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Mombasa Pipeline Board

*Report and Accounts
for
Financial Year Ending
30th June 1969*

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MOMBASA PIPELINE BOARD,
P.O. Box 30521,
NAIROBI, KENYA.
30th January 1970.

THE MINISTER FOR AGRICULTURE,
GOVERNMENT OF KENYA,
P.O. Box 30126,
NAIROBI.

Sir,

As required by Part IV, section 13 (4), of the Mombasa Pipeline Board Act No. 19 of 1957, I have the honour to submit the Report and Annual Accounts of the Board for the Financial Year ended 30th June 1969.

I have the honour to be,

Sir,

Your obedient servant,

V. G. MATTHEWS,

Chairman,

Mombasa Pipeline Board.

KENYA NATIONAL ASSEMBLY

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MOMBASA PIPELINE BOARD
REPORT AND ACCOUNTS FOR THE FINANCIAL YEAR
ENDED 30th JUNE 1969

Constitution of the Board

During the year under review, the Board was constituted as follows:—

Chairman

V. G. Matthews, Esq., C.M.G., O.B.E., B.Sc.

Vice-Chairman

Johnson Mweru, Esq.

Members

The Permanent Secretary Ministry of Agriculture, Government of Kenya.

The Permanent Secretary, Ministry of Works, Government of Uganda.

J. Musembi, Esq., East African Railways and Harbours Administration.

The Hon. Rockie Mchinga, M.P.

The Deputy Director (Agriculture), Ministry of Agriculture, Government of Kenya.

E. T. Mwamunga, Esq. (until 4th February 1969).

Councillor A. N. Mwidau, Mombasa Municipal Council (from 4th February 1969).

Councillor Isaac K. Ndirangu, Esq., Mombasa Municipal Council (until 4th February 1969).

P. Mwangola, Esq., Railway Corporation H.Q., Nairobi (from 4th February 1969).

Secretary

O. S. Cege, B.E. (Civil), D.I.C., Director of Water Development, Government of Kenya.

Systems Operated

It is gratifying to be able to report that during the year the pipelines from Mazeras to Kilifi and from the Mrere main pipeline to (a) Likoni and (b) Diani, both via Kaya Bombo came into operation. These installations were formally opened on the 5th March 1969 by the Permanent Secretary, Ministry of Agriculture in the absence of the Minister who was engaged on State matters elsewhere on that day. The opening of these new water supplies is likely to be the prelude to considerable development both along the South Mainland coast and in the area between Mazeras and Kilifi. The Mazeras/Kilifi pipeline has a capacity of 350,000 gallons per day while the flow capacity of the Mrere pipeline supplying the South Coast is 450,000 gallons per day. This latter pipeline proceeds to a reservoir of 250,000 gallons capacity on Kaya Bombo Hill and from there a branch pipeline proceeds north to Likoni and another south to Diani.

The installations being operated prior to these new additions are the Mzima/Mombasa pipeline with a capacity of 8 million gallons per diem, piping water to Mombasa by gravity flow from the Mzima Springs 140 miles to the north-west, the main Mrere pipeline with a capacity of some 2 million gallons per diem piping water 27 miles from the Shimba Hills to Mombasa via Changamwe and now to Likoni and Diani via Kaya Bombo and finally the North Mainland pipeline some 12 miles in length with a capacity of 775,000 gallons per day which taps the Mzima/Mombasa pipeline just below Mazeras and which supplies the mainland north of the Tudor Creek as far as Shimo-la-Tewa.

In addition to the pipelines listed above there are storage reservoirs serving the various systems. These are (a) a battery of three storage reservoirs at Mazeras on the Mzima system with a total capacity of 18 million gallons, (b) two storage tanks for the North Mainland system at Nguru Tatu with a combined capacity of 1 million gallons, (c) the recently added reservoir at Kaya Bombo with a capacity of quarter of a million gallons and finally three new reservoirs of 100,000 gallons capacity each, situated at Ribe, Kaloleni and Mikirani location serving the Mazeras/Kilifi system.

In addition to these storage reservoirs there are service reservoirs at Changamwe where the waters of the Mrere and Mzima systems meet and are mixed. As far as the Mombasa Water Supply is concerned this is the point at which the Board sells water in bulk to the Water Undertaker, i.e the Director of Water Development. In the case of the North-Mainland scheme the metering system is located below the Nguru Tatu reservoirs.

There are a number of minor water supplies from connexions along the Mzima/Mombasa and the Mrere pipelines which are operated by the Director of Water Development. These supplies are listed in the "Statement of Water Supplied" in the accounts at the end of this report. They operated satisfactorily and without incident throughout the year.

The Annual Report for 1967/68 referred to disappointing progress in the installation of supplies along the South Mainland coast area and to Kilifi and Sokoke on the North Mainland. As stated above however, strenuous efforts by all concerned and in particular the Water Development Department have resulted in the new supplies being completed and put into operation during the year under review. As far as the northern extension is concerned, it was decided to complete only phase I, i.e. from Mazeras to Kilifi as the economics of Phase II, viz. the further extension to Sokoke needed re-examination in the light of changed circumstances. The new supplies have been in operation since March 1969 and the Board's bulk pipelines are working satisfactorily. Unfortunately adequate distribution arrangements for the population centres en route are yet to be installed, particularly in respect of the Mazeras/Kilifi pipeline so that sales of water have been substantially below estimates. This has given the Board cause for serious concern and representations to have the unsatisfactory position rectified have been made.

