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Monson 610

for Govr.

1914

25th June

MASAI RESERVE  
WATER SUPPLY

Last previous Paper.

4549

Trs Report by Mr G.K. Watts. Trusts that it will be agreed that excellent work is being done and that the potentialities of the Reserve are being substantially enhanced.

Mr J. Anderson.

Mr Watts has considerable experience of irrigation work in India where he was a member of the Indian P.W. Dept. & his work is, no doubt, sound. He must be about 60 by now. But if we can keep him in the Reserve for some time longer he will probably transform the place.

And say that Mr H. is fully agreed with the provisions that excellent work has been accomplished by Mr Watts & is a hand & that he will await with interest further

Dr. 702 eno 23 July 14  
Duplicate of above date 28 Aug 14.  
Stake map to Govt. Secy. Cms 12 Dec 16 by 64 16

Next subsequent Paper.

23623

further paper reports?

H. J. R.

21/7/14

Ch 17.14

21.7.14

This is remarkably good work

H. J. R.

26423  
GOVERNMENT HOUSE,  
NAIROBI  
BRITISH EAST AFRICA.

June 25th, 1914.



No. 310

SIR,

4  
39666  
Report

With reference to paragraph 29 of my despatch No. 312 of the 30th of October 1913, I have the honour to transmit herewith, for your information, a copy of a report by Mr. G. A. Atts on the improvements effected up to the present time in the water supply in the Masai Reserve.

2. I trust that you will agree with my view that excellent work has been accomplished and is in hand, and that the potentialities of the Reserve are being substantially enhanced by the provision of water facilities which will admit of the permanent occupation of extensive and attractive grazing areas, of which the Masai have hitherto been unable to make more than temporary use, owing to the absence of water in the dry season.

I have the honour to be,

Your humble, obedient servant,

W. J. Mousson  
W. J. Mousson

On instructions from the Governor.

THE RIGHT HONOURABLE  
LEWIS HARCOURT, P.C., M.P.,  
SECRETARY OF STATE FOR THE COLONIES,  
DOWNING STREET, LONDON, S.W.

INCLOSURE

48

In Despatch No. 20429 of June 25 1914

REC

JUL 14

THE WATER SUPPLY IN THE SOUTHERN MASAI RESERVE.

Report of Work Done by G.K. Watts,

Temporary Engineer, P.W.D. S.M.R. Water Supply.

---00:000:000---

In last July, according to His Excellency the Governor's orders, I handed in to him at Kaitong a short report of what I was doing in the Lemek Valley. This report, I regret, to say is with my Records in the Masai Reserve but there is a copy of it, I think in the Secretariat.

2. His Excellency has now called for a short report of the work which I have done since last July.

In the year 1913-14 I completed:

1st. The three Dams in the Lemek Valley.

2nd. The Dam at Bardamat.

The Drawings, Level, Books etc., of the Lemek Dams are in Masai Reserve - These Dams were completed in November 1913.

The Lemek Dam. A. The big Dam. This is 42 feet high in the highest part 10 feet wide in the narrowest part, and 178 feet long at the top. It is 250 feet wide at the bottom and five feet at the top. In order to store some water in the dry months during construction I closed the Ravine right across by means of stones, earth, and bags filled with clay, and built the Dam against the rising water. On several occasions the water went over the incomplete Dam, but did no damage that could not be repaired in a day. By August the Dam was well above the water level. In September and October the water level receded as there was no

rain, and the discharge from the spring dwindled day by day. The storage of the water in this Dam was a boon to the Masai as their cattle from distances of 7 to 10 miles used it, and no other water was available. Over 10,000 head of cattle, and I do not know how many sheep, watered at this Dam.

B. The Second and Third Dams. These were quite dry till early in November when heavy rain fell, and a great deal of water was stored in these, as well as in the big Dam. The Dams however did not fill to the Sill level of their Waste Weirs, until the end of December. I saw these Dams again on April 5th, and was surprised that the cattle had done them so little damage, as at none of these Dams are there caretakers or maintenance gangs. The water in the big Dam was flowing over the Waste Weir. The water level in the two other Dams was two feet below the Sills of the Waste Weirs. The Masai told me they had used the water in the Dams every day. The Chiefs in the Lemak Valley are Legalishu and Olyeli, of the Purka Tribe, which came down from Laikipia. I saw very little of these Chiefs, but I believe they consider the Dams a boon of the Masai "ranked file" I saw a great deal and they were very grateful for the Dams.

