to tap the groundnut area. This might prove a possible East Coast outlet from the Rhodesias. There are of course not inconsiderable difficulties in providing such an outlet, including either crossing Lake Nyasa by a train ferry, or the provision of a railway round the head of Lake Nyasa which is known to be difficult and mountainous country. Amongst the advantages of such a connection with Rhodesia are that it would probably assist in the development of the north-east corner of Northern Rhodesia, and possibly of Nyasaland, and also provide an alternative outlet for that country.

The conversion of the railway from Mikindani towards the hinterland from metre to 3 ft. 6 in. gauge will be a much less costly method than the conversion which would be involved by a connection elsewhere in East Africa, and it should be possible, if this connection with the port of Mikindani were made, to economize considerably at Mikindani itself. As the position at present stands, the building of a small railway in this area is bound to be unduly expensive as it is completely detached from either of the main line systems. It will, therefore, necessitate the building of workshops, and expensive equipment, to keep the rolling stock, etc., in repair. If a connection were made with Rhodesia, many of these difficulties might disappear.

I have perhaps emphasized the connection to Mikindani, but very weighty arguments can also be advanced for the connection from the Rhodesias to be with the Central Line in Tanganyika. The whole question has been reviewed by His Majesty's Government and all the factors involved will receive the fullest consideration before any definite decision is taken.

These, then, are the major considerations for railway transport development in East Africa. They are of course, all hampered by reason of the fact that materials and equipment are difficult to obtain. Our first task is to get sufficient equipment for both the Kenya and Uganda and the Tanganyika sections to enable them to handle, without undue delay or without imposing heavy burdens on the users, all the traffic existing and potential which may be offering over the next few years. This is the aim that we have set ourselves and I am firmly convinced that as we have been able in the past to meet all the calls made upon us, so we shall be able in the future to meet all the development requirements of these East African territories. There will be difficult periods as there have been in the past. I can only plead for tolerance and consideration of those who make demands on the transport system. Given goodwill, I am sure that the East African Railways and Harbours can make a considerable contribution to these objectives and developments, not least in the improvement of the standard of living of the indigenous people, and in the provision of facilities which we of the West have been so used to, for the benefit of those who, in the past, have not shared so fully in the good things of this world.

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KIGEZI RESETTLEMENT[1]

By J. W. PURSEGLOVE

KIGEZI is one of the smallest districts in Uganda, tucked away in the south-western corner. It has a total area of approximately 2,000 sq. miles and with a present population of about 400,000 people. It was one of the last districts in Uganda to come under British rule and the present boundaries with the Belgian Congo and Ruanda were defined by the Anglo-German-Belgian Boundary Commission of 1911. The first Europeans to enter Kigezi were Emin Pasha and Stuhlmann in 1891 on the ill-fated expedition which ended with the murder of Emin Pasha. "Uncertainty as to how the boundary clauses of the Anglo-German Agreement of 1890 should be applied to topographical facts, which were only subsequently found to exist, left much of Kigezi 'in the air' for years" (1) and these were only settled in 1911. Civil administration began in 1912 with a political officer being stationed at Kumba, a Kivu Mission Post, situated at mile 13 on the present Kabale–Kisoro Road. The district headquarters were moved to their present site at Kabale in 1914.

Those of you who know Kigezi would, probably, agree with me that it would be difficult anywhere in the world to find such varied and beautiful types of scenery in so small an area as are there to be met with. Here are the volcanic peaks of the Birunga Range, the home of the gorilla; Mt. Muhavura (a local word meaning that which points the way), 13,547 ft. high and the third highest mountain in Uganda; the fertile lava plains and minor craters of Bufumbira in the south-west; the broken mountainous country round Kabale; the scattered lakes, of which Bunyoni and Mutanda are particularly beautiful; the forest-clad slopes of the Impenetrable Forest; those great gashes in the earth—the Ishasha and Mitano gorges; the rolling grasslands of Ruzumbura in the north; the dry Lake Edward plains, the home of much big game; and Lake Edward itself, 3,000 ft. above sea level. The rivers, south and east of Kabale, flow to Lake Victoria; the rest to Lake Edward.

The principal tribe is the Bakiga, a race of Bantu agriculturists, who now occupy the sazas (counties) of Ndorwa, Rukiga and much of Kinkizi. In Bufumbira are the Banyaruanda with a small element of Batutsi—an Hamitic cattle people—and a much larger element of Bahutu–Bantu agriculturists not dissimilar, but speaking a different language from the Bakiga. In Ruzumbura there are the Bahororo, similar to the Banyankole, with Bahima and Bairu, the last being Bantu and the cultivators. There are also a few Batwa—a semi-pygmy tribe in the western forest country.

During recent years there has been a great increase in the Bakiga population living in the mountainous country within a 12-mile radius of Kabale, with the result that much of this area is now overpopulated. Members of various Government departments had been aware of the problem, but the matter came to a head during the 1943 and 1944 droughts, when it became evident that the

[1] Lecture to the Uganda Society on 8th November 1949.

fertility of the soil of the area was deteriorating from constant use and that, during years of poor rainfall, yields were low compared with those of areas on similar soils and with similar rainfall which were not overpopulated.

At the end of 1944 I was sent to Kigezi to investigate this overpopulation and, if possible, find out what could be done about it. The first step was to examine carefully all the available population statistics to see if it was possible to ascertain how overpopulation had been brought about and, secondly, by making a careful quantitative survey of land use in the overpopulated areas, to find out exactly what was happening to the land. In the middle of Africa there is a serious lack of exact quantitative information and it is essential to obtain this before any scheme for future development of the African and his country can be satisfactorily worked out. It is easy to say, " I think so and so, therefore I *think* we must do so and so," but it is a more difficult matter to say, " I know so and so is happening, therefore we *must* do so and so."

