title to Government, the purchase price being contributed in such proportions as may have been decided but in any case not less than 10 per cent being provided by the applicant.

(8) Title to the land in the form of a forty-eight years' lease will then be granted to the settler, the lease containing a proviso that on completion of the payment of the purchase price the term will be extended to the full period of 999 years or such other period as may be prescribed by the laws at that time in force governing grants of land for agricultural purposes.

If the land purchased is held on freehold title special provisions will be made to ensure that the settler obtains the benefits of the title acquired.

(9) The lease will be subject to the following main conditions:—

(a) Term—the term will commence on the first of the month succeeding the date of the transfer of the property to Government.

(b) Rent—at the rate of 20 cents per annum revisable as prescribed by the Crown Lands Ordinance.

(c) Purchase price shall include—

(i) the price paid for the land, less the amount contributed by the settler;

and as separate items,

(ii) the costs of the inspection of the property;

(iii) the costs of the transfer of the property to Government, including the prescribed stamp duty and conveyancing and registration fees, and any survey costs;

(iv) interest at the rate of.....per cent per annum on the 1st, 2nd, 3rd and 4th years of the lease, calculated on items (i), (ii) and (iii).

No payment of purchase price will be required during the first four years of the lease.

Purchase price (as previously defined) will be payable within the succeeding period of 44 years together with interest at the rate of...per cent on the outstanding balance by 87 equal half-yearly instalments on the 1st April and 1st October in each year, the first instalment being payable on the 1st April or 1st October (whichever is the earlier) next following the date four years from the commencement of the lease.

The purchase price together with interest due up to the date of payment may be paid off at any time during the term of the lease.

(d) Development conditions as prescribed by the Crown Lands Ordinance shall apply to all grants under this scheme.

These are as follows:—

Area of Farm	Minimum Value of Improvements to be Effected Within the First Three Years of the Lease	Nature of Improvements
300 acres or under	Sh. 20 per acre subject to a minimum of Sh. 600.	Permanent.
Over 300 acres ..	Sh. 6,000 and in addition Sh. 4 per acre in respect of every acre over 300 acres.	Permanent. Permanent and/or non-permanent.

Additional improvements to the extent of 50 per cent of the above figures under each heading are to be effected within a further period of two years, and the total development must be maintained for the remainder of the term of the lease.

- (e) Personal occupation for the first seven years will be required, subject to such absences as may be approved by Government.
- (f) Transfer—No transfer or hypothecation of the title shall be valid until the purchase price has been paid except with the special consent of Government and upon such conditions as Government may impose.

APPENDIX II

Systems and Acreages of Farming Applicable to Various Districts

This is a very brief summary only intended to give general guidance to the prospective farmer about the potentialities of the various districts in the highlands—and probably nowhere in the world do conditions vary so profoundly within distances of a few miles as they do in Kenya. A more complete and detailed guide to the various districts and conditions is in course of preparation by the Department of Agriculture.

Stock may be said to do well everywhere though cattle mature very much more slowly at the higher altitudes of 8,000 ft. and over. The importance of East Coast fever to the stock industry in Kenya will be apparent from the marginal notes showing the status of the different districts—the clean and dirty ones are indicated. The majority are unfortunately dirty and will remain so until the necessary steps are taken to clean them.

With regard to crops, there are differences not only in what can be grown at all, but, if the same crop is grown at all levels, the variety usually alters with altitude. The higher and moister areas are more suited to pyrethrum, peas and vetches, and to wheat rather than maize; so that from 7,500 ft. to 9,500 ft., wheat, pyrethrum, barley, peas, horse beans and vetches would be grown: from 6,000 ft. to 7,500 ft., maize, wheat, barley, peas, beans and vetches would suit: whilst from 5,000 ft. to 6,000 ft., maize, wheat, barley, coffee, sisal and beans would be staple crops. Grasses, both arable and natural pasture, are varied and different for all the main climatic zones.

MOLO DISTRICT

ALTITUDE .. 8,500 ft. to 9,500 ft.
 DESIRABLE ACREAGE .. Moderate quality land—1,000 to 1,500 acres.
 STATUS FOR E.C.F. .. Clean.
 SYSTEM OF FARMING .. Wheat, pyrethrum, sheep, cattle, pigs and poultry; forage crops such as vetches, peas, horse beans. Temporary pasture leys of seeds and clover mixtures, rotated with cereals.

MOLO-MAU SUMMIT DISTRICT

ALTITUDE .. 8,500 ft. to 9,500 ft..
 DESIRABLE ACREAGE .. Better quality land—750 to 1,000 acres.
 STATUS FOR E.C.F. .. Clean.
 SYSTEM OF FARMING .. Wheat, pyrethrum, sheep, cattle, pigs and poultry, barley, forage crops as for Molo. Temporary pasture leys of seeds and clover mixtures, rotated with cereals.

THOMSON'S FALLS (NORTHERN AREA) DISTRICT

ALTITUDE About 8,000 ft.
 DESIRABLE ACREAGE .. 750-1,000 acres.
 STATUS FOR E.C.F. .. Clean.
 SYSTEM OF FARMING .. Intensive dairying and store raising of steers and wethers.

NOTE.—The Cattle Cleansing Ordinance is in force in the Thomson's Falls administrative district.

THOMSON'S FALLS (SOUTHERN AREA) DISTRICT

ALTITUDE About 7,500 ft.
 DESIRABLE ACREAGE .. 750-1,000 acres.
 STATUS FOR E.C.F. .. Clean.
 SYSTEM OF FARMING .. Much the same as the better class land in Molo.