The Bardamat Dam. is situated 10 or 12 miles S.E. of the Lemak Valley and is on the edge of the Loita Plain, I reached there and commenced work in the middle of November 1913. Bardamat belongs to the El Damat Tribe and a portion of the Loita one. These tribes have always been in this part of the country. The Chief is called Ole Meripet, and I found him and his people very friendly. Bardamat is very dry, as there are only three or four small springs there, which had been so trodden in



by cattle that the flow had almost stopped when I went there. I opened up one spring and got a small supply of a good quality of water. This water I reserved for human consumption.

The Dam itself is 500 feet long and 17 feet high in the highest part. The whole of it is faced in front with dry stone pitching carefully handpacked. This kind of work the natives like and they do it very well after a little tuition. The greater part of the back of this Dam was turfed, but a length of 75 feet in the centre portion was covered with stone throughout. By the middle of December I had got the Dam high enough to store 2,000,000 gallons of water and I made a temporary Waste Weir to carry off the surplus water. I suspended operations from that time till February 12th, I then raised the Dam and strengthened the section, completing this work and the new Waste Weir by April 3rd, thus giving the Dam a storage capacity of over 6,000,000 gallons. In December water collected in the Dam, which did not dry up notwithstanding the very dry weather in January and February, and again in the latter part of March. The Masai Cattle watered at this Dam regularly. In addition to the local cattle those on the move from the Mara River to the N. Side of the Loita also watered there - as many animals as 10,000, or more, using the water in one day. The cattle on the move belong to the Puka Tribe. There are over 100,000 cubic feet of earth work in the Dam and 15,000 sq. feet of stone pitching varying in depth from 6 inches to one foot. Also 11,000 sq. feet of turfing. The number of men working averaged 100 per diem. I also had the A.B.Co., of Kijabe acting as Contractors for supplying Bealie Seal for the porters, and for working Wagons, Sledges, Dam

30000 and 40000. I never used more than 2 teams of oxen per diem on the construction of the Bardamat Dam.

3. The expenditure on the Dams I have made so far in the Masai Reserve, has not been finally made up, but on the 3 Dams in the Lemek Valley, the one at Bardamat and also on exploring expeditions about £3200 was spent in the Financial Year of 1912-13. This sum includes my salary of £720. From the 1st March 1913 till the 31st March 1914, I was employed on construction for 8 months for the remaining 8 either in travelling, or in or near Nairobi. I have no European or Asiatic Engineer, Foreman, or Clerk to help me as I agreed to do without such assistance.

4. The labour I used was chiefly recruited by the District Commissioner at Kisii. The porters were, in 1913, engaged on a three months' agreement on Rs.4/- the first month, Rs.4/50 the second, and Rs.5/- the third, with free food and one blanket. Of late the District Commissioner has engaged the men on a six months' agreement on Rs.6/- per mensem with the above allowances, and I am giving them an extra blanket at the end of 3 months, as the country is a cold one and blankets soon wear out when used continuously. The health of the men has been good, and there has, so far, been only one death viz., of that of a Wakikuyu who died in the Kericho Dispensary in April 1913.

5. For medical attendance the men are dependent on my Ex-Police Sergeant - a Soudanese - and myself.

The medicines are supplied by the Medical Department. The Masai men came for medical help and two Masai Moran were treated for severe wounds and recovered.

Most of the porters' food has had to be brought either from Lumbwa by carts and donkeys, or from Kijabe by carts. The mealie meal used has been very expensive viz., as a rule Rs. 7.50 per load of 50 lbs.

6. Early in April I left Bardamat, and went for two days marches to Ngoro-Gori which is on the border of the Loita Plain, and close to a branch of the Chiplunga Forest. Ngoro-Gori is celebrated for its grazing but suffers from want of water. In the way I repaired a small Dam (built by Mr. Catchpole near Lone Hill) which is fed by a good spring which I opened up further. This work took  $\frac{1}{2}$  a day. This is about the only Dam made by Mr. Catchpole which is worth repairing. From April 5th to April 24th 1914 I made 2 Dams at Ngoro-Gori. One Dam is 325 feet long and 9 feet high in the deepest part. Most of it is pitched with dry stone on the inside and turfed on the outside. The rains had not commenced when I left, and very little water had collected from the flow from the small stream above. Small as the quantity was however the Masai brought their cattle to drink it. The other Dam is 400 feet long and 20 feet deep in the deepest part, where it crosses the Ravine. There the Dam has a core of dry stone 30 feet wide at the bottom, and decreasing to 6 feet width at the high water level; and the Dam in this section is pitched within and without with stone. The remainder of this Dam has been pitched with stone in front and turfed behind. The quantities of the work done in both of these Dams I have not yet worked out. These Dams between them have approximately cost £347, which is debitable to the vote for 1914-15. The little water collected in both Dams proved a boon to the Masai, and enabled them to keep their herds at Ngoro-Gori before the grazing was exhausted.