Before passing to the methods used and the information obtained, the land tenure and agriculture of the Bakiga in the overpopulated areas should be examined a little more closely.

As I have stated earlier, the inhabitants of the overpopulated areas are the Bakiga, a Bantu agricultural tribe. The name Bakiga merely means hill people and probably originated as a nickname given by other tribes. As is typical of farmers the world over and more especially with hill peoples, they are a very independent and conservative people, often stubborn and highly suspicious of all new departures until they have seen them in operation and realized their superiority over the old methods. This is by no means an unusual and reprehensible trait in a farmer. Many visitors to Kigezi, seeing the soil conservation, believe that the local inhabitants must be extremely amenable, but I can assure you that this is far from the case, as their recent refusal to have anything done with their swamps plainly shows. As a people, however, they have the great merit that they are industrious and not afraid of hard work.

The Bakiga are thought to have come to Kigezi in fairly recent times from what is now Belgian Ruanda, being forced out of that county by the pressure of population and raids by the Batutsi. Wright in his mutala survey near Mpalo gives the dates of the arrival of the Abazigaba clan as 1860 and the Abasigi as 1885 (2). Another large clan of the Bakiga is Abahimba. The earliest remembered inhabitants of the area were a group of Hamitic pastoral Abashambo of Hima origin, who grazed their cattle on the hill-tops. In those days south-eastern Kigezi was part of the kingdom of Mpororo. The first immigrants accepted the overlordship of these cattle people, but when the Abasigi arrived in ever-increasing numbers from the Mulera area of Ruanda, their war-like pressure forced the Abashambo to move northwards into Ankole.

Immigration into Kigezi from Ruanda continued until 1943, when all further immigration was stopped. Bakiga still live in Ndorwa and Rukiga Sazas of Byumba District in northern Ruanda. This fact that the present overpopulated areas have only been cultivated for a comparatively short period has an important bearing on our present problem. During a recent visit to

Ruanda I got the impression that Ruanda had been cultivated for a much longer period than Kigezi, where soil fertility had been stored up through the ages. I have talked to one old man who remembers elephant and buffalo near the present district headquarters of Kabale. Major E. M. Jack, the Chief British Commissioner on the Anglo-German Boundary Commission of 1911, states that the country, now overpopulated, was in 1910 " generally rough and wild . . . thick grass, thick bush and forest with few signs of human occupation . . . and that the people were inclined to be truculent " (3), whereas he describes Bufumbira as " a delectable land . . . with short grass and well populated ". A sketch map made in 1912 by Capt. E. H. Reid (Suffolk Regt.) of the 4th K.A.R., shows the present central Ndorwa and Rukiga to be hilly country with many cultivated valleys.

It should be realized that before the British administration there was no tradition of chieftainship and that a clan system prevailed. With the advent of our administration, the Buganda model of government with saza, gombolola and miruka chiefs was installed. Baganda agents were brought in as the principal chiefs to teach the local people this form of government. They were replaced by Bakiga chiefs during the period 1927–30. These posts, not being hereditary, the senior chiefs have risen through merit and are men of considerable ability and authority.

The system of local councils with a majority of elected members was started in 1946, and these begin at the lowest level of the miruka and extend up to the district council. The district council can now make bye-laws for the good rule and government of the district under the provisions of the African Local Government Ordinance.

The present overpopulated area consists of four main ridges with summits of 7,000–8,500 ft. and three main valleys, the floors of which for the most part exceed 6,000 ft., and are usually papyrus-filled swamps. All run from south-east to north-west. The ridges are broken by short, steep-sided dip valleys, separated by fluted spurs of the Karagwe-Ankolean hills and with numerous subsidiary strike valleys. The narrower, higher valleys are usually dry.

Visitors to Kabale usually remark on the extreme greenness of the station and imagine that it has a high rainfall. This is not so. The average annual rainfall at Kabale is under 40 in. per year. There are two wet seasons—February to May and September to November—the principal dry season being June to August and with a lesser dry season in December and January. The annual rainfall shows wide fluctuation and since 1918, when the records were begun, has varied from 25·08 in. to 58·49 in. The rainfall, fortunately, is well distributed and storms of over 1 in. in 24 hours are rare. Thick morning mists are a characteristic of the climate and the average humidity at 8.30 a.m. is 91 per cent. The mean temperature is 61·3° F., but there is a wide daily range. The lowest temperature recorded is 40° F. and the highest 87·5° F. The low rainfall intensity has been a most important factor in preventing serious erosion.

The rocks of this mountainous overcrowded area are lake sediments of the Karagwe-Ankolean system of shales, phyllites, quartzites and sandstones. The softer members of this series of rocks have produced a deep fertile soil, little

subject to erosion, well supplied with bases and of good lasting power. This soil has one of the highest crumb structures recorded in Uganda, which would account for its permeability and resistance to erosion. I believe, however, that the present occupants are using up the accumulated fertility of long periods when the land was not cultivated.

The soils of the most heavily-cultivated hill slopes are deep reddish-brown loams, except on very steep slopes where the soils are thin with numerous rock outcrops and can only be used for rough grazing. The hill-top soils are thinner, often gravelly, and not so fertile, and the valley floors contain much grey clay.

The Bakiga tend to build their houses in the valley and on the lower slopes and cultivate up the hill. This gives an appearance of the country not being so thickly populated as in fact it is. Generally speaking, the richer the man the higher is the house up the hill, as he has more wives to carry water. In the past, before the present pressure of population, the lower slopes only were cultivated, but now cultivation has reached the summits of most of the ridges and much of the grazing land on the thinner soils has now come under the hoe.