MAJI MAZURI, TIMBOROA, AINABKOI, KIPKABUS, PARTS OF MAU SUMMIT, UPPER GILGIL (WEST ROAD) DISTRICTS

ALTITUDE About 8,000 ft.
 DESIRABLE ACREAGE .. 900 to 1,250 acres.
 STATUS FOR E.C.F. .. These districts are all dirty except Mau Summit and Upper Gilgil.
 SYSTEM OF FARMING .. Much the same as Molo-Mau Summit; better quality land, with dairying on a rather more extensive scale.

LUMBWA-LONDIANI DISTRICT

ALTITUDE 7,500 ft.
 DESIRABLE ACREAGE .. About 1,000 acres.
 STATUS FOR E.C.F. .. Dirty.
 SYSTEM OF FARMING .. Suitable for wheat with a little maize and pyrethrum. Very suitable for sheep and cattle.

ELBURGON-TURI DISTRICT

ALTITUDE 7,000 ft. to 8,000 ft.
 DESIRABLE ACREAGE .. 300 to 800 acres.
 STATUS FOR E.C.F. .. Half clean and half dirty.
 SYSTEM OF FARMING .. Intensive dairying on arable land and high quality grassland with pure-bred or high grade stock. Wheat, pyrethrum and almost any kind of forage crop can be grown. This country is very suited climatically to sheep. Maize can be grown.

BURNT FOREST (NANDI BORDER) DISTRICT

ALTITUDE 7,500 ft. to 8,000 ft.
 DESIRABLE ACREAGE .. About 800 acres.
 STATUS FOR E.C.F. .. Dirty.
 SYSTEM OF FARMING .. Wheat, primarily, with some maize; cattle, sheep, pigs and poultry; some pyrethrum; forage crops as for Elburgon-Turi.

NJORO-NAKURU DISTRICT

ALTITUDE 6,500 ft. to 7,000 ft.
 DESIRABLE ACREAGE .. About 800 acres.
 STATUS FOR E.C.F. .. Dirty (Movement in favour of Cattle Cleansing Ordinance.)
 SYSTEM OF FARMING .. Much as for Burnt Forest-Nandi but rainfall not so certain.

RONGAI VALLEY DISTRICT

ALTITUDE 6,000 ft.
 DESIRABLE ACREAGE .. About 750 acres.
 STATUS FOR E.C.F. .. Dirty. (Movement in favour of Cattle Cleansing Ordinance.)
 SYSTEM OF FARMING .. Maize, wheat, forage crops of Napier grass, cowpeas and beans; intensive dairying, sheep, pigs and poultry.

SOLAI DISTRICT

ALTITUDE About 6,000 ft.
 DESIRABLE ACREAGE .. 500 to 700 acres.
 STATUS FOR E.C.F. .. Dirty
 SYSTEM OF FARMING .. Much the same as Rongai but conditions are rather different in parts and coffee can be included.

SUBUKIA (LOWER) DISTRICT

ALTITUDE About 6,000 ft.
 DESIRABLE ACREAGE .. About 750-1,000 acres.
 STATUS FOR E.C.F. .. Dirty.
 SYSTEM OF FARMING .. Much as for Rongai—particularly suited to the fattening of cattle.

SUBUKIA (UPPER) DISTRICT

ALTITUDE About 7,000 ft.
 DESIRABLE ACREAGE .. About 750 acres.
 STATUS FOR E.C.F. .. Dirty.
 SYSTEM OF FARMING .. Maize, pigs, poultry, wheat and, possibly, passion fruit and tobacco; intensive dairying; sheep.

NANYUKI DISTRICT

ALTITUDE About 7,000 ft.
 DESIRABLE ACREAGE .. 4,000 to 5,000 acres.
 STATUS FOR E.C.F. .. Clean.
 SYSTEM OF FARMING .. Suitable for dairying, sheep, pigs; with small acreages of wheat in places and also forage crops.

MACHAKOS DISTRICT

ALTITUDE About 5,000 ft.
 STATUS FOR C.E.F. .. Dirty.
 DESIRABLE ACREAGE .. Here the acreages required are very variable and farming should be based on dairying with a little wheat, and sometimes coffee and citrus in addition.

UASIN GISHU PLATEAU (CENTRAL) DISTRICT

ALTITUDE About 7,000 ft.
 DESIRABLE ACREAGE .. 1,200 to 1,500 acres.
 STATUS FOR E.C.F. .. Dirty.
 SYSTEM OF FARMING .. Wheat can be grown on selected land in this district. If E.C.F. were controlled and sheep diseases also, it is high quality ranching country with excellent rainfall.

**TRANS NZOIA (HOBY'S BRIDGE, KIMININI, CENTRAL AND
CHERANGANI) DISTRICT**

ALTITUDE About 6,000 ft.
DESIRABLE ACREAGE .. 1,000 to 2,000 acres
STATUS FOR E.C.F. .. Dirty.
SYSTEM OF FARMING .. Maize is a suitable crop with, perhaps, a little
passion fruit. Also suitable for cattle,
sheep pigs and a wide range of forage crops.

TRANS NZOIA (ELGON AND ENDEBESS) DISTRICT

ALTITUDE 6,500 ft. to 7,000 ft.
DESIRABLE ACREAGE .. 500 to 1,000 acres.
STATUS FOR E.C.F. .. Dirty.
SYSTEM OF FARMING .. Very suitable for maize with perhaps a little
wheat and coffee. Excellent for all kinds
of stock.

