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Last previous Paper.

32635/13

Military Camels in Jubaland.

Sends report by the Secy. Vets. Office.

Major Broghe.

Have you any observations
to make please?

Yours
15/11/14

Mr. Parkison

Under active service conditions it is
to be expected very difficult to observe
set rules as to choice of proper ground
& out of bounds, etc. - I presume that
the "Camel Corps Training Manual" 1913
is in possession of those officers
who have the handling of the camels
it contains much useful information on
animal management - From my experience
I am inclined to think that officers generally
overlook the fact that the camel is a delicate
animal & requires more look after than

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subsequent Paper.

32635

any other cause of burden - Para III
p. 10 seems very much to improve
I think the 19 should see the
the same thing again

JRS
18/11/14

S. G. Forbes

An interesting report - I think
that we shall find Mr.
Leese's report more than
justified. The 19 was
see the paper (S. G. Forbes) X

In the meantime it wd
(I think) be better to ask
if we can say that R/S reports
that Mr. Leese's recommendations
are receiving careful consid-
eration that by this time R/S trusts
that all necessary drugs
and appliances for treatment of
the sick camels have been
supplied -

Accd 17/11/14
and sent about the Manual
which has been through
and 18/11/14

I hope to send on the Report of Lord Bennett
etc in a few days. As it urges the further
investigation of various matters connected with the
transportation diseases of men & animals, it will
be well to note that the question of transport
is ~~of~~ of importance to us in the Northern
Frontier district of the S.A.P. The Report
shd be for the Trop. Diseases Bureau for
perusal & return.

H. J. R.
20/11/14

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Alouin
M. J. R.

GOVERNMENT HOUSE,

NAIROBI,

BRITISH EAST AFRICA

EAST AFRICA PROTECTORATE.

No. 256.

C. O. March 18th 1913

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Sir,

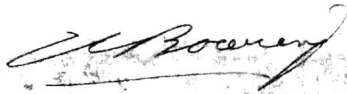
With reference to my despatch No. 240 of the 8th April 1913, I have the honour to transmit herewith a report by Mr. A. S. Leese, Veterinary Officer, on the military camels in Jubaland.

2. - A copy of the report has been sent to the Officer Commanding Troops and in accordance with Mr. Leese's recommendations a comprehensive dietary has been submitted to the Military authorities.

I have the honour to be,

Sir,

Your humble, obedient servant,



Deputy GOVERNOR.

THE RIGHT HONOURABLE

LEWIS HARCOURT, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES,

DOWNING STREET, LONDON, S.W.

PRELIMINARY REPORT ON MILITARY CAMELS IN JUBALAND.

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On 21st. June, 1913, I received your instructions to proceed to Kisumu, Gobwen and Serenli to investigate the causes of mortality and unfitness in camels and to do whatever was possible to bring about a more satisfactory situation as regards the Jubaland Camel Transport. I left Nairobi on 27th. June and arrived at Kisumu on 6th. July, and proceeded to Gobwen, where I had six days with the camels before catching the launch to Serenli, where I arrived on 27th. July. Whilst in Northern Jubaland, I made two safaris from Serenli (I) Southwards to Selaqli and back and (II) Northwards to Garba Hari and back by Lalashid. I also spent a considerable time at Karao, a well one day's march East of Serenli.

I am reporting chiefly about camel management because I consider that many of the conditions which are being met in the case of the camels particularly, but also of the horses and mules, and which is preventing the adoption of some of the measures most necessary for the maintenance of efficient camel transport

The Camel Corps. (Srv. K.A.R. Company.)

On my arrival in Jubaland, the Camel Corps of riding-camels, nearly all Arabs, consisted of thirty camels at Gobwen and about eighty at Serenli, or one hundred and ten in all.

During the six days stay at Gobwen on my way up-country, I was able to demonstrate that at least 30% of the animals there were affected with trypanosomiasis clinically indistinguishable from Indian Surra. This has undoubtedly been the most common cause of mortality in the past and from the evidence I was able to get in the few days I was there, I advised that Halwalood and Yonta should be placed "out of bounds" for camels. I also reported that I considered the

grazing-ground

grazing-ground among the sandhills healthy for camels, the only biting flies found there being Hippoboscæ and Lyperosia.

A warning was given to avoid routes or grazing near the river if infested either by Tsetse or by Tabanus.

Instructions were given for the segregation of the affected animals and also for segregation and treatment of mangle, from which many of the camels were suffering; and it was pointed out that a frequent change of boma was necessary as long as the latter disease continued. It was found also that much of the grain ration (consisting partly of maize) was being undigested and therefore wasted, and kibbling was advised. A few cows and calves belonging to the Corps were looking well; these animals were getting rations, which I consider are unnecessary for them excepting when grazing is not good.

Matters at Gobwen were left thus until a more exact investigation could be made on my return. It was gathered that insufficiency of men to look after the camels created a difficulty in the matter of segregation of diseased animals.

When I arrived at Serenli, I went at once to the boma to find out the extent of infection with trypanosomiasis among the Corps camels there and to this end made repeated examinations of the camels. Eventually satisfactory evidence was obtained that the number of camels then suffering from the disease was only ten, not a very heavy infection. Possibly in the previous months the extent of infection may have been greater than this. It is impossible to trace the source of infection as the camels had moved about so much, but it is highly probable that some of the cases were infected before they reached Serenli. It appears that the camels at Serenli had started 90 strong from Gobwen in September 1912 and most of these were re-mounts from Aden imported in June 1912. Twenty more camels were sent up from Gobwen in June 1913 and had only just arrived in Serenli when I arrived myself. Three out of the ten cases of trypanosomiasis were found among these.