The original system of land tenure, before British administration, was based on the principle that a man could hold as much land as he could cultivate and defend with the assistance of his clansmen. The original immigrants, who did not arrive in overwhelming force, sought first to create social bonds with the original occupiers so that they might help and protect them and their families and flocks from theft, witchcraft and raids. We, therefore, see the reason for the great emphasis placed on blood brotherhood and marriage as a means of obtaining land. If the immigrants arrive in sufficient force they can just take the land.

With settled administration this system became modified to the principle that a man can own as much as he can cultivate in a year, together with as much as he can prove is his resting land and cultivated by him previously. A time limit is eventually given to the period of rest. Although the land is now classified as Crown Land, there exists absolute security of tenure to the peasant cultivator and his heirs and he can loan, rent, will or sell his holding and such land becomes virtually freehold in the eyes of the African occupier. Any spare land is allocated by the chiefs. Usually in south-eastern Kigezi a man has several blocks of land, as he recognizes the different soils most suitable for his various crops. With the great increase in population, people have had to go farther and farther afield to get more land and this, together with the system of inheritance, has resulted in much fragmentation of holdings and plots may be long distances, up to 5 miles, from the homestead. All grazing land, either permanent pasture or resting land, is used communally but, of course, such land is becoming sadly diminished.

The Bakiga are a grain-eating people; sorghum (great millet) is the staple food and is also extensively used for brewing beer. Peas and beans form an important part of their diet, as do sweet potatoes, the cultivation of which is fairly recent. English potatoes became very popular but were almost completely wiped out by blight in 1942. Cultivation of this crop is now increasing again and there are substantial exports to Kampala. Finger millet is grown almost entirely as a famine reserve. Plantains do not do well in the Kabale areas. Up to four years ago there were no crops rich in oil, but sunflowers have now been introduced and, in the north, groundnuts.

Sorghum is usually planted in December and January and is harvested about July. All other crops are grown twice a year. The bulk of the work on food cultivation is done by the women, using a short-handled hoe, but men assist in all operations except weeding. They do most of the initial clearing. Kigezi hillsides are very steep and I cannot foresee any future for mechanical cultivation in the area. Cattle, sheep and goats are kept, but only in small numbers.

The two main sources of income were labour in the mines, roads, etc., and the sale of food. Coffee was tried on a large scale, but was unsuccessful. Nicotine tobacco is now the principal economic crop in Ndorwa and Rukiga and some 1½ million lb. of cured leaf are sold annually. The species grown is a variety of *Nicotiana rustica*, with a high nicotine content, about 7 per cent., and this is extracted locally. Flax is grown in Rukiga and the north of the district. Any surplus food, European potatoes and onions are also sold from the overpopulated areas.

Turning to the population statistics, in 1911, before the district was administered, the total population of Kigezi was given as 100,000, but this was only a guess. The 1921 census gave a total population of 206,090; the 1931—225,892; and the recent census of 1948—367,519. The last census figure may not be complete, but of this number 251,000 were Bakiga and 54 per cent. were females. Looking through the vital statistics collected by the Native Administration, we see that for the whole district the annual excess of births over deaths was about 5,000 in the early 1930's, increasing to 8,000 by 1943, with the drop during 1944 to 4,000 due to food shortage and outbreak of Shiga dysentery, and it has now risen to 12,000 in 1948. If these figures can be believed, they show an annual increase in 1948 of over 3 per cent. In 1948 the birth-rate was given at nearly 50 per 1,000 and the deaths at 10 per 1,000. These figures are for the district as a whole, but it should be remembered that the birth-rate is probably highest in the southern parts of the district, which are the over-populated areas.

Let us now look more specifically at the population statistics of the over-populated areas. Of the total population of the district nearly 34 per cent. live in the 234 square miles around Kabale, which in 1943 had a population density of 360 people per square mile, while one area had 718 people to the square mile. A study of the poll tax statistics showed a 60 per cent. increase in the number of tax payers in the overpopulated gombololas during the twelve years 1932–43. Of this increase, 34 per cent. was due to natural increase and 26 per cent. to immigration, mainly from Ruanda. This immigration was stopped, as I have already said, in 1943.

From a perusal of all the available figures, I conclude that the population of southern Kigezi will double itself in thirty years by natural increase alone. The same figure was arrived at independently by the Belgian authorities for part of Ruanda.

To what does one attribute this remarkable increase? The country is healthy, there is very little venereal disease or malaria, and people marry young. I had believed that polygamy was a factor, but it has been pointed out to me by several learned friends that among primitive peoples there is a higher birth-rate with monogamy than with polygamy. The Medical Department must, of course, be largely responsible, by reason of the control of epidemic and endemic diseases, improved health services, skilled midwifery and surgery and ante-natal clinics. But all departments must have contributed since every modern circumstance favours the high natural increase—the compulsory cessation of tribal and inter-tribal warfare, the prevention or mitigation of famine conditions, the control of insect pests and plant diseases, the beneficial variation in diet, the gradual improvement in housing, the introduction of law and order and settled conditions of life, and the abolition of many sinister old customs which in their day safeguarded tribal morality. In fact, the reasons are similar to those pointed out by Judge Mark Wilson as operating in the Kilimanjaro area of Tanganyika (4).

So much for the population statistics. Now let us look at land use. When I went to Kigezi to investigate the problem at the end of 1944, I had to devise some way of obtaining an accurate analysis of land use in the overpopulated areas. The method adopted is one which is, I think, new to agricultural survey and was based on the line transect of the plant ecologist which is the basis of the method of forest survey first used by the Germans. In the study of plant communities, one takes a line or transect and counts the number of different species of plants or trees which touch that line and so arrives at an estimate of the plant population as a whole. In my land-use survey, I took a line which cut across the main topography—which was north-east in the overpopulated areas—and made a linear measurement of every foot of land along that line, recording the slope of the land and the use to which the land was put—cultivated plots and what they were growing, resting land, grazing, tree plantations, house compounds and so on. Starting from the Buhara road, the traverses went in a straight line north-east to the Mbarara road. I did a number of these, 1½ miles apart—this was merely an arbitrary figure as I did not know what I would find. In all, 33 miles in the overpopulated areas were measured and 4 miles in areas not so densely populated. There was no difficulty in completing a 3-mile traverse in one day.