TURBO-KIPKARREN DISTRICT

ALTITUDE About 6,000 ft. to 6,500 ft.
DESIRABLE ACREAGE .. 1,000 to 1,200 acres.
STATUS FOR E.C.F. .. Dirty.
SYSTEM OF FARMING .. Similar to that in the Central Trans Nzoia with
rather more emphasis on cattle than on
maize.

NANDI DISTRICT

ALTITUDE About 7,000 ft.
DESIRABLE ACREAGE .. About 1,000 acres.
STATUS FOR E.C.F. .. Dirty.
SYSTEM OF FARMING .. Suitable for maize, tea, Napier grass, vetches,
etc.; also for cattle and pigs. Rainfall is
assured.

SOTIK DISTRICT

ALTITUDE About 6,000 ft.
DESIRABLE ACREAGE .. About 1,200 acres.
STATUS FOR E.C.F. .. Dirty.
SYSTEM OF FARMING .. Very suitable for cattle and pigs; also for
maize and passion fruit.

APPENDIX III

Memorandum on Water Finding in Kenya

Contributed by Mr. A. E. M. Tetley, B.Sc., Hydrographic Surveyor

The map in the back cover is reproduced from "The Underground Water Resources of Kenya Colony" by Mr. H. L. Sikes, C.B.E., B.A., B.E., M.INST.C.E., F.G.S., F.R.G.S., from which valuable publication much of the information given in this appendix has been drawn. In addition to showing the distribution of the boreholes, the main geological formations are shown while the section, at the foot of the map, illustrates clearly the typical configuration of the Colony. Starting at sea level from the shores of the Indian Ocean, the land rises gradually to the top of the eastern escarpment of the Rift Valley, which in the Highlands of Kenya is generally 7,000 feet or more above sea level. The country then falls rapidly for about 2,000 feet to the floor of this great valley and rises up to about 8,000 feet at the top of the Mau or western escarpment, from which point it again drops gradually to the level of Victoria Nyanza at an elevation of about 3,750 feet. Although in the following paragraphs of this appendix certain geological terms are used conveniently to describe certain areas, the reader need not be dismayed as a glance at the map will quickly show him the area or areas being discussed.

2. The surface drainage of Kenya consists of three main systems. One westward and one eastward from the western and eastern margins of the Rift Valley respectively and between these lies the Rift Valley, which may be compared to a long elevated trough running north and south. Except in the vicinity of the snowcapped Mounts Kenya and Kilimanjaro, practically all the dry weather flow is dependent on the ground water storage and hence the presence of permeable rocks and their covering soils is important. In the three drainage areas referred to above, the conditions which establish the ground water reservoirs are due to the existence, at high elevations and where rainfalls are comparatively high, of readily decomposable volcanic rocks, which give rise to deep soil and subsoil coverings. Further, old land surfaces, with their associated decomposed rocks, soil and superficial deposits (which were later covered by subsequent lava flows) afford further ground water storage. These reservoirs of ground water frequently augment the flows of streams where

these old land surfaces have been cut into by the present day streams. These conditions apply to the Highlands generally and give rise to many springs, but where the surface does not decompose readily such as on the Plateau lavas of Laikipia, the Uasin Gishu, and the Athi and Kapiti plains there is but little dry weather flow. Of the rain which falls in the Rift Valley drainage area, none flows out and the dry weather discharges are small; although numerous streams descend into this Valley from the escarpments which flank it, most of these streams rapidly disappear underground whilst others flow into lakes, few of which are fresh.

3. In the Eastern Drainage System all the major river systems, such as the Tana, Athi, Tsavo and Uaso Nyiro originate in, and receive practically all their dry weather flows from the volcanic areas but as soon as these rivers enter the area shown as "Pre-Cambrian" on the map, they begin to lose water rapidly. In this last mentioned area small dry weather flows are obtained from elevated masses with a fair rainfall such as the Teita and Machakos Hills but when the streams debouch on the plains these small flows are rapidly lost.

4. In the Western Drainage Area the rainfall is higher and has a better distribution. In addition the rocks of Pre-Cambrian age in this area (see map) belong to two systems classified by geologists as the "Basement Complex" and the "Muva Ankole System"; the latter weather readily and thus afford good ground water storage and so augment the dry weather flows of the streams.

5. In areas where all the year round supplies are available, the question of water supplies is not a difficult one, although in certain circumstances resort may have to be made to gravity or pumped supplies, depending on local conditions; the latter may be by hydraulic ram, windmill, ox-gear, or by a pump operated by a suitable engine or other means.

6. In the less fortunate areas where the streams do not flow continuously throughout the year, the cheapest form of water supply in certain areas may prove to be the storage of flood waters by means of small dams. The possibilities for large dams are comparatively few as generally the prevailing slopes are steep and in certain parts of the volcanic areas the geological conditions and the general porous nature of the rock are not favourable conditions for large dams, while in the Pre-Cambrian areas large quantities of sand are carried

in the rivers in times of floods which would tend to fill the reservoirs. Nevertheless in most parts of the Colony it is possible to build small dams, of which many successful examples are to be seen throughout the settled area, and much can be done in this respect by, and every inducement should be given to, the construction of small dams and tanks, either filled from their own catchment areas or by furrows or other means from large streams which have good flood flows.

7. On the plan is shown a summary of the statistics of the boreholes drilled by the Public Works Department up to the end of 1932. Since that date further boreholes have been drilled by both the Public Works Department and by drilling contractors. The revised statistics are shown on the sub-joined table which, however, does not fully reflect the actual position as the details of a few holes drilled by private contractors have not yet been obtained.