Trypanosomiasis, although present, is not the chief cause of the mortality and unthriftiness in the Corps camels at Sereni; details supplied by the Commandant show that 25 camels had died out of 90 in the last year, and that the enormous mortality of about 50 per cent.

part of this death-rate is in my opinion, due to the unfavourable conditions to which the animals have been subjected since their arrival in Jubaland, which have resulted in loss of condition and exhaustion, with deaths chiefly from pneumonia, lung-abscess, and enteritis consequent thereon. These unfavourable conditions may be listed thus :-

- (I) Remounts started North for hard work before they had picked up condition lost owing to the changed circumstances, particularly of grazing, under which they found themselves on arrival in the Protectorate.
- (II) A number of remounts have been worked hard at extremely immature ages. It must be remembered that these camels often carry well over 200 lbs. weight on the right of the rider.
- (III) Patrol work has been practically all of service, when the needs of the animals are not considered on safari as under ordinary conditions.
- (IV) Apathy concerning their animals on the part of the Commandant.
- (V) Working the camels hard through the hot season.
- (VI) Frequently, when not under the Commandant's direct supervision, working on safari at unsuitable hours.
- (VII) Grain ration insufficient in quantity, given uncrushed and therefore largely undigested, generally badly weevilled, and this is not only detrimental in itself, but means that the weight of grain given does not represent anything like its value in sound grain.
- (VIII) Absence of veterinary advice and of sick feed. The detection and reporting of sickness also left much to be desired.
- (IX) Frequency of sore-back owing to defective pattern of saddle cushions.

The eighty camels when I first saw them were mostly very poor in condition. Besides the few cases of trypanosomiasis a tiresome though rarely fatal contagious necrosis of the skin called "Gub" which I had frequently dealt with in the past where it is called "Joclak" had broken out. Mange had been successfully stamped out previous to my arrival. There were many sore backs, and some cases of extreme exhaustion, lameness, injury, filarissis ac., but for the most part the poor condition was found not to be due to disease.

The cases of trypanosomiasis were segregated, one only (which had a lung-abscess also) being destroyed at once. There were no appliances or drugs suitable for the special treatment of these cases and they had to be ordered. Mean-while the nine camels were rested until the 19th. November, when, none having died, they supplied, in the absence of more reliable mounts, the riding camels for a safari to Gobwen.

The "Gub" was treated by myself whenever I was not on safari, but at times had to be left to the "Gub" men. One "Gub" camel was destroyed in my absence owing to the number of lesions and wretched condition, and one other because it was old, weak and worthless apart from its "Gub" infection.

The remaining sick camels and all those subsequently sick were treated, with the exception of three old weak animals past their work, one with a lung-abscess and one with a sublemba abscess, these were destroyed. The other sick animals recovered, with the exception of one slightly lame, which is recommended for slow work, i.e. to make a baggage of.

Of the eighty animals, eleven were found to be under the age of 5, five of them only being 4 years old. These were set apart as unfit for hard work until the second pair of permanent incisors are cut (rising 6 years old).

Instructions regarding the prevention of trypanosomiasis mange, and "Gub" were given, also on "first aid" and ageing.

Fly surveys were made from Selagli in the South to

to Lalashid and Garba-hari (the present Northernmost outposts) over routes most frequently used, and warning given against certain camps and grazing grounds infested by dangerous flies.

When I saw the Corps on 24th August 1918 there had been a vast improvement in the animals' condition and it appeared as though a few weeks of rest and good grazing would make them fit. On my advice they were taken beyond Dae to graze, provided this was safe from a military standpoint and they are there now.

The following recommendations regarding management of riding-camels have mostly been made either verbally or in rough notes to the officers concerned.

Recommendations re management of riding-camels.

Arab camels probably require about 6 months to acclimatise and get used to the grazing in the Protectorate before they are put to any regular work. No Arab camel is fit for hard work in the Protectorate until he has reached the age of "rising a year" (about 1 1/2 years) of the second pair of permanent incisors (teeth 1 and 2) and the purchasing from Arabia is therefore about 2 years (1st pair of permanent incisors fully grown; 2nd. or 3rd. pairs still milk-teeth) so that they will go through the period of acclimatisation without wasting time, and be ready for work at the right age.

I consider that for the work in Northern Jubaland, a provision of 25 % of camels beyond the ordinary strength required for patrols &c. should be made in order that the animals would be able to get a considerable rest-period every year during which they could go far afield for the best grazing grounds and remain undisturbed by requirements for safaris.

Every man should, I think, have his own camel and stick to it so as to take an interest in it. He ought to get into trouble for not reporting "eff-feed", sore wounds,

wounds, mange, &c. Grazing guards should report anything noticed wrong with any camel "off feed" &c. At present they are very bad at this. The corn ration is, at present, 5 lbs. I consider it should be 8 lbs. for Arab riding camels under E.A.P. conditions; at least when camels are at work or grazing between safaris. Millet and gram are the most suitable grains available, but I consider that for Northern Jubaland, millet is the best because it is obtainable locally and need not be stored so long. The gram and maize now in use are badly weevilled and of small feeding value. It is rather doubtful whether storing in pits in the ground will prevent weevil satisfactorily as the gram and maize are reported to be weevily before arrival. If sim-sim cake, cotton seed or maize are used with the millet or gram, I suggest that the ration should not consist of more than $\frac{1}{2}$ of any or all if these three foods; millet or gram should make up $\frac{2}{3}$ ths. Maize requires kibbling or the waste is very great; there is a shamba not far from Korti where this could be done. Crushed millet or gram is very desirable as much of the waste is indigestible, whole and undigested and therefore wasted. It is a great obstacle to carrying crushed corn on ordinary safaris; a crusher might be kept at Kerenji and Garbi-hari. When gram or millet must be given uncrushed, it is masticated far better if it is soaked just before giving, when water is available. Crushed grain should be given dry always. In the absence of salt-bush (i.e. Northern Jubaland) a daily ration of $\frac{1}{2}$ oz. crushed rock-salt is desirable for Arab camels when not on safari, (in which case they get enough in the water). This ration of salt may be given every third or fourth day (i.e. 2 $\frac{1}{2}$ to 3 ozs. respectively) preferably watering day, first thing in the morning - Gobwen camels get salt-bush and require no salt.