At every mile along the traverse I recorded the name of the owner of the plot or nearest plot and later visited all his plots wherever they might be and made a square measure of all plots cultivated and resting. This was not only a useful check on the traverse method, but also supplied some additional valuable information: and there was a surprisingly close correlation between land use obtained by the two methods. Thus taking the total land actually growing crops as 100, there was never as much as 1 per cent. difference between the percentage of the various crops obtained by two methods. A word of warning here is that the method would not be so easy to adopt in an area with thick bush, long grass and many perennial crops as it was in Kigezi with short grass and overpopulation.

It is inappropriate here to give the detailed results of my analyses—a summary can be found in the *East African Agricultural Journal* (5). A record of slopes showed that 63 per cent. of the land was on slopes of 0–15°, 17 per cent. on 15–20° and 20 per cent. on slopes of over 20°. Swamps or marshy ground occupied 9 per cent. of the total land surface. Fifty-six per cent. of the total land area, excluding swamps, was under cultivation at the time the traverses were done. This is a percentage of the total land, cultivable or uncultivable.

The most important result obtained, however, was the extent of resting land and how long this had been rested. (It was possible to make an accurate estimate of the length of the resting period by the plants that were growing on the resting land.) Thus, it was found that in every four plots only one was resting and the majority had been rested for only short periods. In fact, more than half the fallow land had been rested for six months or less. Now the whole crux of the problem as to whether the overpopulated areas could continue to support even the existing population is the period for which the land can be cultivated without causing serious soil deterioration, and the period for which the land must be rested to restore fertility before again being cultivated. I may say that crops were still giving fair yields despite overcultivation, and soil erosion was not as yet a serious problem. Nevertheless, cultivators were emphatic that overcultivation had resulted in a reduction in crop yields, particularly in years of low rainfall. It seemed to me, therefore, that the writing was already appearing on the wall—a warning that something had to be done. As has been pointed out by Jacks and Whyte—"The earlier stage of erosion is the loss of fertility. Whatever the cause of the loss, the result is invariably a corresponding loss in soil; the soil is deprived not only of its production power, but also of its capacity for remaining in place" (6).

The old method of shifting cultivation was no longer possible and, as Lord Hailey has said, "shifting cultivation is less a device of barbarism, than a concession to the character of the soil, which needs long periods for recovery and regeneration" (7). Also Vogt has pointed out that "overpopulation, which forces violation of sound principles of land use, makes rotational exploitation impossible" (8).

Obviously, with an increasing population, it would have been unwise to continue with a system of agriculture in which the resting period was very brief and sometimes non-existent, with the effects of soil deterioration and later erosion becoming cumulative. Unfortunately, there was no reliable information as to the period which land in the Kabale area could be cultivated without serious deterioration, nor the period for which it would be necessary to rest it—and we still do not know the complete answer, although experiments are now in progress to try to find this out.

However, it was decided that if one plot in three could be rested, that is, each plot would be cultivated for four years and rested for two years, this would be a great improvement on what was already happening. Furthermore, it was thought desirable that cultivation should not be done on slopes of over 20°. Having accurate information of land use and knowing the population of the area, it was possible by simple arithmetic to ascertain the number of people

who would have to move out of the congested areas to achieve this result, namely 20,000 people.

Let me, for a moment, return to the survey of the sample households. The size of the individual households varied from 2 to 45 persons. One old man had had 8 wives, of whom 5 were living, and 31 children who were alive at the time of the survey. The average number of residents per household was 14 and the ratio of taxpayers to total population was 1 : 6. The average number of wives per taxpayer was 1½ with a family of 4 children. The number per married person is higher as all taxpayers were not married.

The average acreage under cultivation was under 3 acres per taxpayer and under half an acre per resident person. Each taxpayer had (about) 1 cow and 5 sheep and goats.

How does this figure of under half an acre of cultivated arable land compare with other countries? In the United Kingdom the figure given by Vogt (8) is a quarter of an acre of arable land per person and the country is far from being self-supporting. Even so, the rate of population increase in England per 1,000 is only 2·2 and at this rate it will take over 300 years to double the population. In Kigezi it will take 30 years. In Greece the acreage of arable land per person is threequarters of an acre and the population will double itself in 60 years. France has one and threequarter acres of arable land per person and the population is nearly stationary. India's population is approaching 500,000,000 and is increasing at the rate of 14,000 per day. In the whole world three babies are born every two minutes, and there is every day in the world a net increase of 50,000 stomachs which have to be fed. So this problem of overpopulation is not confined to Kigezi.

When it was decided that some resettlement was necessary, a place had to be found to which to move the people. With Mr. Mathias (who was the District Commissioner and whose name will always be remembered in connection with Kigezi), and accompanied by the senior chiefs, I looked at possible areas for settlement in northern Kigezi and various parts of Ankole. The first essential was to find a large area of country with few, if any, inhabitants. It must have soil of reasonable fertility, be adequately watered, have a sufficient rainfall, have poles for building, be reasonably accessible, as near as possible to the overpopulated areas and, if possible, have people living nearby to provide food for the settlers. The Bakiga, being a hill tribe, prefer mountainous country and, of course, the newland had to be reasonably healthy, as the Bakiga have little immunity from malaria. Even of northern Kigezi, the Bakiga complained that "their old men do not live as long as our old men and their women do not bear as many healthy children as our wives". As you can see, we had to find 'a promised land', which, if not exactly flowing with milk and honey, had to have many points to recommend it.