8. Drilling was mainly carried out in the Pre-Cambrian (Basement Complex) and the Kainozoic volcanic rocks; both are formations which cover the greater part of the Highlands. 101 holes have been drilled in the former and 106 in the latter formation. The percentage of successful holes in these formations are 63.3 per cent and 63.2 per cent respectively but if those holes which were abandoned owing to drilling difficulties and those which were abandoned by the hirers of the plant at depths too shallow at which to expect water these figures would be 82.1 per cent and 83.9 per cent respectively.

9. The results of boring in the various geological formations will be dealt with in slightly greater detail below. In the Pre-Cambrian rocks, results from boreholes north of Nanyuki in the vicinity of boreholes Nos. 124, 126, 139 and 162 show that of eleven boreholes sunk four were successful; the average depth at which water was struck was under 200 feet and the average tested yield of the successful holes was 14,300 gallons per twenty-four hours. It may be emphasized that five of these holes were abandoned by the hirers of the drill at depths too shallow at which to expect water. North of Kitale five boreholes, Nos. 83, 119, 99, 176 and 179 show that water was found in the first two at an average depth of 76 feet, the average yield on test was 7,680 gallons per day, and the water rose to within 50 feet of the surface. In borehole No. 99 the yield was 2,268 gallons per day from a depth of about 85 feet but this borehole was abandoned at 242 feet owing to drilling difficulties.

**STATISTICS OF BOREHOLES
ACCORDING TO GEOLOGICAL FORMATIONS**

	A	B	C	D	E	F
1. Geological Formation	Basement Complex	Duruma Sandstone (Terrestrial)	Jurassic System (Marine)	Kainozoic Volcanic Series	Kainozoic Sedimentary (Coastlands) Marine and Terrestrial	Kainozoic Sedimentary (Inland) Lacustrine, Fluviatile and Aeolian
2. Number of successful boreholes	64	6	1	67	2	6
3. Aggregate depth of successful boreholes ..	13,713 ft.	1,487 ft.	443 ft.	20,467 ft.	524 ft.	1,506 ft.
4. Average depth of successful boreholes ..	214 ft.	248 ft.	443 ft.	305 ft.	262 ft.	251 ft.
5. Average depth of water	149 ft.	226 ft.	386 ft.	250 ft.	253 ft.	150 ft.
6. Average depth from surface to which water rose in boreholes	102 ft.	74½ ft.	146 ft.	152 ft.	111 ft.	101 ft.
7. Total yield in gallons per 24 hours	2,436,000	172,900	29,000	1,784,300	49,600	242,100
8. Average yield per borehole in gallons per 24 hours	38,000	28,816	29,000	26,600	24,800	40,360
9. Number of boreholes which yielded water too saline for use for the intended purpose ..	1	—	1	—	8	—
10. Number of boreholes drilled to reasonable depth but yielding water less than one gallon per minute or without yield of water	17	1	—	14	—	—
11. Number of boreholes abandoned by hirers of drills before probable water table reached	8	—	—	12	—	—
12. Number of boreholes abandoned owing to drilling difficulties before probable water table reached.. .. .	11	—	—	10	—	—
13. Number of boreholes abandoned owing to striking steam or gas	—	—	—	3	—	—
14. Total number of boreholes sunk	101	7	2	106	10	6

10. In the Kainozoic volcanic rocks surrounding Nairobi thirty-eight boreholes have been sunk, and of these twenty-six were successful, yielding on test an average of just over 24,600 gallons per day per borehole from an average depth of 300 feet and the water rose on the average to within 160 feet of the surface. In connexion with the twelve unsuccessful holes, six were abandoned by hirers at depths too shallow to expect water. Under the Athi Plains there appears to be an old lake bed, the outcrop of which is shown on the map near Athi River. The top level of this lakebed is just over 5,000 feet above sea level. It appears that under the Athi plains at depths of 300 to 400 feet below the surface there are good prospects of finding substantial quantities of water; only one hole in this formation has not been successful at depth.

11. In the Plateau lavas (mentioned above) nine boreholes were sunk in Laikipia and four in Uasin Gishu. In Laikipia six were successful, yielding on test 16,700 gallons per day at an average depth of 230 feet and the water rose to an average depth of 95 feet below the surface. In the case of the holes in the Uasin Gishu the corresponding figures were four successful holes out of five sunk, 31,200 gallons per day, 245 feet and 52 feet.

12. On the Kinangop Plateau, on the eastern flank of the Rift Valley, five boreholes were sunk of which only one, No. 65, was successful and yielded 11,000 gallons per day at a depth of 295 feet. Generally, boring is not recommended on the Kinangop, where the rainfall is high and in consequence, in the majority of cases, water supplies can be obtained by dams impounding flood waters and in some cases by shallow wells where sites are favourable.

13. In the Rift Valley (excluding the Kinangop Plateau which has been dealt with above) the results were:—

- (1) Two boreholes Nos. 84 and 120 yielded an average of 43,000 gallons per day at a mean depth of 127 feet and rose to an average of 35 feet from the surface.
- (2) Nos. 16, 23, 52, 53, 61 and 148 yielded an average of 17,000 gallons per day at a mean depth of 400 feet. Borehole No. 53 in the Kedong was sunk to a depth of 727 feet before water was struck, and the test yield was 7,200 gallons per day; the water rose to 700 feet from the surface.

- (3) Borehole No. 131 did not encounter water although drilled to 274 feet, whilst drilling was stopped by the hirer at 146 feet, without finding water, in the case of borehole No. 122.
- (4) Three boreholes were abandoned owing to striking steam and Nos. 37, 42, 88 and 112 were abandoned owing to drilling difficulties, whilst boreholes Nos. 71, 101 and 138 were sunk to depths of 623, 320 and 369 feet respectively without striking water.
- (5) On the western edge of the Rift Valley six holes have been sunk by drilling contractors, five of which have been successful. Full details of these holes are not available, but the average depth to which the successful holes were sunk is 323 feet, and the average yield is approximately 4,000 gallons per day. The unsuccessful hole was carried to depth with no result.