As a general rule, modified on occasions by the absence of

of moonlight, by unknown roads, or by military reasons, advantage should be taken where possible of the cool early hours of the morning to cover the greater part of the daily safari. For ordinary camel safaris, ~~the march should be~~ made to start from the camping place at say 2 a.m. or 3 a.m. 4 a.m. or if the days march is very short even 5 or 5.30 a.m. and go on for any time up to 4 or 5 hours according to the pace possible and the distance to be covered. Never march after 10.30 a.m. at the very latest; one should aim at arriving at the midday halt before 8.30 or 9.30 if possible. When the days journey is very long and has to be done in two marches, the second march should be begun at 3 to 4 p.m. in the cool season or 4. to 5 p.m. in the hot season. The average daily distance for fit riding camels on safari (to be followed by a good rest before the next safari) is about 30 miles; in Northern Jubaland much time is lost by having to walk over long distances of rough stony road or uncut tracks, greatly decreasing the comparative efficiency of the riding camel. The length of each day's march ~~is largely governed by the~~ be governed by the distance from water; ~~increasing the~~ daily distances does not hurt the camel, provided the safari is kept down to an average of 30 miles a day. If the camels are not fit, and the daily average should be about 15 miles only. In this monotonous scrub country there is a tendency to go too fast, and to do the necessary long days marches without compensating short ones, (when water is available) in the absence of the Commandant.

Of course all the remarks apply to ordinary safaris, not to patrols &c. where the camel's interests take a second place.

Watering.

I would train the camels to go four days without water, i.e. to be watered very sparingly, in the dry season. This training should be begun when the camels are at rest and when the grazing is ~~at its~~ **quite best** (after the rains). It should not be attempted until the camels are fit. Thin or sick camels require watering as often as possible up to once daily.

Very long marches may make more frequent watering advisable.

The Bikanir saddle now in use is not fitted to the camels, and the frequency of sore-back is due to the position used between the saddle and the back. Practically all the sores are on the top of the spine in front of the hump; the cushion is pressed down over this part by the saddle, where no pressure whatever should come. Instead of the two cushions placed across the spine fore and aft, what is required is either one long cushion splitting into two parts in front of the hump, attachable to the saddle itself, so as to leave the top of the spine open and free from any pressure, or the saddle should be upholstered to fit the camel. Unfortunately not much progress has been made in altering this cushion arrangement owing to the absence of available skilled workmen. I think it is urgent, the most common cause of temporary non-efficiency being sore-back, whilst, once the hair has been destroyed in a former year on the top of the spine, the part is left more vulnerable than before.

A qualified Veterinary Attendant is badly wanted at Serenli. He must be practically acquainted with camels and with trypanosomiasis. I know of at least two good Indian Veterinary Graduates who would be capable of doing the work well; the average Indian graduate would not be of much use having no knowledge of camels. The prevention of disease and the proper management of the animals should be his first objects; the cure, secondary. I think it was a pity that veterinary advice was ever allowed to be wanting where so many animals are kept. Beyond the treatment of mange, which was efficient, Arab camels being easy to cure of this disease, the camels had nothing worth calling veterinary treatment.

Feed for sick animals was not available and every patient had to be sent out to graze. A supply of linseed, flour and gar is desirable to assist sick camels to keep up

their

their strength; no fodder crop is easily available at Serenli except karhi which is unwholesome for the sick, and where-ever possible, camels unfit to go out to graze should be hand-fed from branches of trees brought in to them, and it is therefore often an advantage for some trees to be brought in to Serenli which is on the river where such trees are more numerous than in the scrub. The camelmen had no idea of "nursing" a patient by hand-feeding, which is such a successful measure with camels.

Other note on "Gobwen" camels.

The camels that were left in Gobwen have just arrived in Serenli leaving only the unfit and the cases of trypanosomiasis found by me in July. Fifteen animals have been sent up; I have so far only inspected them once as I have not been well the last few days; they consist of seven camels under five years old and eight of "rising 6" upwards; the former were purchased in Aden when only from 2½ to 3½ years of age, although they are entered on their "Veterinary" sheets as 6 and 6½. They were bought by in May 1912; it appears as though their milk teeth had been mistaken for permanent teeth and I think that the look of the camel teeth would have been used to indicate its babyhood. Only three out of the fifteen were fit for patrol. One of the remainder has trypanosomiasis.

Camelers (Transport camels)

I examined these when ever opportunity afforded at or about Serenli. The numbers fluctuate greatly but there always seems to be a shortage for the work required. During my stay at Serenli many new purchases were made, sometimes against my advice because of shortage of animals. The camels were nearly all bred locally (in Jubaland) and a great proportion are geldings. The percentage of mortality is hard to arrive at but seems to be enormous. On my arrival, there were about 200 camelers working with Serenli as base. I found that two weeks before, the medical officer had been examining the blood of some sick camels and had found trypanosomes in eight cases. Subsequently I found opportunities to examine the animals repeatedly

repeatedly for trypanosomiasis and diagnosed 56 more (to date) making a total of 64 cases of trypanosomiasis. This disease is the principal cause of the enormous mortality amongst the camels here. The disease is caused by the bite of the tsetse fly, a pest of considerable influence, resulting in loss of life or debility among the camels.

I. Many camels of only three years of age have been working hard in the transport and very many at four years. These animals are quite unfit for military transport and hard work and soon get run down and generally die of pneumonia. No camel is fit for regular work here until "rising 6 years" i.e. when the second pair of incisors is out.