The area eventually chosen was the country above the Lake Edward escarpment and the 4,000 ft. contour in Ruzumbura and Kinkizi counties of north Kigezi. Dr. James Hunter carried out a health survey of children at Kambuga near the proposed resettlement area and at Kyanamira in the overpopulated areas, which showed that the new area was reasonably healthy. The areas chosen had in the past supported a sparse population, which had been driven

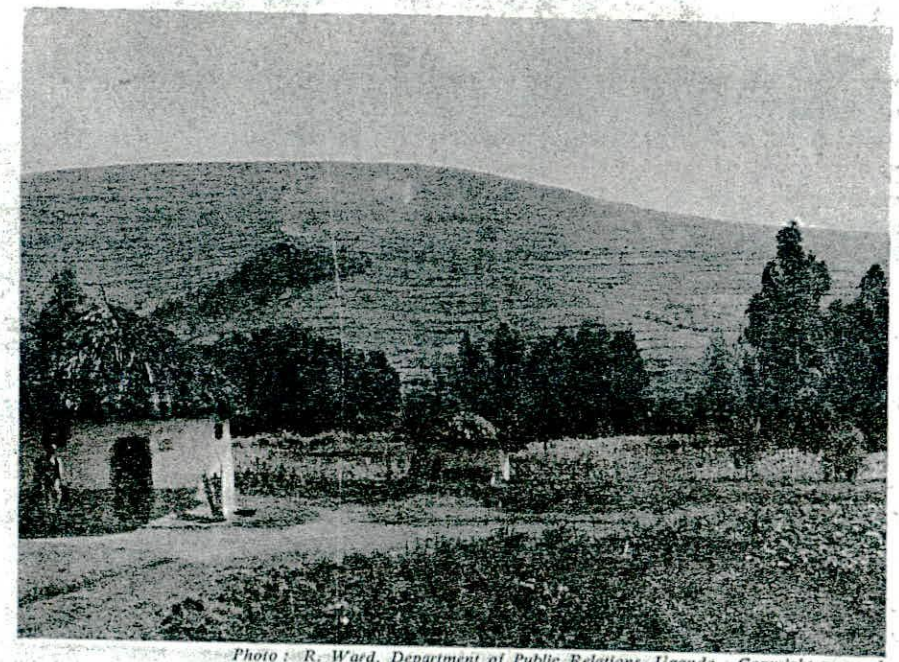

Photo: R. Ward, Department of Public Relations, Uganda. Copyright reserved.

FIG. 1

Overcultivated hill near Kabale (note the general treeless effect, all trees visible being recent plantings of eucalyptus: also the contour cultivation).

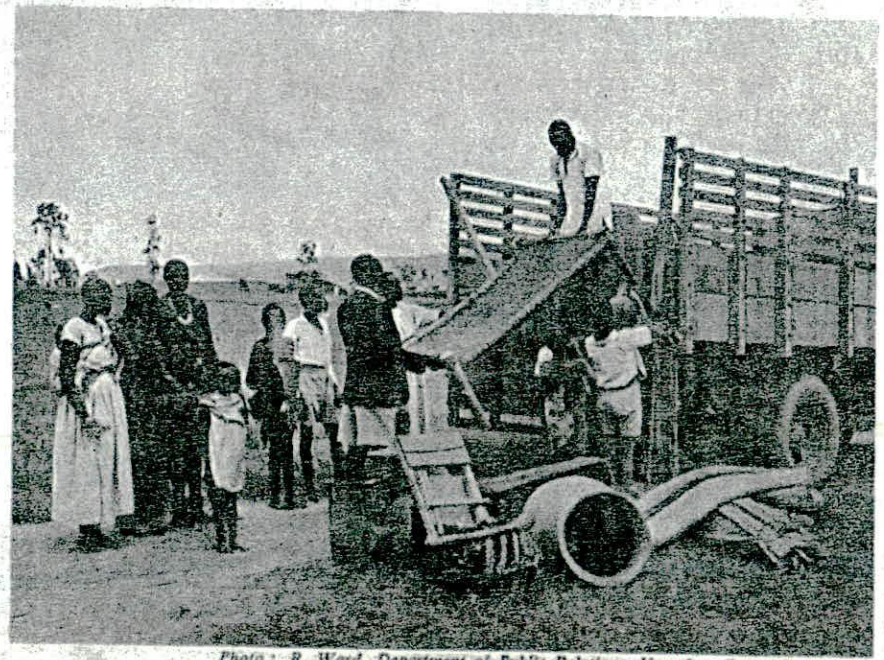

Photo: R. Ward, Department of Public Relations, Uganda. Copyright reserved.

FIG. 2

Settler's family packing to leave



Photo: R. Ward, Department of Public Relations, Uganda. Copyright reserved.

FIG. 3

En route for the 'promised land'.