The Mombasa Pipeline Board administers the projects herein described under the authority of the Mombasa Pipeline Board Act (No. 19 of 1957) which makes the Board responsible in the discharge of its functions to the Minister for the time being in charge of water. During the year under report this was the Minister of Agriculture.

The actual operation and maintenance of the systems is undertaken by the Director of the Water Development Division, Ministry of Agriculture, Government of Kenya, acting as the Board's specifically appointed agent. The fees for these services are calculated in accordance with an agreed formula.

The plan at Appendix I shows the layout of the systems operated by the Board.

Finance

(a) Capital Account

The capital at charge on the 1st July 1968 was K£5.334 million made up as follows:—

- (a) Mzima system—K£4.818 million.
- (b) Mrere system—K£47.235.
- (c) North Mainland system—K£179.922.
- (d) The South Mainland system and the Mazeras/Kilifi system—K£289.009.

The capital is wholly borrowed or loan capital, the creditors being the Government of Kenya for projects (a), (b) and (c) and the East African Railways and Harbours Corporations, Barclays Bank D.C.O., the National and Grindlays Bank and the Standard Bank in respect of project (a) only. The three Banks loaned as a consortium a total of £K1,350,000, the repayment of which is guaranteed by the Government of Kenya. This loan is covered by an issue of Registered Bonds. The loans and guarantee by the Government of Kenya are secured by a Debenture issued to the Government by the Board. The new South Mainland project and the Mazeras/Kilifi project have been financed partly by a loan made by the Israeli Government to the Kenya Government and re-lent to the Board, partly by a loan from the British Government and partly from the Board's own resources. The terms of the Israeli loan are interest at 6 per cent and a period of seven years. In recognition of the fact that seven years is an impossibly short life in respect of projects of this kind, the Government of Kenya extended the period to 25 years when on-lending to the Board. Even 25 years is a short period in relation to such projects and has had its effects in the charges which have necessarily had to be made to the consumers for the water from these new supplies. Of this 25-year term two years have been taken up in construction. Over this period the Board was required to pay interest, capitalization of interest in this period not being permitted. The loan is to be repaid over the remaining 23 years in equated instalments. The same terms apply to the British Government loan. The bulk charge for these new regimes is Sh. 7/50 per 1,000 gallons resulting in a charge of Sh. 9 per 1,000 gallons to the consumer.

The Mrere project and the North Mainland project were financed by loans from the Government of Kenya. These are being repaid by equated instalments of interest and capital, repayment having commenced in 1958 and 1962 respectively.

The loan of K£500,000 made to the Mzima/Mombasa project by the Railways and Harbours Administration (now the separate Railway Corporation and the Harbours Corporation) fell due for repayment on the 31st of December 1967. Fortunately the Administration has found it possible to extend the period of the loan from time to time and as matters now stand repayment was to have been required on the 31st December 1969. At the time of printing this report negotiations for a further extension are in progress and there seems some chance of

success. In view of the Board's other heavy capital repayment commitments, it will not be possible for the Board to repay this amount in the event of failure of the negotiations and in that event it will be necessary for the Government of Kenya to intervene as in the case of the £1 million Uganda loan which was repaid by the Government of Kenya and which then became a creditor of the Board to this further extent. This latter loan stands at 6 per cent and is repayable on 1st March 1975.

In respect of the Mzima system it is proposed that the final redemption of the balance of the loans then outstanding shall be effected in 1995 when the assumed 40-year life of the major asset expires. To cover the period between that year and the dates when the original loans fell due for repayment, the policy has been to negotiate renewal of the original loans. In this the Board has been so far successful in relation to the Banks' loan of £1,350,000 which fell due for repayment on the 1st July 1965 and the Railways and Harbours loan which originally fell due for repayment on 31st December 1967. Loans totalling £2,170,000 made by the Government of Kenya in respect of the Mzima/Mombasa project fell due for repayment partly on the 31st December 1968 and partly on the 1st January 1969. Negotiations for extension of these loans are in progress. In the meantime the loans continue to be held by the Board on the original terms.

The negotiations to renew the Banks' loan of £1,350,000 resulted in an agreement under which the Board is repaying the loan by ten annual equated instalments, commencing on the 1st July 1966, the interest rate being 7 per cent. These instalments amount to £192,150 each and as with the capital repayments on the Mrere, North Mainland and the new projects financed from the Israeli and British loans the instalments including the capital element are being financed from the Board's revenue. This inevitably results in a slowing down in the building up of the Reserve Fund which is in effect the Board's Sinking Fund. Conversely, of course, the Reserve Fund will be relieved of the necessity of finding the full capital cost of all the installations in 1995. The repayment to the Banks will be completed by the 1st July 1975.

(i) Capital repayments during the year were as follows:—

- (a) Mzima system—K£111,799.
- (b) Mrere system—K£2,841.
- (c) North Mainland system—K£6,184.

(ii) The Capital remaining at charge at the end of the year on the 30th June 1969, was £K5.285 million made up as follows:—

- (a) Mzima—K£4.706 million.
- (b) Mrere—K£44,394.
- (c) North Mainland—K£173,738.
- (d) New Construction (Mazeras/Kilifi and South Mainland installations) K£360,970.

(b) *Revenue*

The Board's recurrent revenue accrues mainly from the bulk sale of water. Conscious of the fact that high water charges can be inhibitive of development, it has always been the Board's policy to keep the water charges within its various regimes as low as possible. However, in common with every other similar organization in the world, the Board is under the constant pressure of rising costs and

it was therefore reluctantly compelled to raise the water charge from Sh. 4/10 per 1,000 gallons for Mombasa Island and District to Sh. 4/60 per 1,000 gallons and for North Mainland system from Sh. 4/50 per 1,000 gallons to Sh. 5. This change took effect from October 1968.