II. Absence of veterinary advice and attendant.

III. The number of camels kept seems generally to be considerably too small for the work required. The result is that the camels have too much safari and too little rest. There has been, in my opinion, a tendency to march too rapidly (i.e. to cover too much average daily distance) these camels depend entirely on what they pick up in the way of food and the distribution of their grazing hours by overmarching. This is a great loss of efficiency. Safaris have also frequently been made during the hot hours of the day and nothing is so exhausting to camels as marching under loads under a hot sun.

IV. I had an opportunity of seeing two of the Somali purchasing Agents for camels and the animals which they considered suitable for Government service; and if these may be taken as samples, I have no hesitation in saying that in the absence of veterinary advice the number of immature and diseased animals purchased must have been very great. Both men appeared to take it for granted that three year olds would be passed as seven year olds, and four year olds and eight year olds.

The camels with trypanosomiasis have been segregated, there being no appliances or drugs available for the specific treatment of this disease, they have been put to suitable work in segregation.

Several safaris have been composed entirely of tryps. camels, particularly in fly country, these camels being used to save the healthy ones until they gradually die out, which they are doing rapidly.

The young camels of immature age were picked out with a view to their abstention from all work until they out their second pair of permanent hoofs, but shortage of camels frequently interferes with this and it is to see these babies taken on safari. Sick camels other than tryps. cases have received my attention whenever it was possible. Advice on marching hours and daily distances has been given, after having myself covered the ordinary routes used and thus obtained first-hand knowledge of the conditions of safari. Fly-surveys have been made at the same time. Information re ageing and examination of camels for purchase have been given to the officer concerned. Recommendations concerning the management of the baggage fellows. Owing to the safaris along the river below Dakshin and to the shortage of camels however the mortality is likely to remain high until the advice given is acted upon.

Recommendations re management of Baggage.

A large increase in the number of camels is necessary to cope with the work. I think the establishment should provide one driver for every three camels at all times. As far as possible, the driver should stick to the same three camels, the awakening in him of some interest in his charges being the object aimed at. The high mortality in Gunda makes this difficult at present but if the other recommendations are carried out the mortality will be reduced to a reasonable percentage. He should at once report "off-feed", sores, wounds mange etc.. The non-reporting of sore back before it has become serious eventually results in laying up the case for months.

I have had many other cases brought in a disgusting state of neglect and non-reporting, partly due to the lack of men to look after the animals.

I do not advocate the giving up of a grain ration for these camels, as I think they will keep fit without it if marching and work are carried out reasonably, and camels are not pushed beyond the average distance given below when there is no necessity for haste.

I consider 15 miles the proper daily average for baggage-camels safaris here, to be followed by a rest when the camels get to their destination before the next safari. The hours suitable for marching will be otherwise the same as those for riding-camels, except that with the baggage-camels a 6 hour journey (i.e. the 15 miles) may be suitably completed in one stretch in the morning provided a sufficiently early start has been made.

It is well to repeat that when an ~~extra long~~ ~~extra~~ extra long march is necessary on some days, the whole safari should provide correspondingly short marches on other days (exact distances generally being regulated by water supplies) so as to make it average fifteen miles a day altogether. Newly arrived officers to whom the camel is an unknown quantity require a few guiding rules on the hours and distances allowable on camel-safaris. Irregularity in daily mileage does not matter if the average is not exceeded for the whole safari.

For working Somali camels, not getting grain, I think watering in the dry season should be every three days. Extra long marching, weakness sickness should entail more frequent watering.

No camel should be worked hard until it is "rising 6 years" i.e. 2nd pair of permanent incisors out.

Saddles and loads.

The saddles used are Herios or Somali grass-mat saddles and a few Arab saddles. The latter can hardly be called a saddle at all, as the wooden arches are made each in one piece and so cannot be fitted round the back of the camel. Its only advantage is lightness. Although the Herio is less often responsible for sore-back than the Arab saddle it is merely the best of the two evils in this connection. With hired attendants, I consider it is very hard to prevent sore-back from frequently occurring with the Herio; its worst feature is its great weight, the camel carrying 90 to 100 lbs. upwards before he is loaded. Loading is not by balance so that the two sticks are liable to be pulled to one side, causing a gail on one or other side of the top of the withers.

Saddling previous to loading also takes up much time with the Herio. The introduction of the Indian palan would give the camel an additional carrying power of 50 lbs. The present authorised load is 240 lbs; in my opinion, even if Herios are used, many of the camels, particularly the entire males, are quite up to a load of 300 lbs. ~~and are quite up to a load of 300 lbs.~~ daily distances.

In the past I consider the camels have been over-worked and under-loaded. The 240 lb. load seems to have been fixed up because it is more suitable for camels of Northern Somaliland but there are many very fine camels in Northern Jubaland. I suggest that the camels should be grouped in sections according to their carrying power; the entire males and well-boned geldings to carry 300 lbs. and the lighter geldings 240 lbs. Care must be taken not to over-estimate the weight-carrying power of bulky geldings with large humps but little bone.

A few Herios on safari are always useful as a shelter from the sun during the day; and a camel with galled loins can be worked in a Herio.

Saddles and loads.

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A few Herios on safari are always useful as a shelter from the sun during the day; and a camel with galled loins can be worked in a Herio.

On every safari there should be some-one, preferably the European Officer, who will see every camel as soon as it comes in from grazing in the evening, to detect sores or sore withers so that any such sores, if they occur, may be treated by one of the spares and quick healing may be assured.

Travelling by the river.

To be avoided whenever possible, particularly during the rains or within five to six weeks after. When really necessary, use the less valuable camels, march at night and graze in the desert. The dangerous flies are most active for a few hours after sunrise and before sunset. It is probable that below Selacli, travelling by the river-route is dangerous at any season.

Horses and Mules.