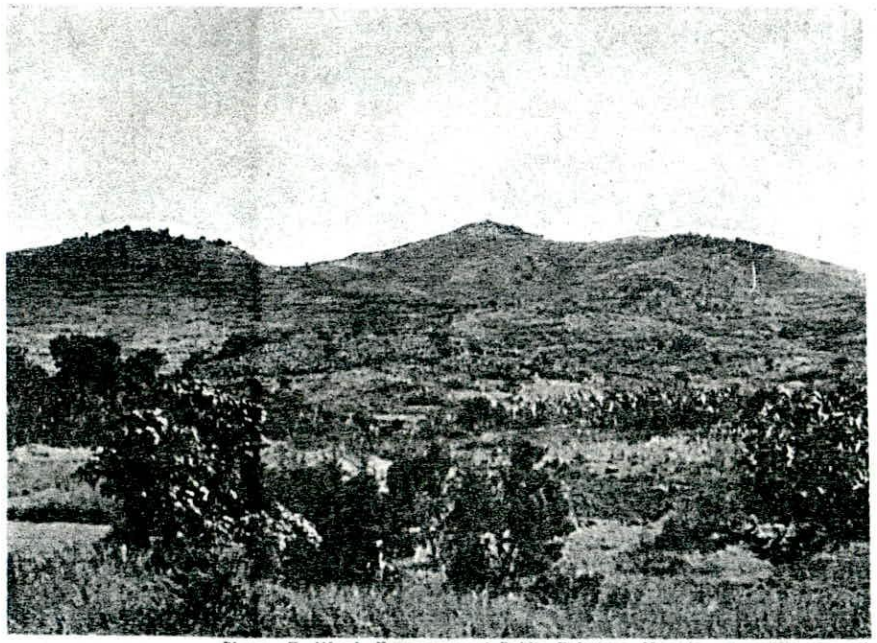

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FIG. 4

The goal (note the contour cultivation).

out by game and tsetse. Thus far had we progressed when I returned to Masaka in May 1945, only to be recalled to Kigezi seven months later to help to carry out the scheme.

One of the main difficulties was to persuade a conservative people, who were very suspicious about their land, and were tied to this land by sentiment, to seek a new home in a country which was hotter, less fertile, and less healthy and was, furthermore, renowned for its witchcraft. It should also be remembered that, for the time being, food supplies were still adequate in the overpopulated areas. Since it had been laid down that any movement must be voluntary, it will be realized that persuasion was no easy undertaking.

The District staff had for some time past been concentrating on intensive propaganda pointing out the evils of overpopulation and overcultivation. In the first place, since nothing could be achieved without the full co-operation of the senior chiefs, it was essential to convince them, and this took about eighteen months. Once these men, who, it will be remembered, have risen to their present position of authority by ability alone, were satisfied that resettlement was in the best interest of the district, their full co-operation was a most important factor in the successful working of the scheme. In fact, they were among the first people to take land in the new area. Fortunately, this new land was within the Kigezi District, otherwise administrative obstacles would have been added to the difficulties.

Many people, who knew Kigezi well, prophesied nothing but disaster for the whole scheme. Nevertheless, in April 1946, I escorted the first party of prospective settlers round the Promised Land. This first party consisted of 100 men who had volunteered to inspect the resettlement area, but without any obligation as to whether they would subsequently emigrate. They were accompanied by their chiefs. Lorry transport was provided to the new areas, an average distance of about 70 miles from Kabale. The party spent a week walking over the new country where they were housed in temporary grass huts, well fed, and buffalo meat was shot for them. The country was green after recent rain and looking at its best.

I shall always remember that first visit. The party arrived in pouring rain, but a good meal of *matoke*, beans, potatoes and buffalo meat awaited them. I must say they proved pretty temperamental and generally suspicious. Would they or would they not take land and at least give the Promised Land a trial? During the first few days very few of them agreed to do so. I remember sitting down with this party one night and telling them the story of the Pilgrim Fathers, saying that the early settlers called places in the new land after their old homes, such as New England and New York. Since that day our resettlement area has been known as 'Rukiga Ensya'—the new country of the Bakiga, a name given by the settlers themselves.

This, and subsequent, parties consisted of men who had insufficient land at their old homes and were a heterogeneous collection including old and influential men, demobilized soldiers, poor peasants and men of all ages. Most of the party were married men with families, the off-shoots of large families who had insufficient land for their numerous offspring. There was even doubt in the minds of the earlier parties as to whether the Government was

moving them in order to take over the land vacated near Kabale for white settlement.

Of my first party of 100 volunteers, 51 took land. Of my second party —these visits were always known as my Sunday School treats—the whole party of 125 took up land within four days of leaving their old homes. It was very exciting to go round and see knots in the grass, slashes on trees and poles marking the new boundaries of land which had been taken up.

In the early days of resettlement, prospective settlers were permitted to choose land wherever they liked in the resettlement area and no limitation of acreage was made, so as not to arouse their suspicions. People who took big pieces of land have since shared it with others. The African is, I believe, a good judge of his own soil, much of which is patchy and I did not interfere in his choice in this matter. Farms were not delimited prior to settlement as I feel that this would have stopped people taking up land. What was aimed at was that each settler with 1 wife and 4 children should have about 12 acres of cultivable land, thus allowing 3 acres for current cultivation, 3 acres of resting land and 6 acres for subsequent increase in family. This has been fairly well achieved. Any form of regimentation was avoided.

The aim in resettlement has been to alleviate genuine hardship resulting from emigration, but that the settler should not be spoon-fed. After all, everyone appreciates a thing much more if he has to work for it. In the early days settlers, having taken land, were brought back to their homes by lorry and then taken back by lorry to cultivate and plant their crops. They were housed in temporary camps and were fed. Seed was provided when necessary for planting. Game guards were posted to the area to control game and provide meat. Hoes were distributed to those who agreed to plant groundnuts or flax on the understanding that they would pay for the hoes from the proceeds of these crops. Weekly visits were made by medical orderlies to most areas. Temporary camps were built on the route between their old homes and the resettlement area so that when travelling on foot between the two there was somewhere to spend the nights on the journey. Bakiga miruka chiefs from the Kabale area were appointed to 'Rukiga Ensya'. Any person who settled permanently was exempted from poll tax for two years.