Below are set out the comparative figures of consumption and revenue for the year ended the 30th June 1968 and for that ended the 30th June 1969.

YEAR ENDED 30th JUNE 1968

MOMBASA AND DISTRICT		NORTH MAINLAND	
<i>Consumption</i> (million gallons)	<i>Revenue</i> K£	<i>Consumption</i> (million gallons)	<i>Revenue</i> K£
2,083	426,914	189	38,673

YEAR ENDED 30th JUNE 1969

MOMBASA AND DISTRICT		NORTH MAINLAND	
<i>Consumption</i> (million gallons)	<i>Revenue</i> K£	<i>Consumption</i> (million gallons)	<i>Revenue</i> K£
2,153	479,147	217	44,206

Thus for both these systems the year under report disclosed a significant increase in consumption over the previous year. The revenue increased more than *pro rata* to the increase in consumption in view of the increase in the bulk rate from Sh. 4/10 per 1,000 gallons to Sh. 4/60 with effect from October 1968.

The new South Mainland system and the Mazeras/Kilifi system came into operation during the course of the year. There can be no comparison therefore with any previous year. The actual consumption and revenue figures were:—

SOUTH MAINLAND

<i>Consumption</i> (gallons)	<i>Revenue</i> K£
20,221,000	7,583

MAZERAS—KILIFI

<i>Consumption</i> (gallons)	<i>Revenue</i> K£
4,907,100	1,840

These figures are substantially below prediction particularly in regard to the Mazeras/Kilifi section. The failure of consumption to come up to expectation results from a factor entirely outside the Board's control and one which no planner could have taken into account. This is the non-provision of adequate distribution reticulation to enable the Board's water to reach the consumer.

(c) *Expenditure*

The Board's outgoings fall under three headings:—

- (i) The service charges on and repayments of the outstanding capital loans.
- (ii) Fees paid to the Directorate of Water Development in respect of the operation and maintainance of the Board's installations.
- (iii) The costs of the Board and its staff.

These for the year under review totalled respectively:—

- (i) K£415,625.
- (ii) K£80,517.
- (iii) K£4,257.

The sum total of these three items is £500,399. Item (iii) Costs of the Board and its staff represented only 4/5ths of 1 per cent of the total. This must be regarded as a very small overhead considering the magnitude of the Board's installations and the complexity of the administrative problems involved.

(d) Financial Results for the Year.

The sum total of revenue from the bulk sale of water for the year was K£532,776. To this must be added certain miscellaneous revenue such as house rents (from the Board's buildings occupied near site, principally by staff of the Water Development Division) and interest on investments. These items totalled K£19,588 bringing the overall revenue to K£552,364. Consequently notwithstanding the repayment of capital to the amount of K£120,824 and the financing of capital works to the extent of K£90,140 the Board ended the year with a surplus on revenue account of K£51,968. This compares with a deficit on the same account in the preceding year of K£5,007. This surplus being carried to the Reserve Fund brings this to a total of K£307,933 as at 1st July 1969. The long-term function of the Reserve Fund is that of a Sinking Fund to permit the ultimate extinction of the outstanding loan debt. In the short term it represents to the Board the only sure source of finance in the case of emergency spending. It is essential therefore that this Fund be kept at a healthy level.

The surplus resulting from the 1968/69 operations represents a welcome addition to the Reserve Fund which now stands at a more satisfactory level. It will be seen from the accounts that this level is well below that required by an orthodox Sinking Fund exercise but long-term forecasts indicate reasonably firmly that by the early 1990's the theoretically required level will be achieved and thereafter substantially surpassed. In the meantime as already stated annual repayments of capital have been in progress from 1958. These repayments were augmented in 1962 and substantially augmented in 1965.

(e) Operations of the Systems

(i) The Mzima Pipeline

This pipeline is the major of two pipelines serving Mombasa, the other being the Mrere pipeline from the Shimba Hills. The Mzima pipeline consists of a 130-mile-long prestressed concrete gravity pipeline from the source at Mzima Springs in Tsavo National Park to Mazeras. Along this length of pipeline there are ten Break Pressure Tanks and the flow is controlled automatically by valves operating on the downstream control principle. The water is conducted from the Mazeras reservoirs to the service reservoirs at Changamwe by twin pipes. It is here sold by the Board in bulk to the Water Undertaker and reticulated to Mombasa. The maximum capacity of the pipeline in optimum conditions is eight million gallons per diem.

As was reported in the preceding annual report, a series of bursts in the pipeline gave serious cause for concern and a firm of consultants was appointed to examine the effectiveness of the Cathodic Protection System. The report of the consultants has been received and it would appear that the fear of widespread corrosion in the pipeline was unfounded. Nevertheless, it is the opinion of the consultants that the Cathodic Protection System is ineffective in protecting the pipeline and

moreover, it is unlikely to be effective in the conditions in which the pipeline is laid. It would appear that the bursts which had been so frequent in the preceding year had been occasioned by pre-existing weakness in individual pipes. The Water Development Division of the Ministry of Agriculture as the Board's agent is undertaking a pipe inspection at selected points to check the present position in this regard. In the meantime and in view of the expert opinion, expenditure on the rehabilitation of the Cathodic Protection System has been stopped.