There are about a dozen of these at Serehli and Garbahi, all riding animals. I found them ungroomed, dirty and harbouring hundreds of lice and ticks; they urgently require special syces to look after them, and in my opinion also require a ration of good grass daily for 2 lbs. On safari, they do not always get their fill of grass because there are no special syces to look after them; the camel-syces &c. have plenty of work without looking after horses. Grass should be cut for them to eat at night on safari; a horse is not like a camel and requires a longer time to eat his fill, a fact which seems liable to be overlooked in case of one or two ponies travelling with large camel safaris. Ticks are a great nuisance to ponies up here and their removal takes up a good deal of the syce's time. Naturally with so few men, regular grooming of ponies is still not possible, but is very desirable. Stallions and mares are all mixed together.

Final matters.

A report on trypanosomiasis, on the distribution of biting-flies, and on other infective diseases and the preventive measures necessary, will follow later.

Animals should be examined for trypanosomiasis before purchase. The thermometer is used first and fevered animals are examined for trypanosomiasis.

Although this will not detect every case if only done on one day, it will prevent a good deal of loss.

(Signed)

A. S. LEASE.

Veterinary Officer.

ANY REPLY TO THIS COMMUNICATION
SHOULD BE ADDRESSED TO
THE DIRECTOR.

TROPICAL DISEASES BUREAU,

IMPERIAL INSTITUTE,

TELEPHONE NO.
7227, KINGSTON.

April 29th, 1914.

Sir,

I have the honour to return herewith the manuscript Report by Mr. A. S. Leese on the Military Camels in Tubaland, which was sent to me under cover of your letter of the 23rd April, No. 13505/1914, for perusal.

I have the honour to be,

Your obedient servant,



DIRECTOR.

The Under Secretary of State,
COLONIAL OFFICE.

INCLOSURE

In Despatch No. 258 of March 1949

PRIME MINISTER'S SECRETARIAT, NEW DELHI

297

On 1st June 1949, I received your instructions to proceed to Jubaland to inspect the camel transport and to make it possible to bring about a more satisfactory situation as regards the Jubaland camel transport. I left Nairobi on 27th June and arrived at Ismayu on 6th July, and proceeded to Goven, where I had 6 days with the camels before catching the launch to Seronli, where I arrived on 13th July. Whilst in northern Jubaland, I made two safaris from Seronli (i) southwards to Soligili and back and (ii) northwards to Arab Hariri and back by Soligili. I also spent a considerable time at Goven, as well as one day's safari east of Seronli. I am reporting briefly about camel management, because I consider that many of the suggestions made are urgent, and, in the case of the herders particularly, ~~the~~ lack of enough men and camels is preventing the adoption of some of the measures most necessary for the maintenance of a reliable camel transport.

On my arrival in Jubaland, the camel herds of northern Jubaland, nearly all Arabs, consisted of 1100 camels at Arab Hariri, 800 at Seronli, or 1100 in all.

During the six days stay at Goven on my way up-country, I was able to demonstrate that at least 50% of the animals there were affected with trypanosomiasis clinically indistinguishable from Indian Surra. This has undoubtedly been the most common cause of mortality in the past and from the evidence I was able to obtain the few days I was there, I advised that animals and routes should be placed "out of bounds" for camels. I also reported that I considered the plain - Seronli - Goven - the Sandhills healthy for camels. The only biting flies found there being Hippoboscids and Tsetse. A warning was given to avoid routes or grazing near the river if infested either by Tsetse or by Tabanus (Bl). Instructions were given

given for the segregation of the affected animals and also for segregation and treatment of manna, from which many of the camels were suffering; and it was pointed out that a frequent change of manna was necessary, as from the latter's previous condition, it was found also that manna was being eaten by the camels (the manna in the manse) was being much rotted and was very hard, and the kibbin was advised, a few cows and calves belonging to the Corps were looking well; these animals were getting rations, which I consider are unnecessary for them excepting when grazing is not good.

Matters at Sobwen were left thus until a more exact investigation could be made on my return. It was ascertained that insufficiency of men to look after the camels created a difficulty in the matter of segregation of diseased animals.

When I arrived in Sarenli, I made it my first business to find out the extent of infection with trypanosomiasis among the Corps camels there and to this end made repeated examinations of the camels. Eventually satisfactory evidence was obtained that the number of camels then suffering from this disease was only ten, not a very heavy infection. Possibly in this previous month the extent of infection may have been greater. It is not possible to trace the source of infection in the Corps camels at Sarenli so much but it is highly probable that most of the camels were infected before they reached Sarenli. It is known that the majority of camels had started 90 strong from Sobwen in September 1912 and most of the weaker mounts from Aden embarked in June 1912. Twenty more camels were sent up from Sobwen in June 1913 and had only just arrived in Sarenli when I arrived myself. 3 out of the 10 cases of trypanosomiasis were found among these.

Trypanosomiasis, although present, is not the chief cause of the mortality and unthriftiness in the Corps camels at Sarenli; details supplied by the Commandant show that 25 camels had died out of 90 in 9½ months, which works out at the enormous mortality of about 35% per annum. The greater part of this death-rate is, in my opinion, due to the unfavourable conditions to which the animals have been subjected since their arrival in Jubaland, which have resulted in loss of condition and emaciation, with deaths chiefly

chiefly from pneumonia, lung-abscess, and enteritis consequent thereon. These unfavourable conditions may be listed thus :-

(i) Remounts started north for hard work before they had picked up condition last year to the changed circumstances, particularly of grazing, under abnormal conditions, and the high temperature.

(ii) A number of remounts have been taken from an extremely immature age - It must be remembered that these camels often carry well over 200 lbs. besides the weight of the rider.

(iii) Patrol work beyond Jergali has been practically active service, and the needs of camels cannot always be studied on safari as under ordinary conditions.

(iv) Apathy concerning their animals on the part of the men.

(v) Working the camels hard during the ^{hot} season.

(vi) Frequently, when not under the direct supervision of the commanding officer, the camels are overworked.