The early settlers took some of their chickens with them and I did not realize the purpose of these chickens at the time. Had I done so I should probably have been very worried. It is apparently a Bakiga custom that when a family moves it takes some chickens. If these flourish and increase then the place is considered satisfactory. Fortunately for us the chickens did flourish and when the settlers saw that their crops were going to yield well (fortunately we had good rains) they built their houses, went back to fetch their wives and families and they, together with their household effects, were taken out by lorry to the Promised Land.

Since then a very familiar sight on Kigezi roads is lorries laden with men, women and children of all ages and all the paraphernalia of the average Mukiga household, baskets and cooking pots, bundles of foodstuffs, grinding stones, beds, tables, chairs, dogs and fowls. Goats and sheep were taken on the hoof.

As soon as it was seen that the resettlement was going to be successful, roads were constructed, medical dressing posts and schools were built, springs were enclosed, baboons poisoned, and tree seedlings issued. Weekly hunts against pig were organized and the larger game was controlled by game guards, thus also providing a welcome change of diet. Good yields have been obtained from the first crops. Examples of outstanding produce, such as particularly big pumpkins or maize cobs, were sent back to the overpopulated areas for exhibition and to encourage further settlers. New crops have been introduced such as groundnuts, mosaic-resistant cassava, pigeon peas, cow peas and soya beans. Coffee seedlings have been issued and the first experimental crop of air-cured tobacco has given very promising results. The first aim was to make the settlers self-supporting in regard to food and then to grow additional food for feeding new settlers. The production of economic crops has now begun and fair quantities of groundnuts, sunflower, maize and European potatoes have already been exported from the area.

Three times since the scheme started, we have had to close down further settlement temporarily as it was found impossible to cope with ever-increasing numbers of new settlers who had to be fed. The money for the scheme has come from the Rural Welfare and Development vote and the cost has been just over £1 per head of people moved. The major item of expenditure has been lorry transport. As the scheme continued, increasing numbers went out on foot to take land. By the end of 1946, 1,500 people had moved out permanently, by the end of 1947 there were 6,000, which had increased to over 10,000 by the end of 1948 and 15,000 by the end of 1949. Most people have settled down happily and well.

It must not be thought that it has been entirely plain sailing. There have been the anxious moments. One week the saza clerk was bewitched and there were cases of cerebrospinal meningitis and anthrax which caused considerable alarm. Elephants and buffaloes proved very frightening to people who were only used to mice and rats. A serious outbreak of malaria at the beginning of this year among settlers who had put their houses too low down the escarpment near swamps, resulted in several deaths and a number of people returning to their old homes, had temporarily put a stop to further settlement as people were afraid to go out. However, due to the recent food shortage in the overpopulated areas, 5,000 new settlers have moved out during the past four months and once again we have had to put the brake on further settlement.

Cattle cannot be taken out on account of tsetse, but an experimental clearing of several thousand acres of grazing has now been made and the first cattle should be able to go out soon. One important aspect of resettlement should not be lost sight of and that is that the people who lived behind the present resettlement area can now live unmolested by game which has been pushed back and that the spread of tsetse fly in the area has been arrested. In addition to organized resettlement, many hundreds of people have also moved into Ankole and other areas.

The present resettlement area is now almost full and presents a picture of a settled community in an area which three years ago was merely the home of big game. It looks little different now from other settled areas of Kigezi and

sometimes it is difficult to realize the change that has taken place. The increase in population continues in the Kabale area, and already in some areas the natural increase in population during the past three years has more than counterbalanced the numbers who have gone out to the resettlement area.

Unfortunately, the Kigezi District Council, and even the more educated Bakiga, do not realize the great danger to their district of their ever-increasing population, which will result in deterioration of crop yields and soil fertility. They have persistently turned down organized settlement in eastern Igara of Ankole District, where the Ankole Native Government has offered a tract of suitable land adjacent to the present resettlement area in Kigezi. It is to be hoped that the Council will change their mind before it is too late and before irreparable damage has been done.

I realize all too well that this present resettlement can only be a palliative and that it may only be putting off the evil day. It has, however, given us a chance to put our house in order in some small measure in the breathing period provided.

It is, however, no use moving people out unless something is done to improve land utilization in the land from which they are moved. Thus a considerable effort has been made in soil conservation methods throughout the district. Courses for chiefs, agricultural staff and teachers have been held on our experimental farm, each lasting a week to ten days, when the theoretical and practical aspects of soil conservation were taught. I consider that these courses are largely responsible for the progress which has been made. Almost the whole of the cultivation in Kigezi has now been organized on strip cropping lines. The maximum width of the strips, which are continuous along the hills, is 16 yds., reduced to 12 yds. on steep slopes. Bunds, 3–4 ft. wide, of grass or rubbish protect the strips from erosion. In the overpopulated areas it is the aim to rest one strip in three and in some places this has now been achieved. When this is completed it will be possible to see at a glance whether further overpopulation is reducing the amount of resting land or strips. In less densely populated areas alternate strips are cultivated and rested. In some cases the strips continue for several miles and have quite altered the appearance of Kigezi's countryside. The resting strips are grazed and the next step is to sow them down with temporary leys, both grasses and clovers.

Once a permanent bund has been made, terracing will automatically follow by the mere fact that the soil is pulled down the hill during cultivation and by any soil wash. Already in many places the difference in height between adjacent strips is several feet.

Cattle paths have been closed and others have been protected against erosion; some have been fenced or live hedges planted. House compounds have been planted with grass. Permanent crops such as bananas and coffee have been adequately mulched. Contour lines of black wattle have been planted on permanent pasture. Manure is being used and the majority of cultivators in Kigezi now make compost. In fact, the Africans of Kigezi now have a new word for all this, 'Plani', or 'Plani Ensya' now covers all aspects of improved agriculture and the Resettlement Scheme, all of which are now included in a comprehensive plan for the district as a whole.