The question of the ultimate supplementation of the present water supply to Mombasa by a source alternative to the Mzima Springs received further examination during the course of the year. A detailed water study was started together with a preliminary review of alternative water sources which included examination of the Pemba River in the Shimba Hills. At the time of writing this report further studies are in hand with a view to proving the potentiality of a dam on this river.

(ii) North Mainland Pipeline

This pipeline conveys Mzima water from the reservoirs at Mazeras to the mainland north of Mombasa, including the Nyali, Bamburi and Shimo-la-Tewa areas. From its source at Mazeras to the storage reservoirs at Nguu Tatu is a distance of 12 miles.

Reference was made last year to the anxiety occasioned by this pipeline in view of the unstable nature of the terrain through which it passes and the liability of frequent fractures to the line, particularly in monsoon conditions. The growing development in the area served by the pipeline, made it necessary for the Board to take measures to ensure that interruptions in supply should be minimized and if possible eliminated altogether. In the event it was decided to carry a pipeline over the Nyali Bridge to be supplied by the Mombasa Island mains. Although this device has been adopted to supply water to the affected area in an emergency the pipeline could also be used to supplement continuously the present supply when demand outruns the capacity of the present main pipeline. During the course of the year the pipe was in process of being laid across the Nyali Bridge and directly this work and that on installing the pump house on the Nyali side of the bridge is complete, the system will be ready for use. Completion is expected shortly.

(iii) The Mrere Pipeline

In the annual report for the year ended 30th June 1968 reference was made to the great importance which the Board attaches to the maintaining of the Mrere pipeline to a high degree of operational efficiency. The Board is conscious of the unavoidable vulnerability of the Mzima supply and its conducting system and therefore of the important role the Mrere system must play in any prolonged interruption of the Mzima supply. Moreover the Mrere System has now become the source of water supplying the whole of the South Mainland coast from Likoni to Diani. For this reason the Board has voted considerable sums for the improvement of the headworks and intakes, for the restoration of the pipeline itself where necessary and the maintenance of the service road to a high standard. On the advice of the Director, Water Development Division, the Board accepted a scheme for treatment and chlorination at the headworks. The equipment for this exercise comprising clariflocculators, chemical dosing gear, generators, etc., has now arrived and construction of the works will start shortly.

The pipeline itself which is 27 miles long and concrete lined was checked at vital points and a programme of replacing corroded sections initiated. The first phase of this programme is expected to cost £10,000. On the whole the system

worked well throughout the year, the intake delivering some two million gallons per diem of which some 160,000 gallons per diem is at present used to supply the South Mainland coast. The balance is conducted to the service reservoirs at Changamwe and mixed with Mzima water prior to reticulations into the Mombasa Water Supply.

(iv) The Mazeras Reservoirs

These comprise a battery of three pre-stressed concrete tanks each with a capacity of six million gallons. They represent the first line of defence against a shortage of water in Mombasa in the event of a rupture in the main Mzima/Mombasa pipeline. In the event of an interruption prolonged enough to empty these reservoirs and any residual storage capacity at Changamwe, Mombasa would have to depend on the Mrere supply which while well below Mombasa's full needs would avert the calamity of no water at all. No such alternative is available to the North Mainland system or the Mazeras/Kilifi system and in the event of a prolonged break between Mzima and Mazeras an appropriate proportion of the Mazeras storage would be reserved for these systems.

(v) The Changamwe Reservoirs

There are six reservoirs at Changamwe having a total capacity of 6.5 million gallons. Although the prime function of these reservoirs is to service the Mombasa Water Supply, the 6.5 million gallons capacity provides a further safeguard against interruption of the water supply following a failure of the conducting system. The year under report saw the completion of the work in renewing the roofs of two reservoirs at a cost of £7,000. The reservoirs have functioned smoothly throughout the year.

(vi) Secondary Water Supplies

These secondary water supplies are set out in the "Statement of Water Supplied" in the accounts forming part of this report. They operated successfully throughout the year.

(vii) New Development

As stated elsewhere in this report the pipeline from Mazeras to Kilifi and the pipelines along the South Mainland Coast via Kaya Bombo were virtually completed during the year and the supplies inaugurated. Since inauguration the bulk supply systems have functioned smoothly. The Board has certainly been disappointed however, in the actual consumption level particularly in respect of the Mazeras to Kilifi pipeline. As stated above the failure of this level to approach prediction has resulted from something outside the Board's control, viz. the non-provision of an adequate distribution system to enable the water to reach potential consumers. This means that large numbers of people long denied a potable water supply are regrettably still to be so denied, in spite of the water being now available. The Board is making the necessary representations in the matter.

V. G. MATTHEWS,
Chairman Mombasa Pipeline Board.

Nairobi,
30th January 1970.

**CERTIFICATE OF THE CONTROLLER AND AUDITOR-GENERAL,
KENYA, ON THE ACCOUNTS OF THE MOMBASA PIPELINE BOARD
FOR THE YEAR ENDED 30th JUNE 1969**

Revenue Account	...	...	...	...	...	Statement No. 1
Net Revenue Account	...	...	...	...	...	Statement No. 2
Net Revenue Appropriation Account	...	...	...	...	...	Statement No. 3
Capital Account	...	...	...	...	...	Statement No. 4
Balance Sheet	...	...	...	...	...	Statement No. 5
Statement of Water Supplied	...	...	...	...	...	Statement No. 6

The above accounts have been examined in accordance with Section 13 of the Mombasa Pipeline Board Act, (Cap. 373). I have obtained all the information and explanations I have required and as a result of my audit, I certify that in my opinion the accounts are correct subject to the following comments:—

- (i) I have not seen the Minister's approval for extending beyond 31st October 1969, the period of submission by the Board of the signed accounts for audit.
- (ii) The profit of £6,279.15.34 on redemption of certain investments reflected in the Net Revenue Account and the investments with the Crown Agents of £65,538.3.68 shown in the Balance Sheet are expressed in predevaluation figures.