(vii) Grain which is insufficient in quantity, given unclean and therefore unwholesome.

(viii) Inadequate attention to the health of the camels.

(viii) Absence of veterinary aid.

(ix) Detection and reporting of ailments.

(ix) Frequency of fore-back ewing, and other saddle gaffs.

The 80 camels when I first saw them were mostly very poor in condition. Besides the 10 cases of trypanosomiasis, a disease though rarely fatal sometimes necrotic of the skin called "Gub" which I had dealt with frequently in India where it is called "Joolak" had broken out. None had been successfully stamped out previous to my arrival. There were many sore backs, and some cases of extreme emaciation, lassitude, injury, filariasis, &c., but for the most part the poor condition was found not to be due to disease.

The cases of trypanosomiasis were segregated, one only (which had a lung-abscess also) being destroyed at once. There were no appliances or drugs suitable for the special treatment of these cases and they had to be ordered, so while the 9 camels were being treated, the remaining, when, many having died, they remained, in the instance of more reliable mounts, the right camels for a safari to Sobwah.

The "Gub" was treated by me, but I was not on safari, but at times had to be left at the head-byce. The "Gub" camel was destroyed in my absence owing to the number of lesions and wretched condition, and one other because it was old, weak and worthless apart from its "Gub" infection.

The remaining sick camels and all these subsequently sick were treated, with the exception of three old weak animals past their work, one with lung-abscess and one with splenic abscess these were destroyed. The other sick camels recovered, with the exception of one which I saw, which is recommended for slow work, i.e., to be used for carrying loads.

Of the 60 camels, 11 were killed, 10 of these were used for meat, 2 of these only being a small amount of meat, and 1 unit for hard work used, the remaining 47 are out (rising 3 years old).

Instructions regarding the prevention of trypanosomiasis, manges, and "Gub" were given, also on "Fars" and "Gub". Fly surveys were made from Elwell in the north to Bahmid and Garbushari (the present northern out outposts) over routes most frequently used, and warning given against certain camps and grazing grounds infested by pest house flies.

When I saw the Corps on 24th November 1916 there had been a vast improvement in the animals condition and it appeared as though a few weeks of rest and good grazing would make them fit. On my advice they were taken beyond Hae to graze, provided this was safe from a military standpoint and they are there now.

The following recommendations regarding management of riding-camels

riding-camels have mostly been made either verbally or in rough notes to the officers concerned.

Accommodations re management of riding-camels.

Arab camels probably require about 6 months to acclimatise to the conditions of the desert before they are able to do any regular work. An Arab camel fit for hard work in the Corps will be has reached the age of "rain 6 years" denoted by the cutting of the second pair of permanent incisor teeth. A suitable age for purchasing from Arabia is therefore about 5 years (1st pair of permanent incisors fully grown; 2nd or 3rd pairs still milk-teeth) so that they will go through the period of acclimatization without wasting time, and be ready for work at the right age.

I consider that for the work in Northern Jubaland, a provision of 25% of camels beyond the ordinary strength required for patrols etc. should be made in order that the animals would be able to get a considerable rest during every year during which they would be far off for the best grazing grounds and remain healthy by acclimatization to the desert.

Every man should be provided with a camel and a pack for not reporting "off-foot".
-guards should report "off-foot" as follows:

("off-foot" etc). At present they are very poor.
The corn ration is, at present, 6 lbs. per camel. It should be 8 lbs. for Arab rain-camels, under I.A. F. conditions, at least when camels are at work or grazing between safaris. Millet and gram are the most suitable grains available, but I consider that for Northern Jubaland, millet is the best because it is obtainable locally and need not be stored so long. The gram and maize now in use are badly weevilled and of small feeding value. It is rather doubtful whether storing in pits in the ground will prevent weevil satisfactorily as the gram and maize are reported to be weevily before arrival. If sim-sim cake, cottonseed or maize are used with the millet or gram, I

suggest that the ration should not consist of more than 1/3 of any or all of these three foods; millet or gram should make up 1/3. Maize requires kibbling or the waste is very great; there is a shamba not far from Kante where this could be done.

Crushing the millet or gram is very desirable at much of the time in the highlands. It is desirable to have a crusher on the caravan. It is no real obstacle to the riding-camel on ordinary safaris; a crusher might be found at Seronoi and Karibu hari. When gram or millet must be fed uncrushed, it is masticated for better if it is soaked in water before giving. When water is available, the camel will eat it on dry always.

In the highlands of East Africa (Subalania) a daily ration of 400 lbs. of maize (which is a desirable for riding camels) does not do well. (In cases where it is soaked in water). This ration of 400 lbs. of maize is a daily ration. In the highlands of East Africa (Subalania) a daily ration of 400 lbs. of maize (which is a desirable for riding camels) does not do well. (In cases where it is soaked in water). This ration of 400 lbs. of maize is a daily ration.

... should be ... morning to ... ordinary ... from the ... march is ... time up to ... distance to be ... labor; one ... 3.30 or 3.45 if ... has to be ... at 3 to 4 p.m. ... season. The ... safari (to be ... is about 20 ... giving; to ... tracks, greatly ... riding-camel.) The length of each days march in this country

country must largely be governed by the distance from water; irregularity in the daily distances does not hurt the camel, provided the whole safari is kept down to an average of 20 miles a day. At present the camels are not fit, and the daily average should be about 15 miles only. In this monotonous scrub country there is a tendency to go too fast, and to do the necessary long days without making compensatory short ones, when water is available in the hands of the commandant.

Of course all the remarks apply to ordinary safaris, not to patrols where the camels themselves take a second place.

Veterinary.

I would train the camels to go 4 days without water, i.e. to water every 100 m. only, in the dry season. This training should be begun when the camels are at rest and when the grazing is at its best (after the rains). It should not be attempted until the camels are fit. Thin or sick camels require watering as often as possible up to once daily. Very few camels may make more frequent watering advisable.

