

Nairobi's New Airport

INAUGURATION OF A £2.5m GATEWAY TO KENYA

FROM A. T. Pugh of "Flight" staff comes this first-hand report from Kenya about Embakasi Airport, opened last Sunday by the Governor, Sir Evelyn Baring. Regrettably the Queen Mother, who was to have performed the ceremony, could not do so owing to technical trouble which delayed her Qantas Super Constellation en route from Australia.

IT was a bitter disappointment to Kenya that the arrival of Her Majesty the Queen Mother at Embakasi should have had to be cancelled—owing to an engine failure en route from Australia—when the country waited *en fête* to greet her. In the event, with a ceremony for which so many had worked so hard, Nairobi's new airport was inaugurated on Sunday, March 9, by the Governor of Kenya, Sir Evelyn Baring.

For Kenya, Embakasi airport represents more than concrete and bitumen evidence of the country's stake, and firm belief, in civil aviation; it is a symbol also of economic resurrection from the dark days of an African rebellion that has been described by Sir Evelyn as "tantamount to civil war."

Few Europeans, it seems, appreciate the scale of the bloodshed in the colony. Over 12,000 of its inhabitants were killed (a figure quoted without distinction for colour or race, although the majority were, in fact, Mau Mau terrorists). The analogy of Embakasi airport rising from the ashes of rebellion comes to the mind when it is realized that the runway was almost entirely hand-built by large squads of Mau Mau undergoing "corrective" labour. And just as the achievement of a positive programme can supplant moral degeneration by firing the imagination (as was cynically indicated in the film *Bridge on the River Kwai*), so in Kenya many of the de-indoctrinated Mau Mau convicts asked to stay on—as convicts—until the task was completed.

It had originally been intended to open the airport before the "long rains" in August 1958. During these rains (there is also a short rainy season) the old international airport at Eastleigh can become unusable. Plans were drawn up in 1953, work started in January 1954, and by mid-1957 it was found possible to bring the operational date forward to mid-March 1958. An extra effort (still much in evidence two days before the opening) was made so that the airport could be opened by the Queen Mother.

The task was by no means straightforward, and many problems—largely of a civil engineering nature—had to be overcome before the runway could be built. The site chosen, on a great lava plain, is a pilot's and a controller's dream: eleven miles from the centre of Nairobi (the city's two other airports, Eastleigh and Nairobi West, are closer), its approaches are free from any obstruction for at least 17 miles in any direction. The nearest mountain ("high ground" would be a misnomer when Embakasi itself is 5,327ft a.m.s.l.) is 25 miles away, and 10 deg off the runway centre-line. Visibility rarely falls below this obstruction-distance in the clear air of the plains, and it may even be possible to see the summit of Mount Meru in Northern Tanganyika, about 140 miles away; both Kilimanjaro (115 n.m. away) and Mount Kenya can be clearly seen.

The runway is 10,000ft long between thresholds, and is sited roughly 06-24. Fortunately—because resources have been heavily strained to find the necessary £2,500,000 and assistance from the U.K. is still required—only one runway was needed, and the 06 approach will be used on 90 per cent of all occasions.

A basic strip 10,800ft long and 500ft wide was prepared for the 150ft-wide runway. There are 25ft shoulders each side; and consequently 150ft run-offs beyond the shoulders. After cambering, weak spots were reset, and finally paving machinery was used to lay the asphalt surface. The result is an engineering success of which the contractors are very proud; so accurate is the cambering that the wet surface of the runway dries out evenly each side of the centre-line. Physically, the great care taken in the engineering resulted in a load classification number of 100 being achieved, and the surface is capable of withstanding single wheel loads of 60,000 lb at tyre pressures of 200 lb/sq in. In bearing it is amply strong enough to accept Boeing 707s at gross weight, although 15,000ft rather than 10,000ft length is the probable all-weather length requirement. There is no physical limit to extending the paved length to this figure, but more definite plans for the operation of the big jets into Kenya would be required before such an increase was contemplated.

Kenyans were disappointed that the Queen Mother could not open the new airport at Embakasi, seen here with its typically fine visibility and clear approaches. The 10,000ft runway, with a L.C.N. of 100, is a big improvement on Eastleigh's 7,980ft-murram runway, which in the rainy months is unsuitable for Britannias. Embakasi is eleven miles E.S.E. of Nairobi; elevation 5,327ft and "mean max." temperature 78.7 deg F.

With this fine runway, and the natural advantages of good visibility, light winds and only very distant obstructions, landing aids can be of a simple nature. The existing *en route* beacon at Eastleigh will be preserved, and Embakasi is equipped with locator beacons, V.O.R., Murphy Mk 7 D.M.E., I.L.S., and two-channel Marconi V.D.F. The outer locator beacon, 3.9 n.m. from the threshold, is positioned in the Nairobi National Park, and is housed in a building that looks like a game ranger's hut. Installed in the briefing room in the terminal building is a weather radar receiver.

Installation of the aids presented quite a headache in the short time available and a flexible control system has been devised to be adaptable to all airport telecommunications. Special equipment could not be made available from the U.K. in time. Runway lighting is Calvert-type, made by G.E.C., with three bars on the 06 end only; there is a single bar for the 24 approach. In fact, very little night flying is scheduled in Kenya—of a recent sample of 700 flights out of Eastleigh, only 150 were made at night.

But the whole philosophy of Kenya's new airport is that it is built to cater for the expansion of air traffic that the colony is sure will come to East Africa. World traffic expansion and a steady traffic increase in Kenya points that way, and the colony was very anxious to avoid the under-estimates of Salisbury and Khartoum—let alone the more distant examples of London and Zurich and Idlewild and nearly everywhere else. So Kenya is one of the very few countries in the world that can boast a 1965-size airport with expansion capacity still in hand. Until June this year, the number of movements will not be greater than 600 a month, and after that, when all East African Airway's operations are centred at Embakasi, the number will still only be 1,000 a month. Even were Eastleigh to close as an R.A.F. airfield, only another 150 movements would be added. The peak capacity, on the other hand, is judged to be 20 movements an hour, and the maximum number of passengers about 1,200 per hour through airport buildings that have been designed for somewhere in the region of 300,000 passengers annually (with proportional daily peaks) by 1964.

The airport architect was strongly influenced by the design of Klöten, Zurich, in the planning and design of Embakasi, although similarities are by no means obvious. Both airports are arranged so that arrival passengers can see completely through the building; the minimum of signs is required. And although Embakasi has been designed to meet Nairobi's particular needs, both airports share a lightness and spaciousness that is extraordinarily refreshing. The fitting and colour schemes employed at Embakasi are absolutely first-class.

On each side of the Customs hall are some quadrangle gardens within the airport buildings. The smaller of these, adjacent to the arrivals channel, is intended to soothe nervous passengers. The garden on the other side of the hall has a pond stocked with golden carp and—so the story goes—small indigenous fish which appeared in rainwater pools during excavations for the runway.

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