D. G. NJOROGI,
Controller and Auditor-General.

Nairobi,
9th February 1970.

**REPLY BY THE MOMBASA PIPELINE BOARD TO THE COMMENTS
OF THE CONTROLLER AND AUDITOR-GENERAL**

- (i) The Minister's approval to the extension of the time limit has since been obtained, and has been conveyed to the Controller and Auditor-General.
- (ii) Both the profit and the investments with the Crown Agents are expressed in British Sterling and as these amounts have not been repatriated adjustment does not appear to be called for.

V. G. MATTHEWS,
Chairman, Mombasa Pipeline Board.

Nairobi,
12th February 1970.

REVENUE ACCOUNT FOR THE YEAR ENDED 30th JUNE 1969

1967/68		EXPENDITURE		1967/68		INCOME	
K£	s. cts.	K£	s. cts.	K£	s. cts.	K£	s. cts.
1,750	0 00	TO PIPELINE BOARD—HEAD OFFICE:		465,586	14 15	By ACCRUED REVENUE FOR YEAR:	
52	16 05	2,687	9 80	726	14 65	Sale of Water	532,776 6 15
141	14 25	194	2 05			Meter Rents	720 11 15
260	13 80	224	1 85	542	4 65	Rents Received	533,496 17 30
152	10 60	618	14 20				730 4 85
		Travelling Expenses and Allowances to Members	279 1 75				
25	0 00	Expenses of Audit	25 0 00				
38	13 45	Bank Charges	45 1 65				
171	4 00	Maintenance and Running Expenses of Board's Transport	183 1 00	4,256	12 30		
2,592	12 15						
		TO MAINTENANCE AND OPERATION OF PIPELINES:					
		Reimbursement to the Ministry of Agriculture—					
		(i) Main Pipelines					
57,049	1 55	(ii) North Mainland Scheme		60,489	9 40		
		(iii) Mrere/Kaya Bombo Scheme					
		(iv) Mazeras/Sokoke Scheme					
		Extraordinary Maintenance and Renewals	9,390 18 45				
8,717	16 30	Hire Charges of Vehicles	10,636 4 90				
10,506	17 35			80,516	12 75		
387,989	6 10	Balance carried to Net Revenue Account		449,453	17 10		
K£466,855	13 45			K£			
				534,227	2 15		
				466,855	13 45		
						K£	534,227 2 15

NET REVENUE ACCOUNT FOR THE YEAR ENDED 30th JUNE 1969

1967/68		EXPENDITURE		1967/68		INCOME			
K£	s. cis.	K£	s. cis.	K£	s. cis.	K£	s. cis.		
		TO INTEREST CHARGES: (i) Bank Loans (K£1,350,000) 72,524 11 03 (ii) Uganda Loan (K£1,000,000) — (iii) E.A.R. & H. Loan— (K£500,000) 27,499 19 95 (iv) Kenya Loan (K£2,170,000) 102,712 6 60 (v) Kenya Loan—Mirere Sup- ply (K£70,277) 1,889 7 90 (vi) Kenya Loan—North Main- land Scheme (K£210,000) 11,149 19 72 (vii) Kenya Loan (Ex-Uganda Loan K£1,000,000) 60,000 0 00 (viii) Kenya Loan—Mirere/Kaya Bombo and Mazeras/ Sokoke Schemes 19,024 8 70				By Balance Brought from Rev- enue Account 449,453 17 10 By INTEREST RECEIVED: Reserve Investments 4,278 3 25 Cash Balances 8,008 0 25 Profit on Redemption of In- vestments		K£ 449,453 17 10 4,278 3 25 8,008 0 25 12,286 3 50 6,279 15 34	
289,938 12 08		294,800 13 90		387,989 6 10					
		TO LOANS REDEEMED: Annual Instalment—Kenya Loan, Mirere Supply 2,840 17 65 Annual Instalment—Kenya Loan, North Mainland Scheme 6,183 14 58 Annual Instalment—Bank Loans 111,799 9 70 Transfer to Loan Redemption Fund Balance being net operating Surplus carried to Net Revenue Appropriation Account		135,675 13 51 5,007 10 05 120,824 1 93 135,675 13 51 52,395 0 11		Provision for Loan Redemp- tion carried to Net Appro- priation Account Balance being net operating Loss carried to Net Revenue Appropriation Account		135,675 13 51 — K£ 603,695 9 45	
K£538,646 0 66		K£ 603,695 9 45		538,646 0 66		K£ 603,695 9 45			

NET REVENUE APPROPRIATION ACCOUNT FOR THE YEAR ENDED 30th JUNE 1969

1967/68		EXPENDITURE		1967/68		INCOME	
K£	s. cts.	K£	s. cts.	K£	s. cts.	K£	s. cts.
916,967	19 85	To Balance as at 1st July 1968	1,074,809	8 56	By Transfer from Net Revenue	..	..
135,675	13 51	Balance brought from Net Revenue Account	135,675	3 51	Balance as at 30th June 1969	..	..
5,007	10 05	Transfer from Net Revenue Account	—	—			
17,158	5 15	Financing the cost of rehabilitating the Mizima/Mrere and North Mainland Scheme installations and contribution towards construction of Mrere/Kaya Bondo and Mazerus/Sokoke Schemes ..	18,179	8 35			
K£1,074,809	8 56		K£ 1,228,664	10 42		K£ 1,228,664	10 42