Saddles.

The Likiep saddle is not a very good one, and the frequency of sore-back is due to the arrangement between the saddle and the back. Ordinarily the top of the spine is in front of the hump, and the weight is thrown down over this part by the saddle, where no pressure should come. Instead of the two cushions placed across the spine, fore and aft, what is required is either one long cushion splitting into two parts in front of the hump, attachable to the saddle itself, so as to leave the top of the spine open and free from any pressure, or the saddle should be unaltered to fit the camel. Unfortunately not much progress has been made in altering this cushion arrangement owing to the absence of available skilled workmen. I think it is urgent, the most common cause of temporary non-efficiency being sore-back, whilst, once the hair has been destroyed in a former scar on the top of the spine, the part is left more vulnerable than before.

Veterinary.

A qualified Veterinary attendant is badly wanted at Serehli. He
 can be practically guaranteed with a salary of 100/-
 per month. I think if we had a qualified Veterinary
 attendant we would be enabled to handle the camels better; the
 present method of treatment would not be of much use, having no
 knowledge of camels. The prevention of disease and the proper
 management of the animals should be his first objects; the cure,
 secondary. I think it was a pity that veterinary advice was
 ever allowed to be wanting where so many animals are kept.
 Beyond the treatment of mange, which was efficient, Arab camels
 being easy to cure of this disease, the camels had nothing worth
 calling veterinary treatment.

Feed for sick camels was not available and every patient had to be
 sent out to graze. I think it is desirable that a veterinary
 assistant should be appointed to Serehli; no fodder-crop
 is usually available there and the camels are very susceptible
 for it.

Camels

Camels were left at Serehli have just arrived in Serehli
 coming from Aden. They were the cause of trypanosomiasis
 spread by the 1st July. Fifteen camels have been sent up; I have
 so far only inspected six of them as I have not been well the last
 few days; they consist of seven camels under five years old and
 eight of "rising 6" upwards; the former were purchased in Aden
 when only from 2½ to 3½ years of age, although they are entered
 in their "Veterinary" sheets as 6 and 6½. They were bought in
 1912; it appears as though their milk teeth had been
 taken for arguments although one would think that the look
 of the camel itself would have been enough to indicate its

A qualified Veterinary attendant is badly wanted at Serenli. He
 must be practically acquainted with camels and with
 their diseases. I wish to see at least two such individuals
 recommended to the Government of India, and the Government
 should be made aware of their duties and the importance of
 the service. Indian or British would not do at all, having no
 knowledge of camels. The prevention of disease and the proper
 management of the animals should be his first objects; the cure,
 secondary. I think it was a pity that Veterinary advice was
 ever allowed to be wanting where so many animals are kept.
 Beyond the use of a large, well-ventilated, Arab camel
 being easy to cure of this disease, the camels need nothing worth
 calling Veterinary treatment.

Feed for sick camels was not available and every patient had to be
 sent out to graze. Supply of water, purified or is desirable
 to assist sick animals. No food-crop
 available except in the winter months. No food-crop
 available except in the winter months.

The animals were kept in a very bad state of health
 and it is to be regretted that it is not possible to
 keep them in a better state of health. The animals
 of a patient of some kind, and it is
 a measure with a view to

on "Robert" camels
 camels that were left in Serenli have just arrived in Serenli
 and are behind only 20 camels and the case of trypanosomiasis
 caused by the fly. Six camels have been sent up; I have
 so far only inspected two since as I have not been well the last
 few days; they consist of seven camels under five years old and
 eight of "rising 6" upwards; the former were purchased in Aden
 when only from 2½ to 3½ years of age, although they are entered
 in their "Veterinary" sheets as 6 and 6½; they were bought in
 1912; it appears as though their milk teeth had been
 taken for ornaments although one would think that the look
 of the camels itself would have been enough to indicate its

its babyhood. Only three out of the fifteen are fit for patrol. One of the remainder has trypanosomiasis.

(Transport camels)
 I received the camels of the transport party at Beronli. The camels are generally small but there may be a shortage for the work required. During my stay at Beronli many new purchases were made, sometimes against my advice because of shortage of animals. The camels were nearly all bred locally (in Jubaland) and a great proportion are geldings. The percentage of mortality is hard to arrive at but seems to be enormous. On my arrival, there were about 200 camels working with Beronli as base. I found that two weeks before, the medical officer had been examining the blood of some sick camels and had found trypanosomes in eight cases. Subsequently I found opportunities to examine the camels regularly for trypanosomiasis and diagnosed the disease (to date) in 100 out of 200 cases of trypanosomiasis. This disease is the principal cause of the enormous mortality among camels. For this reason, I found it difficult to get camels for transport. I lost a lot of camels in the transport and the camels are quite unfit for military transport and are soon run down and die generally of pneumonia. A camel is fit for regular work here until "rain 6 years" i.e. when the second pair of incisors is out.

- ii. Absence of veterinary advice and attention.
- iii. The number of camels kept is generally to be considerably less than for the work required. The result is that the camels have too much safari and too little rest. There has been, in my opinion, a tendency to march too rapidly (i.e. to cover too much average daily distance); these camels depend entirely on what they pick up to keep themselves alive, and the curbing of their grazing hours by overmarching is fatal to their efficiency. Safaris have also frequently been carried on into the hot hours of the day and nothing is so exhausting to camels as marching

marching under loads under a hot sun.

iv. I had an opportunity of seeing two of the Somali purchasing agents for camels and the animals which they considered suitable for Government service, and if these were so taken as samples, have no objection in being taken as such. The number of healthy animals purchased must have been very great. Both men appear to insist that 3 year olds would be passed as 7 year olds, and 4 year olds as 8 year olds.