Boring in the Rift Valley must be considered as highly speculative as one of the requisites for a successful borehole is an impervious medium at comparatively shallow depth which will hold up the water in the previous formation above it.

14. The Durumu Sandstone series is a good water carrier but the water is very hard, and sometimes too saline for use.

15. In the Kainozoic Sedimentary series (coastlands), water is obtained at shallow depth but chances of obtaining a potable water are slight. The same remarks apply to the Jurassic rocks near the coast.

16. On the Kainozoic Sedimentary (inland) formations prospects of finding at least small quantities of water are good and in some areas copious supplies are obtainable, e.g. borehole No. 102 yielded 72,000 gallons per day from a borehole 109 feet deep, water being struck at a depth of 70 feet and rose to 42 feet from the surface. It is in this same deposit that good supplies beneath the Athi Plains (already referred to) are found. The five boreholes (numbers 152, 158, 163, 164 and 167 on the plan) in this formation, in the neighbourhood of Nanyuki, yielded an average of 22,600 gallons per day at a mean depth of 170 feet.

APPENDIX IV

Scheme for Residential Settlement of Retired Indian Army War Block Officers

(1) Applications will be considered only from retired Indian Army War Block Officers of pure European descent.

(2) Applicants should, in the first instance, submit their written applications to be recognised as participants in the scheme of residential settlement but no definite application for a grant of land will be considered until the applicant has spent at least three months in Kenya Colony acquiring experience of local conditions.

(3) Areas of land applied for should be selected from a Schedule to be obtained from the Commissioner of Lands and Settlement.

(4) Allotments of land will be made to successful applicants on the recommendation of the Advisory Land Board free of stand premium. The main conditions of the grant will be: —

Term.—99 years from the date of the grant.

Rent.—Sh. 10 per annum.

Development conditions.—A dwelling house constructed of permanent materials to be erected to the satisfaction of the Commissioner of Lands and Settlement, within two years of the commencement of the grant.

(5) Land grants for residential purposes allotted under this section of the scheme are intended for the personal occupation and use of the allottee and must be personally occupied by him for a period aggregating three years within the first five years from the date of allotment.

(6) No transfer, mortgage or sub-lease of the land will be permitted within five years from the date of allotment except with the written consent of the Commissioner of Lands and Settlement, and subject to such conditions as he, on the advice of the Advisory Land Board, may prescribe.

(7) The costs incidental to the preparation and issue of the title will be payable by the allottee; these will be approximately:—

Survey fees on a sliding scale, e.g. 1 to 20 acres, Sh. 80; 20 to 25 acres, Sh. 90; 25 to 30 acres, Sh. 100.

Conveyancing fee.—Sh. 100.

Registration fee.—Sh. 20.

Stamp duty.—1 per cent of the annual rent, subject to a minimum of Sh. 2.

(8) The scheme will be open for application up to the 31st December, 1938.

Applications must be submitted in writing to the Commissioner of Lands and Settlement, P.O. Box 89, Nairobi, Kenya Colony.

APPENDIX V

European Education in Kenya

The following note has been supplied by Mr. R. H. W. Wisdom, the Acting Director of Education:—

“There are 2,000 European children at school in Kenya of whom approximately 1,100 attend Government schools and the remaining 900, private schools. There are two Government Secondary schools—the Prince of Wales School, Kabete, five miles from the centre of Nairobi, for boys, and the Kenya High School for Girls in Nairobi. The Prince of Wales School, which is conducted on public school lines, takes boys up to the standard of the Higher School Certificate Examination, and the Kenya High School provides courses for girls up to the Cambridge School Certificate standard and also has a well equipped domestic science department. Government Primary boarding schools for boys and girls have been established at Nairobi, Nakuru, Eldoret and Kitale. These schools provide an 8-year course of general education. The boarding houses in all these schools are well designed modern buildings in the healthiest parts of the Kenya Highlands. In the Nairobi suburbs there are two Government day schools providing a 6-year course, a school for small children in Mombasa and two small farm schools on the Eldoret Plateau. In the Government Secondary schools the tuition fees are £15 per annum and in the Primary schools £4/10 per annum. The boarding charge in all schools, whether Secondary or Primary, is £45 per annum. Upon application to the appropriate School Committee all fees can be reduced or remitted altogether in cases of financial difficulty. Kenya Government bursaries are awarded annually to boys and girls of Kenya schools who, having matriculated, wish to take a professional course overseas. Up to date 17 such bursaries have been awarded of various amounts, a maximum bursary being worth £150 per annum.

“There are twenty-one European private schools in the Colony and they fall into three categories. The first consists of three preparatory boys' boarding schools where the aim is to prepare boys for entrance to public schools overseas and to the Prince of Wales School, Kenya. Fees at these schools average £130 per annum for board and tuition. Two of these

schools are in Nairobi and one is at Gilgil, in the Nakuru area. There are three girls' schools under Church auspices, which provide a full course up to Matriculation standard. Two are Catholic Loreto Convents—one at Nairobi and one at Eldoret—and the third, at Limuru, eighteen miles from Nairobi, is connected with the Church of England. The remaining fifteen private schools are mainly for young children from four years of age upwards. They are situated in Nairobi, Nakuru, Eldoret, Turi, Kijabe, Naivasha and Kitale.