7. On April 25th 1914 I left Ngore-Geri and reached the Penin River on April 29th. On May 1st I left my Camp on the Penin, having laid out the work for a new Dam there, and went into Nairobi after entraining at Kijabe. I met with heavy rain during 3 days' march into Kijabe. During my short absence 110 men under the Ex-Sergeant, the A.B. Company, with 5 teams of oxen, and Messrs Morgan and Sons of Setik with 3 teams will go on with the work.

After completing the Dam on the Penin Stream, if there is enough water in the water holes near Suswa, and if the Kedong River is running I propose to improve the supply at the water holes; and to dam the Kedong about five miles below the last European farm in that Valley, also to improve the supply at Kkobini. These works will take several months to do. When I have done it may be advisable for me to return to the Penin, enlarge the Dam and construct a Canal 10 or 20 miles long, so as to give water to the dry, but very valuable grazing land, on the spurs going down from the Mau Range towards the Kedong on one side and the Uasin Nyiro River on the other. This Project I very much doubt if I can do unless I have an Assistant Engineer to survey for me while I am employed on construction.

8. Another alternative is for me to go from the Kedong Valley to the Trans-Mara — repairing the Dams I have already made, on the way, as they will certainly require repairs. The Trans-Mara I visited in March with Mr. Hemsted, and we found the country near the German boundary to contain very valuable grazing, but it is at present very short of water. There, I shall be able to do work at a cheaper rate because cheap food can be

brought from the Ulundi Tribe, and the Kisii District where I get labour from is near at hand.

9. The net result of my work so far is that:

1. The Lamak Dams will protect 100 sq. miles.
2. The Bardamat " " " " 100 " " "
3. Catchpole's Dam which I repaired will protect 25 now, and 100 if I go back and enlarge it. This would not take more than a week at present Mr. Hemsted does not look upon this work as of first importance.

4. The Ngoro-Gori Dams 100 sq. miles.

The Total area protected is therefore 325 sq. miles. This means that an allowance of 6 acres per ox for grazing purposes 34,125 head of cattle can get water every day all the year round, or 150,000 sheep or more.

10. In designing the Dams and Waste Weirs I have had to work in the dark because, in the absence of accurate Maps, the size of the drainage areas is unknown. I have therefore had to guess the size of these Drainage Areas. If, therefore, they are larger than I believe them to be, and very heavy rain falls, the Waste Weir may prove too small, and the Dams may be breached. I have however arranged so that the catchwater drains may probably be breached first, and also that the Dams should be breached where they are not very deep. These precautions should greatly minimize the cost of repairs if breaches occur, and enlarging the Waste Weirs would not be expensive.

11. At present the cattle have to drink on the water perimeters of the Dams, as the policy is to make Dams as fast as possible so as to get the dry areas protected. Later on the Dams will be fenced, pumps will be fixed to

deliver water into drinking troughs which also have to be constructed. These measures will reserve the water being kept free from contamination.

12. By the end of June I hope to submit a Report with detailed drawings, calculation of quantities, and the cost of each work.

13. I attach a ~~map~~ to this Report.

May 8th, 1914.

*W* G. K. WATTS.

(c).  
*Not returned*

Gov. 26/29/1914 ... 56

Est.

23 July 1914.

Sir,

I have the honour to acknowledge  
the receipt of your despatch  
No. 610, of the 25<sup>th</sup> of June

~~and to inform you that~~  
forwarding a copy of a report  
by Mr. G. Watts on his  
work in connection with the  
water supply in the Masai  
Reserve.

2. I fully agree with  
your view that excellent  
work has been accomplished  
by Mr. Watts, and is in  
hand, and I shall  
await with interest the  
receipt of further progress reports

DRAFT.

Est.

No 702

For Sir H. Bedford

MINUTE.

Mr. Cooper 22/7/1914

Mr. Read 22

Sir G. Fisher.

Sir H. Just.

Sir J. Anderson.

Lord Emmott.

Mr. Harcourt.