The camels with trypanosomiasis have been segregated, there being no appliances or drugs available for the specific treatment of this disease, they have been put to work in segregation. Several safaris have been composed entirely of trypano camels, particularly in my country, these camels being used to save the healthy ones until they gradually die out, when they are going rapidly.

The young camels of last year were placed out with a view to their sustenance from all work until they had their permanent teeth. I have been interested in the babies taken off camels and have received my attention whenever it was possible. I have covered the ordinary routes used and thus obtained first-hand knowledge of the conditions of life. My surveys have been made at the same time. Information regarding and examination of camels for purchase have been given to the officer concerned. Recommendations concerning the management of the baggage folk going to the safaris along the river being lax, and to the shortage of camels however, the mortality is likely to remain until the advice given is acted upon.

Recommendations re management of Baggage.

A large increase in the number of camels is necessary to cope the work. I think the establishment should provide one driver every three camels at all times. As far as possible, the driv

should stick to the same three camels, the awakening in him of some interest in his charges being the object aimed at. The high mortality in camels makes this difficult at present but if the other recommended conditions are carried out the mortality will be reduced to a reasonable percentage. It should be avoided to send a camel on a long march towards a distant point, the non-reporting of a camel back before it has become serious frequently results in laying up the case for portulac. I have had many other cases brought in a disgusting state of neglect and non-reporting, partly due to the lack of men to look after the animals.

I do not advocate the giving of a grain ration to these camels, as I think they will keep fit without it if marching and work are carried out reasonably, and camels are not pushed beyond the average distance given below when there is no necessity for haste.

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I consider 15 miles the proper daily average for baggage-camel safaris here, to be followed as far as the camels get to their destination before the next safari. The hours available for marching will be otherwise sufficient for the average march for grain-camels, except that with the shorter marches (i.e. the 10 miles) marching should be commenced in the morning provided a sufficiently early start is made. It is as well to repeat that when an extra long march is necessary on some days, the whole safari should provide correspondingly short marches on other days (exact distances generally being regulated by water supplies) so as to make an average fifteen miles a day altogether. Newly arrived officers to whom the camel is an unknown quantity require a few useful rules on the hours and distances allowable on camel-safaris. Regularity in daily mileage is not essential, but the average is not exceeded for the whole safari.

For working Somali camels, not getting on, I think watering in the dry seasons should be every three days. Extra long marching, weakness or sickness should entail more frequent watering.

No camel should be worked hard until it is "rising 6" years
i.e. 2nd. pair of permanent incisors out.

The saddles used are made of wood, and are of the
the wooden arched saddle which cannot be
fitted and the pads are made of felt, its only
advantage is lightness. Although the herio is less often responsi-
-ble for sore-back than the Arab saddle it is merely the best of
the two evils in this connection. Its hired attendants, I
consider it is very hard to prevent sore-back from frequently
occurring with the herio; its worst feature is its great weight,
the camel carrying it will lean upwards before he is loaded.
Loading is not by balance, so that the two sticks are liable
to be pulled to one side, causing a gill on one or other side
of the camel's withers.

When a camel is loaded with the
herio, the weight of the pack is heavy and the camel
an additional weight is placed on the camel's back, the weight
of the pack is heavy and the camel's back is heavy and the camel
of the pack is heavy and the camel's back is heavy and the camel
conducted under pressure.

In the past frequently the camel is
rather underdone. It is now being to have
because it is the one suitable for camels of Northern Somaliland
but there are many very fine camels in Northern Jubaland. I
suspect that the camels should be grouped in sections according
to their carrying power; the entire herd well-boned geldings to
carry the heaviest loads of 24 lbs. We must be
taken not to overestimate the weight-carrying power of bulky
geldings with large heads but little bone.

A few herios on a safari are always useful as a shelter from
the sun during the day; and a camel with galled loins can be
worked in a herio.

On every safari there should be some one, preferably the European Officer, who will see every camel as soon as it comes in from grazing in the evening, to detect galled or sore, withers so that any such camel may be replaced at once by one of the sound and quiet travelling camels.

The dangerous times are usually before for a few hours after sunrise and before sunset. It is probably not below Selati, travelling by the river-route is dangerous at any season.

Ponies & Mules.

There are about a dozen of these in the area, all riding animals. A few are used as pack animals and harbouring hundreds of flies and ticks; they usually require special syces to look after them, and in very bad cases require a ration of grain (about 1 lb. a day) on safari. They do not always get their regular feeding because there are no special syces to look after them, and the pack animals have to be fed without their attention. They are usually used for a longer time to pack up the camp, and are often overlooked in case of one of the pack animals. In the usual safaris, there are a great number of ponies and their removal takes up a good deal of the syce's time. In all with no for men, regular working of ponies is still not possible, but is very desirable. Stallions and mares are all mixed together.

Ordinary matters.

A report on trypanosomiasis, on the distribution of biting flies, and on other infective diseases and the preventive measures necessary, will follow later.

Camele should be examined for trypanosomiasis before purchase. The thermometer is used for the fever, and the

(signed)

A. G. B. B.

Veterinary Officer.

Jan. 13503/1914
E.A.P.

23 APR
1914

Sir,

DRAFT.

I have the honour to
acknowledge the receipt of
your despatch, No. 256
of the 18th of March, and
to inform you that
forwarding a report

E.A.P.
No. 374
Sir A. H. C. Selby etc

MINUTE

- Mr. Harper 22/4/14
- Mr. Read 2/4/14
- Sir G. Fiddes.
- Sir H. Just.
- Sir J. Anderson.
- Lord Bunnott.
- Mr. Harcourt.

The ...
in ...

I assume that
the ...
are receiving careful
consideration, and I trust
that all necessary drafts
and appliances for the
P.S.O.

Treatment of sick camels
have been supplied.

3. It will be desired
to be informed whether
all officers who have the
handling of camels are
in possession of the
"Camel Corps Training
Manual, 1913" which
contains much useful
infoⁿ on animal
management.

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