“In Nairobi night continuation classes have been organized by the Municipality and they provide specialized courses in various commercial and other vocational subjects.”

APPENDIX VI**Extracts from the Report and Recommendations on Closer
Land Settlement in Kenya****By****Lt.-Colonel C. H. Hoy, D.S.O.****1820 MEMORIAL SETTLERS' ASSOCIATION, SOUTH AFRICA****Dated 1929****(5) Propaganda.**

The first step in attracting a desirable type of settler to Kenya is the dissemination of information setting forth the attractions and economic possibilities of a rural life in the Colony. Such information should be accurate, and reliable so that a spirit of confidence between the Government and settlers shall be established. Once this is accomplished the flow of settlers will increase automatically through reports sent to Great Britain by those who have experienced the working of the Settlement Scheme. London will naturally be the centre from which recruiting operations will be conducted and the selection of the staff on whom this duty will devolve should receive careful attention. I am of the opinion that this staff should include at least one member with an intimate knowledge of the Colony and he should, preferably, be one who has actually conducted farming operations here. He should be able to discuss technically and economically agricultural and stock farming in order that the practical inquirer can be satisfied as to the prospects. Considerable competition with the Dominions for the type of settler suitable to Kenya will be experienced. Advertising and propaganda through the Press is very expensive in Great Britain and the official in charge of this work must have funds put at his disposal. If possible this official should have the gift, if not to write attractively himself, to collate suitable material for publication and, through the contribution of news items of the Press, keep Kenya's Settlement Scheme before the British public, agricultural schools, public schools and the universities should be visited by arrangement and addresses given on Kenya. Settlers visiting England from time to time might be induced to address such meetings. This type of speaker proves effective as the knowledge that he has actually experienced the Colonial life adds interest and establishes confidence.

(6) *Selection of the Settler.*

It is of the greatest importance that the settlers established in a territory with a preponderating native population shall be of a type to maintain the prestige of the Europeans. For this reason selected immigration is the only wise form to be followed and I would state the qualifications in sequence of their relative importance:—

(a) *Character.*—The character of the settler accepted for inclusion in a land settlement scheme for Kenya comes first. I am strongly of the opinion that men of positive character only should be accepted: by this I mean men with the will and determination to succeed. Their morals should be unquestionable and they should hold a high code of justice. Every precaution should be adopted to preclude the acceptance of men who have proved failures in other callings from lack of application. Interested relatives will endeavour to send misfits and ne'er-do-wells to the Colony under the proposed scheme and I consider that those responsible for the selection of settlers should be warned of this danger.

(b) *Education.*—Men selected should have had at least a good secondary education and when possible some technical education in engineering and the handling of machinery. The tendency in Kenya to-day, owing to the difficulty of engaging competent ox-drivers, and the incidence of stock disease, is towards mechanical traction, cultivation and harvesting and the settler with knowledge of engines and with a mechanical bias will be at a distinct advantage. A knowledge of book-keeping and recording will also be a great help. Farmers as a whole are probably the poorest book-keepers among those engaged in any business undertaking and there exists for any rural calling the same necessity for accurate accounts as in any trading occupation.

(c) *Health and Physical Fitness.*—In the selection of settlers I consider that physical fitness, good development, and freedom from disease should be insisted upon. I recommend that no applicant be accepted until he furnishes a satisfactory medical certificate and the responsible official is satisfied of the candidate's physical fitness and development.

(d) *Tuition.*—In many settlement schemes in the past the necessity for tuition in agricultural and stock-farming before the settler takes up land, has been overlooked. It must be realized that farming is a technical calling requiring diversified knowledge to a greater degree than in many other occupations.

It will be of distinct advantage to this Colony to obtain as many men as possible, who have been born with the instinct for the land and animals. I therefore consider that previous training and experience should receive consideration in selection of settlers for this Colony. Plans for giving settlers training in Kenya and knowledge of local conditions will be dealt with under a separate heading.

(e) *Capital*.—The capital required by a settler in order that he may successfully establish himself in this Colony must depend upon the following factors:—

- (1) The amount of financial assistance which will be made available to him by the Government.
- (2) The frugality and standard of living of the settler.
- (3) His family responsibilities, immediate and prospective.
- (4) The type of farming which he decides to adopt.

(8) *Dealing with the Settler Pupils after Acceptance.*

As soon as settlers are accepted by the London Office, full particulars together with prospective time of arrival at Mombasa should be forwarded to both the Reception Officer at Mombasa and to the Director of Land Settlement, Nairobi, in order that suitable arrangements can be made to deal promptly with new arrivals at this end. I recommend that arrangements be made for the transfer of settlers' capital, free of exchange, to Nairobi and that they have the privilege of leaving it on deposit with the proposed Land Bank and that they receive interest on the deposit at a rate equal to that paid by the Bank for its funds.

Settler-pupils after acceptance by the London Office should be assisted by the staff in that office in arranging passages to Mombasa under the most favourable terms. They should be advised as to necessary kit suitable to Kenya Colony. On arrival at Mombasa the settlers should be met by a responsible Government official who should facilitate their landing, and passing through the Customs, and arrange for transportation to Nairobi. I would suggest that settlers should be allowed to pass through Customs free of duty all personal requirements and bona fide settlers' effects up to a value of £200 for each adult settler, with an additional amount of £50 free of duty for each minor child. On arrival in Nairobi arrangements should be made by the Settlement Office to meet all settlers and direct them, if desired, to moderately-priced boarding accommodation. Every endeavour should be

made to save the settlers unnecessary expenditure and arrangements for their early allocation for tuition should be expedited. I would also suggest that a local reception committee possibly to include some ladies, of suitable people should be organized in Nairobi and to its members newly arrived settlers should be introduced, so that suitable friends shall be made and a welcome to the Colony extended to the new comers. Local patriotic societies such as the Caledonian Society might assist in this phase.