**LOAN REDEMPTION FUND
STATEMENT OF FUND FOR THE YEAR ENDED 30th JUNE 1969**

1967/68		EXPENDITURE		1967/68		INCOME	
K£	s. cts.	K£	s. cts.	K£	s. cts.	K£	s. cts.
1,356,756	15 10	Balance as at 30th June 1969	1,492,432	8 61	Balance as at 1st July 1968	..	..
K£1,356,756	15 10		K£ 1,492,432	8 61	Transfer from Net Revenue Account	..	..
						K£ 1,492,432	8 61

STATEMENT OF INVESTMENTS AS AT 30th JUNE 1969

Nature of Stock	Amount of Stock	Cost Price	Quotation (Middle Market Value)	Market Value as at 30th June 1969
	£ s. d.	£ s. d.	Per cent	£ s. d.
Savings Bond 1960/70 3 per cent ..	24,647	20,738	93½	22,983
Nyasaland 1971/78 4½ per cent ..	3,263	3,229	63	2,056
East African Railways and Harbours 1975 8½ per cent ..	40,737	41,570	91½	37,274
	£ 68,648	65,538	3 08	62,313

CAPITAL ACCOUNT FOR THE YEAR ENDED 30th JUNE 1969

EXPENDITURE	Assets as at 30th June 1968	Expenditure during the year	Total to 30th June 1969	INCOME	Loans as at 30th June 1968	Received during the year	Total to 30th June 1969
	K£ s. cts.	K£ s. cts.	K£ s. cts.		K£ s. cts.	K£ s. cts.	K£ s. cts.
To ASSETS:				BY LOANS RAISED:			
Mzima and Mrere Instal- lations	5,135,321 12 86	3,248 12 80	5,138,570 8 66	Bank Loans	1,350,000 0 00		1,350,000 0 00
North Mainland Scheme	210,491 15 89	14,286 4 10	224,777 19 99	E.A.R. & H. Loan	500,000 0 00		500,000 0 00
Mrere/Kaya Bondo Scheme (Work in progress)	146,860 3 35	32,416 17 45	179,277 0 00	Kenya Loan	2,170,000 0 00		2,170,000 0 00
				Kenya Loan—Mrere Supply Scheme	70,277 0 00		70,277 0 00
				Kenya Loan—North Mainland Scheme	210,000 0 00		210,000 0 00
Mazeras/Sokoke Scheme (Work in Progress)	142,261 16 80	40,188 17 70	182,450 14 50	Kenya Loan—Ex-Uganda Scheme	1,000,000 0 00		1,000,000 0 00
				Kenya Loan—Mrere/Kaya Bombo Scheme	146,747 6 45	32,084 9 40	178,831 15 85
Total Assets	K£ 5,634,935 8 90	90,140 12 05	5,725,076 0 95	Kenya Loan—Mazeras/Sokoke Scheme	142,261 16 80	39,876 14 30	182,138 11 10
				Total Loans Raised	K£ 5,589,286 3 25	71,961 3 70	5,661,247 6 95
				CAPITAL RECEIPT:			
				Sale of Assets	3,731 0 57		3,731 0 57
				Recovery of Damaged Valves for the North Mainland Scheme	1,589 0 00		1,589 0 00
				Contribution from the Admiralty Refund of Consultant's Fees	2,750 0 00		2,750 0 00
					180 3 00		180 3 00
				Total Capital Receipts	K£ 8,250 3 57		8,250 3 57
				Contribution from Net Revenue Appropriation Account for the rehabilitation of the Mzima/ Mrere and North Mainland Scheme installations and contri- bution towards construction of Mrere/Kaya Bombo and Maze- ras/Sokoke Schemes	37,399 2 08	18,179 8 35	55,578 10 43
						K£	5,725,076 0 95

BALANCE SHEET AS AT 30th JUNE 1969

1967/68		1968/69		ASSETS	
K£	s. cts.	K£	s. cts.	K£	s. cts.
LIABILITIES					
CAPITAL ACCOUNT—LOANS:			CAPITAL ACCOUNT:		
Outstanding	5,285,167 11 48	5,634,935	8 90	Capital Expenditure as per Capital Account	5,725,076 0 95
Redeemed—					
Kenya Loan, Mrere Sup-	25,882 19 69				
ply					
Kenya Loan, North	36,261 16 08				
Mainland Scheme	313,934 19 70				
Bank Loans		5,661,247	6 95		
Capital Receipts		8,250	3 57		
Contribution from Net Revenue Approp-		55,578	10 43		
riation Account					
		5,725,076	0 95		
		5,634,935	8 90		
		1,074,809	8 56		
REVENUE ACCOUNT:			REVENUE ACCOUNT:		
Loan Redemption Fund as	1,356,756 15 10			Net Revenue Appropriation Account ..	1,176,269 10 31
at 1st July 1968					
Add: Provision for 1968/	135,675 13 51			Investments—Crown Agents*	65,538 3 68
69		1,492,432	8 61	Sundry Debtors	55,801 14 60
Sundry Creditors		160,069	17 23		
				Cash:	
				On deposit with Cereals	
				and Sugar Finance	
				Corporation	190,000 0 00
				At Bank	164,892 17 25
				K£	7,377,578 6 79
K£	1,118,570 1 80	K£	7,118,570 1 80	K£	7,377,578 6 79