Meanwhile, on the Experimental Farm at Kachwekano, experiments are being carried out in an endeavour to increase production per acre by the introduction and improvement of food and economic crops, by manuring, by introduced temporary leys (incidentally, two grasses, *Bromus marginatus* and *Chloris gayana*, as well as wild white-clover, are giving very good results) and by improving the local livestock. In my view the best future for agriculture in Kigezi lies in successful mixed farming.

In conclusion I would remark that this whole question of overpopulation is not just a problem for Kigezi, nor even for Uganda, but is probably the most pressing problem in the world to-day and is at the root of most of the troubles and difficulties to be found in almost all countries to-day. Sir Douglas Harris has pointed out that the population of Uganda is likely to double itself in thirty-five years, by which time the whole area of the Protectorate will not be enough to support any further people on a peasant system of agriculture.

It is often claimed that a rising standard of living in Uganda generally will eventually limit population increases. I believe that in the early stages it will have the reverse effect. In any case it will take many years before it has any effect in Kigezi. It also presupposes additional land for the production of economic crops and this is just not available in Kigezi. Large-scale industrialization and urbanization is a possibility, but this, too, will take a long time and one wonders if the local inhabitants are suited to this type of life.

The Bakiga are an industrious people whose expansion deserves to be encouraged, both in their own interests and those of the general development of the Protectorate. Nevertheless it is certain that "the provision of more and more land for a rapidly increasing native population cannot go on indefinitely . . . other large-scale measures must be sought and found" (4). Therein, I think, lies the challenge of the time and the country in which we live.

Lord Boyd-Orr, Vogt (8), Fairfield Osborn (9) and others have painted a dismal picture of the human race rushing down the hill, like the Gadarene swine, to destruction in an overpopulated world with diminishing food reserves, to death and extinction by famine or the atomic bomb. Perhaps I am an optimist, but I believe that something can still be done. As was pointed out by Sir John Russell in his recent presidential address to the British Association: "Most countries could increase their food production considerably by applying known methods of improvement and raising the average performance to the level of the best. . . . The present limitations to food production—utilization of 7–10 per cent. only of the earth's surface; conversion by the animal of 10–20 per cent. only of its food into human food; the fixation by the plant of no more than 5 per cent. of the radiant energy it receives—these are all challenges to agricultural science, which its workers are vigorously taking up" (10). Thus I believe that men of science and goodwill can still do much to avert final disaster.

REFERENCES

(1) Thomas, H. B., and R. Scott. *Uganda* (1935).
(2) Wright, A. C. A. *Survey of Kitozho Mutala*, unpublished (1940).

(3) Jack, E. M. *On the Congo Frontier* (1914).
(4) Wilson, Judge Mark. *Report on the Arusha-Moshi Lands Commission*, Govt. Printer, Dar es Salaam (1947).
(5) Purseglove, J. W. 'Land Use in the Overpopulated Areas of Kabale, Kigezi District, Uganda', *E. Afr. Agric. Journ.* XII (1946), I.
(6) Jacks, G. V., and R. O. Whyte. *The Rape of the Earth* (1939).
(7) Hailey, Lord. *An African Survey* (1938).
(8) Vogt, W. *Road to Survival* (1949).
(9) Osborn, Fairfield. *Our Plundered Planet* (1948).
(10) Russell, Sir John. Presidential Address to the British Association, reported in *Nature*, 164 (1949), p. 379.

THE GROWTH AND EXPANSION OF BUGANDA

By A. H. Cox, C.M.G.

There have been four stages in the development of Buganda:

The Pre-Kintu Age

Before Kintu, a small part of modern Buganda was inhabited by several tribes of pure Bantu type. Five of the clans claim to date from this period. The real home of the earliest inhabitants seems to have been the Busiro–Mawokota area which no doubt included Kyadondo. There were people also living in Kyagwe. Chiefs existed and some of their names are known.

The Kintu Period

About the beginning of the fourteenth century (the date is purely a conjecture) an incursion of Hamites occurred who, like the Angoni, no doubt had their numbers added to by groups of non-Hamites who joined them on their journey. They are believed to have come from the north-east. They were probably nomads and wandered in search of pasture with a growing tendency to settle and merge with the local population and adopt their language and ways. According to Bishop Gorju, fourteen of the clans claim that they came with Kintu. Kintu had as his first Katikiro a member of one of the clans which accompanied him; as his second a member of one of the aboriginal or 'native' clans. Three holders of what are now Saza titles are recorded of this period: Mugema (Busiro), Kago (Kyadondo) and Kaima (Mawokota). The last named was what was then a 'foreigner'. As his name denotes he was a herdsman to the Kabaka and both he and Kago at this period may have been 'palace officials' rather than administrators. Busuju would have been settled or added to Buganda during this period. The Hamite rulers or overlords disappeared and a ruler of the Lugave, one of the aboriginal clans, seems to have become the most powerful man in the country.

The Present Dynasty till the end of Mutesa's Reign

The present dynasty was founded by Kimera. The usual story of a love affair between a Muganda prince and a Munyoro princess is told to link him with the previous rulers of the country. He came from Bunyoro with the assistance of individuals in Buganda, and Sebwana, the native ruler referred to above, fled to the Sese Islands before him. Kimera and his following may have been Bantu or Hamites or Nilotics or a mixture of any combination of these three races. They were probably a mixture and it is, I believe, modern thought to stress Nilotic origin. Certainly certain Kabakas have had Nilotic sounding names. According to Bishop Gorju seven of the clans claim that they accompanied Kimera.

In Kimera's reign five 'Saza' chiefs are recorded: Mugema (Busiro), Kago (Kyadondo), Mukwenda (Singo), Kasuju (Busuju) and Kangawo (Bulemezi). This would appear to indicate that Buganda was enlarged by the