(9) *Tuition for the Settler before the Allotment of Land.*

In para. 6 (d) I emphasized the necessity for tuition for settlers and I am strongly of the opinion that each settler should have a knowledge of local conditions, values, markets, and the handling of native labour, as well as sufficient technical training to enable him to conduct his farming operations moderately well, before he takes up land on his own accord.

Tuition with approved experienced Farmers

Under this system suitable farmers established in the Colony should be invited to accept settler-pupils on the following terms and conditions:—

(1) The settler-pupil will proceed to the farmer for a probationary period of one month. The continuation of the arrangement will be at the discretion of both parties. At the end of the month the farmer and the settler-pupil are requested frankly to discuss the arrangement and if both parties are satisfied the settler is expected to agree to remain for one year with the farmer. Should the farmer be dissatisfied with his settler-pupil he can request the Settlement official to withdraw the settler-pupil and provided the settler-pupil's conduct has been good he will be placed with another farmer. If the settler-pupil is dissatisfied with the conditions on the farm he can apply to the Director of Land Settlement to transfer him to another farm and if his reasons are sound this should be done. The object of this system is to ensure that both the settler-pupil and the farmer are satisfied and that the settler-pupil is getting the experience he requires before a permanent arrangement is agreed to. If an agreement is reached it may be verbal or written at the discretion of the parties thereto and the Director of Land Settlement should be notified by both parties.

(2) During the whole term of tuition the settler-pupil must work regular farm hours and perform all duties assigned to him. He must not absent himself from the property without

the consent of the farmer. In other words, the settler-pupil must give his best services to the farmer during this year.

(3) During this year the settler-pupil shall receive from the farmer, free board and lodging and soft laundering, and such practical tuition as may be obtained in the working of the farm.

I suggest that no money payments should be made by either party excepting that in cases where the farmer considers the services of the settler-pupil are of sufficient value, he may make some remuneration. It is not desirable that settler-pupils be asked to pay premiums or board as it has been found under such circumstances that some settler-pupils feel themselves under no obligation to render their best services. Some difficulty may be experienced in finding farmers willing to accept married settlers on these conditions but it may be arranged on those farms, where suitable accommodation exists, on the following lines: If the settler's wife is agreeable to undertake duties in the household of the farmer the arrangement is made easy. In other cases farmers are asked to put suitable separate accommodation at the disposal of the couple and they carry on their own housekeeping, the farmer providing such seasonable produce as may be available such as vegetables, butter, milk, while the other necessities are provided by the settler. Considerable variations will be necessary to accommodate different married couples and this is best done by treating such cases as special ones and negotiating an arrangement to suit the particular case. However in all cases the services of the settler-pupil should be at the disposal of the farmer as in the case of single settlers. This system of tuition is recommended for settler-pupils of responsible character and age without previous farming experience and for experienced farmers new to Colonial conditions.

It is important that the conditions under which the settler-pupil proceeds to the farmer are made clear to both parties at the time the arrangement begins, and I consider that suitable circulars should be prepared and given to both parties at that time.

(10) *Allocation of Land to Settlers.*

In the alienation of Crown land farms to settlers I recommend that the following rules be followed:—

- (1) That farms shall be alienated only to settlers who are considered by the Land Board fitted as described in this report to make full economic use of such farms.

- (2) That personal occupation within six months of alienation be a compulsory condition.
- (3) That progressive development year by year be required on a reasonable scale and steps be taken to ensure such development.
- (4) That transfers of leases or other titles of land alienated shall be possible only with the consent of the Land Board which should ensure that speculative profit-making on the land is eliminated.

Land for settlers under this scheme should be in clean areas in reference to stock diseases and steps must be taken to guard against tick-borne diseases by ring fencing such settlement areas and the provision of dipping facilities with rules for compulsory dipping and effective control of stock movements. I would emphasize the necessity for these steps, and submit the following reasons:—

- (1) If settlers are to achieve early production dairy cows are essential in any closer settlement scheme of this nature.
- (2) Only by diversified farming can the settler maintain the fertility of the land.
- (3) By diversified or mixed farming is the settler's financial risk spread and a fair average income assured.

In this regard it should be realized that this scheme is for men with very limited capital, and failures by settlers will cause embarrassment and financial loss to the administration, as it is proposed to make loans to them. Losses from stock diseases may prove critical to the settler's success. The land should be in areas with a 30 in. to 40 in. rainfall.

The method of cutting up Crown lands into suitable farms should receive careful attention and should be done in such a manner as to make the most economic use of the land available and ensure that each farm has the possibilities for success of the settler. I recommend that when Crown lands are being subdivided into farms, this should be done by a surveyor in consultation with a competent official capable of judging the quality of the land, so that each farm shall have sufficient good agricultural land. In these surveys precautions should be taken to ensure household and stock water. In cases where open water cannot be obtained for each farm, water should be secured by boring before such farm is alienated.

With regard to the extent of farms for this type of farming, I would recommend that 500 acres be the approximate unit, but that provision be made for reasonable increase of area for settlers who are later considered by the Board to have made good use of the land first allotted.