*The Middle Market Value of these investments on 30th June 1969 was £62,313-12s-08d. (K.£53,411.16.35)

I. G. MWANIKI,
Chief Accountant,
Mombasa Pipeline Board.

V. G. MATTHEWS,
Chairman,
Mombasa Pipeline Board.

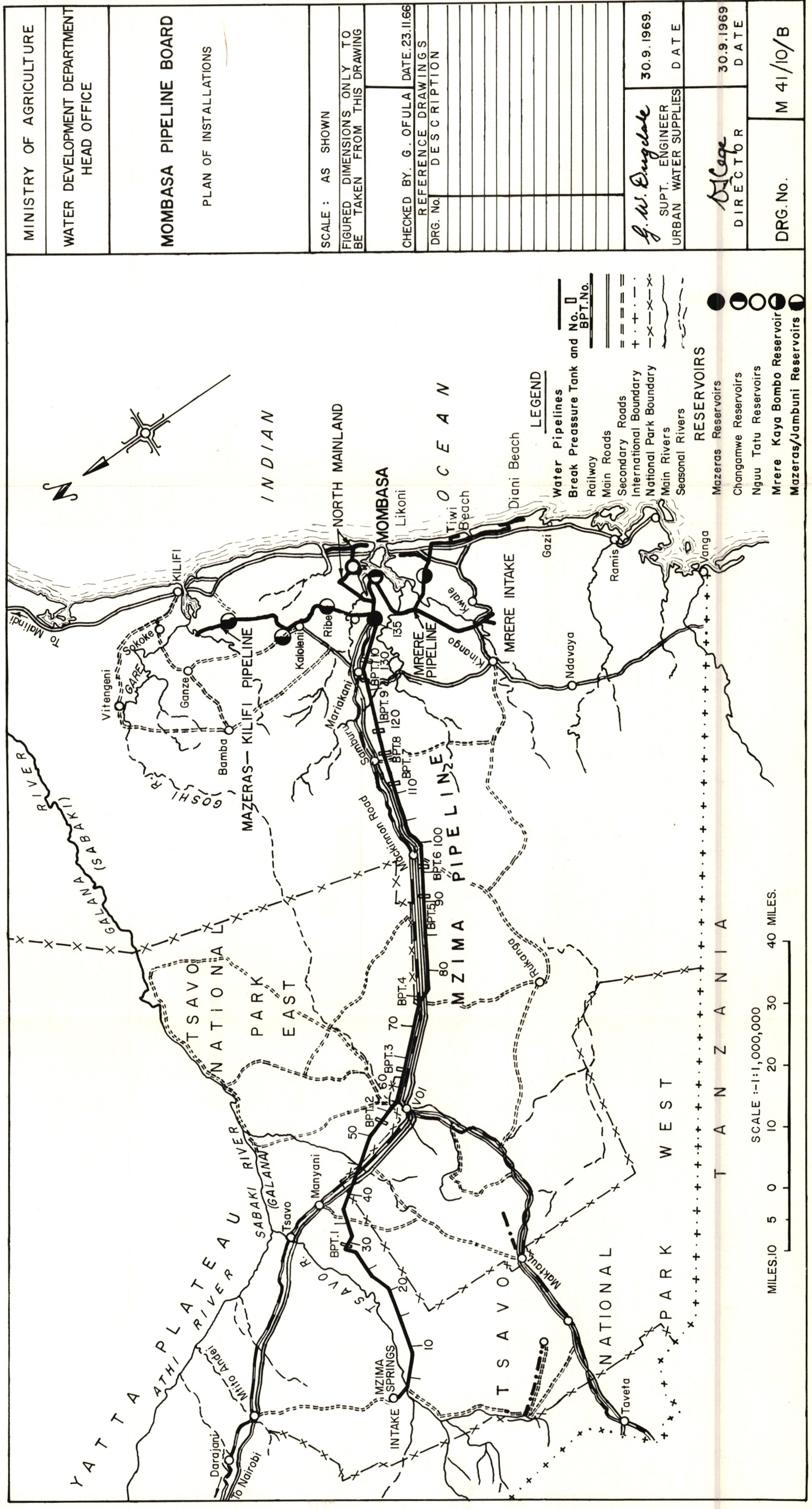
STATEMENT OF WATER SUPPLIED

1967/68		CONSUMER		1966/67			Total Value of Water Supplied K£ s. cts.
Number of gallons supplied	Amount K£ s. cts.	Number of gallons supplied	Rate per 1,000 Gallons K.Sh. cts.	Amount K£ s. cts.	Rate per 1,000 Gallons		
		MINISTRY OF AGRICULTURE:					
		Mombasa					
1,831,266,100	375,409 11 05	1,849,881,600	4 60	414,783 11 70			
24,424,800	5,007 1 70	28,323,900	4 10	5,806 8 05			
17,198,100	3,525 12 15	18,885,900	4 10	3,871 4 05			
6,388,700	1,309 13 70	7,169,600	4 10	1,470 6 15			
3,783,400	775 12 00	4,488,600	4 10	920 3 25			
61,851,500	13,916 11 75	76,829,700	4 60*	17,597 3 15			
2,576,800	528 4 95	3,017,300	4 10	618 10 90			
		13,255,300	7 50	4,970 14 75			
		1,008,500	7 50	378 3 75			
		6,966,200	7 50	2,612 6 50			
		3,898,600	7 50	1,461 19 50			
547,100	54 14 20	681,500	2 00	68 3 00			
		15,500	7 50	5 16 25			
133,900	27 9 00	225,500	4 60*			454,564 11 00	
		MINISTRY OF WORKS: Road Construction Unit—Mackinnon Road					
		EAST AFRICAN RAILWAYS AND HARBOURS:					
		Maungu					
22,330,600	4,577 15 50	24,097,600	4 60*	5,371 1 55			
20,927,900	4,290 5 20	24,960,700	4 60*	5,575 11 40			
22,185,500	4,548 0 60	24,679,400	4 60*	5,348 18 35			
403,300	82 13 50	587,400	4 60*	131 2 35			
920,000	188 12 00	1,175,800	4 60*	261 8 15			
		PRISONS DEPARTMENT:					
		Manyani Camp					
57,241,500	11,734 10 20	61,904,800	4 60*	13,796 18 35			
26,491,100	5,960 9 95	27,998,400	4 60*	6,404 3 40			
		COUNTY COUNCIL OF KWALE:					
		Samburu					
60,900	6 1 80	720,400	2 00	72 0 80			
6,800	0 13 60					20,201 1 75	

STATEMENT OF WATER SUPPLIED—(Contd.)

1967/68		CONSUMER			1968/69		
Number of Gallons Supplied	Amount			Number of Gallons Supplied	Rate per 1,000 Gallons	Amount	Total Value of Water Supplied
	K£ s. cts.				K.Sh. cts.	K£ s. cts.	K£ s. cts.
33,500	6 17 35	KASAMENI ..	..	..	..	..	..
41,900	8 11 70	MWACHI ..	..	..	..	..	..
1,500	0 6 05	MWACHINGA ..	..	..	..	..	..