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I consider that the following method of allocation of farms to settlers should be followed:—

All farms ready for allocation to settlers should be gazetted with a full description and applications from settlers invited. All applications received should be submitted to a Land Board (*vide* "Organization"), which will consider these in the light of recommendations made in this report, and recommend the allotment of the farms to applicants. Such recommendations should be referred to the Director of Land Settlement for endorsement and submission to the Executive Council for confirmation or other action. I recommend that all allocations made should be published in the Government gazette. I consider that the above procedure should be followed when any Crown land or Crown farms whatever are alienated.

There is in the Colony at present much land held by private individuals which in my opinion should be made available for settlement. I submit that this may be accomplished by the granting of facilities by the proposed Land Bank to enable settlers to purchase farms or subdivisions on extended terms of payment at low interest rates. Powers should be given to the proposed Land Bank to make advances up to 75 per cent of the value of the farm, such advances to be repaid on easy terms over twenty years, and repayments deferred for a period of two years to enable the settler to bring the farm to production. All applications made for advances of this kind should be submitted to a Board, and such advances made should be recommended by it and agreed to by the Manager of the proposed Land Bank. I am of the opinion that if such powers are given to the proposed Land Bank much land now held by speculators and farmers at present embarrassed financially will come into economic occupation and the production of the Colony materially increased. Assistance in the purchase of land from private owners should be granted by the proposed Land Bank only to those possessing such qualifications as are required of settlers to whom Crown lands are alienated.

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(11) *Organization.*

I consider that an efficient department must be constituted to make this closer settlement scheme work smoothly and gain the confidence of settlers, and recommend the following organization:—

- (a) Director of Land Settlement and staff.
- (b) Land Board.
- (c) Qualified Official and Honorary Committee in London.
- (d) Reception Officer at Mombasa.
- (e) Honorary Committees in local rural areas.
- (f) Training Farm Superintendent and staff.

Director of Land Settlement.—Such an officer should be an enthusiast and be intimately acquainted with the Colony and have practical knowledge of farming practice and stock-farming in all its branches. He should have an appreciation of the difficulties and pitfalls with which pioneer settlers have to cope and be able to meet difficulties submitted to him in a sympathetic manner. He should be responsible to the Government directly for the administration of this department and for the successful working of the settlement scheme. He will require a carefully chosen personal assistant. Whether or not this duty should be a whole-time one will depend upon the scale on which the Government proposes to carry out the scheme, but under no circumstances should this position be considered of secondary importance.

Land Board.—This Board should consist of five members and should meet periodically and when special business arises. Its function should be advisory, but no Crown lands should be alienated in any form excepting on its recommendation. To it should be submitted all applications from settlers for Crown lands and all matters regarding land settlement should be referred to it and receive its recommendation before action is taken. The majority of the personnel should consist of men having an intimate knowledge of land, land values and farming matters, and a sound financial man should be included. The Director of Lands' personal assistant could act as Clerk to this Board. I am of the opinion that the Director of Land Settlement should not be a member of the Board but should be able to call meetings of the Board when business arises and would attend meetings. This Board should be appointed by the Government.

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Reception Officer at Mombasa.—As the duties of this official will be intermittent and light, I suggest that a Harbour or Railway official might be detailed to carry out the necessary duties under arrangements with the Department concerned. Such an official would be acquainted with landing, customs and transportation practice and could be of great assistance to newly arrived settlers. He should be notified of the names and probable dates of arrival by the Director of Land Settlement.

Honorary Committees in Rural Areas of the Colony.—In order to assist the Director of Land Settlement, I suggest the appointment of local honorary committees in those districts of the Colony where settlers are sent for tuition and in which land is made available for settlement. The personnel should consist of experienced residents of the district whose advice can be relied upon. Their duties would be: the selection of farmers to whom settler-pupils could safely be sent, the reception and directing to their destination of new settler-pupils arriving, consultation with the Director in the selection of land, and negotiation with farmers for the reception of married settler-pupils. They could also act as intermediaries when differences arise between farmers and settler-pupils and could value and report upon land when settlers contemplate the purchase of privately owned farms. I feel that the establishment of such committees would avoid the appointment of officials to carry out district duties, at least until the volume of settlement work warrants such appointments. Great care should be taken that only such persons as will put the interests of the settler first should be selected, and this should be done by invitation of the Director of Land Settlement.

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(13) *General.*

From investigations made I feel that the present incidence of stock diseases and scab in the Colony are most inimical to comprehensive land settlement. At present the risk to those who invest money in stock of any kind is too great to induce stock farmers to settle here. It is true that native stock can be kept with some success, although the natural increase is small, but if the Colony is ever to export cattle or mutton sheep grading-up is essential and this cannot be done at present without undue risk. I consider that no land but that in clean areas should be alienated at present for mixed farming settlement. Looking at the matter from a practical standpoint, I

think that in order to prepare more land for settlers suitable large blocks of country should be ring-fenced and compulsory and universal dipping enforced within such areas. Effective stock movement restrictions should also be enforced so as to remove the danger of reinfection from tick-borne diseases. These areas could be increased as financial resources allowed and land is required for settlers.

As affecting settlement, I consider that greater facilities should be provided for boring for water. If these facilities were provided on easy terms of repayment much land now unavailable for settlement through lack of water could be made use of and graziers could make more economic use of the land which they now hold.

My observations teach me that from a grain-growing point of view Kenya Colony secures on the average better yields per acre than most countries where settlers can go. It should, however, be realized that grain farming alone depletes the fertility of the soil, even when chemical fertilizers are used, and the only sound type of farming is one which includes stock. It is therefore essential that the introduction of good stock and grading up of native stock be made economically possible over the Colony by the elimination of stock diseases. Only by these means can a sound practice in farming be established and successful land settlement fully realized.

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APPENDIX VII

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Lord Howard de Walden.

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