1,600	0 6 50	MWALUNGANI ..	..	..	..	..	..
8,900	1 16 45	LUTSANGANI ..	..	..	..	..	..
658,600	135 0 30	MRS. B. DANEU ..	..	..	..	..	77 16 65
4,791,400	982 4 75	KENYA NATIONAL PARKS ..	..	..	..	..	183 0 35
116,900	35 1 40	KANWAR STORE ..	..	..	..	..	1,229 2 70
61,590,900	12,626 2 60	EAST AFRICAN OIL REFINERIES LIMITED	..	..	..	..	61 17 10
161,800	16 3 60	TAITA RANCHING CO. LIMITED ..	..	..	..	..	16,176 4 70
30,033,700	5,631 6 40	BAMBURI PORTLAND CEMENT Co. LTD.	..	..	..	..	19 17 20
69,737,300	13,075 14 85	NYALI LIMITED ..	..	..	..	..	7,142 10 45
471,900	88 9 65	KISAUNI LIMITED ..	..	..	..	..	12,971 1 05
—	—	MR. J. N. MWAMBAKI ..	..	..	..	..	90 16 15
—	—	MR. BURUSI TSUMA ..	..	..	..	..	20 18 50
1,700	0 6 95	CHIEF MGALANI ..	..	..	..	..	3 4 40
1,819,200	372 18 75	KENYA MEAT COMMISSION ..	..	..	..	..	10 10 65
2,770,900	568 0 75	KENYA SAFARI LODGES AND HOTELS	..	..	..	..	617 16 90
456,900	93 13 25	MR. R. S. MAYERS ..	..	..	..	..	1,982 9 60
—	—	BALFOUR BEATTY (OVERSEAS) LIMITED	..	..	..	..	433 16 65
—	—	MR. S. C. NGUMA ..	..	..	..	..	17 12 80
—	—	MR. Y. MWATSABU ..	..	..	..	..	12 4 70
—	—	MRS. H. W. MEIGO ..	..	..	..	..	9 12 65
—	—	MR. I. MWAMGUNDA ..	..	..	..	..	0 0 90
2,271,436,600	K£465,586 14 15			2,385,216,700		K£	532,776 6 15

*Up to 30th September 1968 the rate was KSh.4.10 per 1,000 gallons.
 †Up to 30th September 1968 the rate was KSh.3.75 per 1,000 gallons.



MINISTRY OF AGRICULTURE
 WATER DEVELOPMENT DEPARTMENT
 HEAD OFFICE

MOMBASA PIPELINE BOARD
 PLAN OF INSTALLATIONS

SCALE : AS SHOWN
 FIGURED DIMENSIONS ONLY TO
 BE TAKEN FROM THIS DRAWING

CHECKED BY. G. OFULA DATE.23.II.66
 REFERENCE DRAWINGS
 DRG. No.

DRG. No.
 DESCRIPTION

G. W. Engdale
 SUPT. ENGINEER
 URBAN WATER SUPPLIES
 30.9.1969.
 DATE

M. Cage
 DIRECTOR
 30.9.1969
 DATE

DRG.No. M 41/10/B

- LEGEND**
- Water Pipelines
 - Break Pressure Tank and No. BPT.No.
 - Railway
 - Main Roads
 - Secondary Roads
 - International Boundary
 - National Park Boundary
 - Main Rivers
 - Seasonal Rivers
- RESERVOIRS**
- Mazeras Reservoirs
 - Changamwe Reservoirs
 - Nguu Tatu Reservoirs
 - Mrere Kaya Bombo Reservoirs
 - Mazeras/Jambuni Reservoirs

SCALE :-1:1,000,000
 0 10 20 30 40 MILES.