

VI Country Data

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Table 1 Basic Economic Indicators

	1976	1981	1982	1983	1984	1985
1. Population (million)	16.3	18.6	19.2	19.8	20.5	21.2
2. Gross Domestic Product(GDP)						
At. Current Prices(mill.TSh)	21,652	43,906	52,546	61,035	74,608	97,767
At. 1976 Prices (")	21,652		24,104	23,612	24,365	24,916
3. Income per Capital						
At. Current Prices (TSh)	1,328	2,361	2,737	3,083	3,639	4,612
At. 1976 Prices (")	1,328		1,255	1,193	1,186	1,175
4. Prices Index ('77=100)	85.1	196.9	253.9	322.6	439.2	585.4
		1981/82	1982/83	1983/84	1984/85	1985/86
5. Balance of Trade(mill TSh)		- 645.89	- 560.75	- 456.31	- 551.89	- 587.71
(i) Export (")		448.21	395.95	372.78	353.79	376.55
(Cash crops) (")		(268.12)	(283.58)	(281.13)	(235.99)	(210.16)
(ii) Import (")		1,134.10	956.70	829.09	905.88	964.21
(Imported Foods)(")		(575.5)	(383.8)	(177.5)	(331.2)	(303.0)
6. Foreign-exchange holdings (mill.TSh)		-4,202.0	-5,347.4	-7,513.3	-8,861.9	-6,844.0

Sources : Hali ya Uchumi wa Taija Katika Mwaka 1985

Mpango wa Maendeleo wa Mwaka 1986/87

Table 2 Gross Domestic Product at Factor Cost by Industrial Origin (million TSh)

	1976	1978	1980	1982	1984	1985
1. Agriculture, Hunting, Fishing and Forestry	9,046 (41.8%)	8,998 (40.6%)	9,418 (39.4%)	9,639 (40.0%)	9,849 (40.4%)	9,689 (38.9%)
2. Mining and Quarrying	214 (1.0)	189 (0.9)	189 (0.8)	193 (0.8)	188 (0.8)	175 (0.7)
3. Manufacturing	2,811 (13.0)	2,730 (12.3)	2,683 (11.2)	2,304 (9.6)	2,187 (9.0)	2,047 (8.2)
4. Electricity and Water Supply	220 (1.0)	286 (1.3)	400 (1.7)	420 (1.7)	439 (1.8)	462 (1.9)
5. Construction	884 (4.1)	783 (3.5)	932 (3.9)	930 (3.9)	660 (2.7)	654 (2.7)
6. Wholesale & Retail Trade Restaurants and Hotels	2,839 (13.1)	2,797 (12.6)	2,839 (11.9)	2,668 (11.1)	2,697 (11.1)	2,527 (10.1)
7. Transportation and Communication	1,685 (7.8)	1,699 (7.7)	1,818 (7.6)	1,694 (7.0)	1,697 (7.0)	1,707 (6.9)
8. Financial, Insurance, Bank Services	2,460 (11.4)	2,693 (12.2)	3,014 (12.6)	3,369 (14.0)	3,648 (15.1)	3,641 (14.6)
9. Public Administration and their Services	2,342 (10.8)	2,937 (13.3)	3,657 (15.3)	4,221 (17.5)	4,508 (18.5)	5,548 (22.3)
G . D . P .	21,653 (100.0)	22,142 (100.0)	23,888 (100.0)	24,104 (100.0)	24,365 (100.0)	24,916 (100.0)

Note) Percentages in parenthesis are rate of composition.

Source: Hali ya Uchumi wa Taifa Katika. Mwaka 1985

Produce and Export of Cash Crops

	1981/82 (Actual)	1983/83 (Actual)	1983/84 (Actual)	1984/85 (EST.)	1985/86 (EST.)	1986/87 (Predict)
1. Sisal						
Amt. of Produce (kt)	61	46	38	32	40	42
Amt. of Export (kt)	54.47	32.44	23.75	26.05	25.00	26.88
Price of Export (\$ million)	28.46	15.58	11.28	9.16	8.15	8.76
Unit Price (\$/kg)	.52	.48	.47	.35	.33	.33
2. Coffee						
Amt. of Produce (kt)	56	53	50	49	62	65.10
Amt. of Export (kt)	56.44	55.26	54.82	49.10	48.70	56.33
Price of Export (\$ million)	131.68	135.49	153.21	128.27	164.80	211.21
Unit Price (\$/kg)	2.33	2.45	2.79	2.61	3.38	3.75
3. Cotton						
Amt. of Produce (kt)	44.59	42.90	43.95	52.01	52.72	54.80
Amt. of Export (kt)	40.74	38.97	38.66	29.70	32.00	32.96
Price of Export (\$ million)	83.69	56.29	58.62	47.49	36.65	33.97
Unit Price (\$/kg)	1.56	1.44	1.52	1.60	1.15	1.03
4. Tabaco						
Amt. of Produce (kt)	16.2	13.6	11.0	13.3		17.20
Amt. of Export (kt)	11.26	5.96	5.60	7.30	9.50	8.68
Price of Export (\$ million)	19.88	13.31	10.48	10.85	13.10	12.26
Unit Price (\$/kg)	1.76	2.23	1.87	1.49	1.38	1.27
5. Tea						
Amt. of Produce (kt)	15.53	16.30	17.10	17.96	18.70	20.80
Amt. of Export (kt)	11.28	12.24	15.65	11.30	12.00	15.05
Price of Export (\$ million)	17.46	19.27	2385	18.72	18.30	22.63
Unit Price (\$/kg)	1.55	1.57	1.52	1.66	1.41	1.50
6. Cashewnuts						
Amt. of Produce (kt)	44	33	48	33		
Amt. of Export (kt)	5.42	9.00	—	21.55	21.00	23.65
Price of Export (\$ million)	6.95	43.74	23.69	21.49	17.35	20.53
Unit Price (\$/kg)	1.28	4.86	N/A	1.00	0.83	0.87
• Export-Formance of Cash Crops (\$ million)	268.12	283.58	281.13	235.98	258.35	309.36
• Export-Formance of Manufactured Product (\$ million)	183.00	142.07	151.43	107.98	118.15	145.48
Export-Formance (\$ million)	451.12	425.65	432.56	343.97	376.50	454.84

Source: Mpango wa Maendelo Mwaka 1986/87

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Table 1 Trade in Government Finance (TSh. million) (million TSh)

	1981/82	1982/83	1983/84	1984/85	1985/86
(a) Total Recurrent Revenue	10,960.0	13,145.0	15,465.6	19,143.0	21,975.1
(b) Total Recurrent Expenditure Surplus	13,214.1	14,871.5	18,119.9	21,336.5	25,604.3
(c) Development Expenditure	-2,245.1	-1,726.5	-2,770.6	-3,193.5	-3,829.2
(i) Internal Sources	5,185.0	5,145.5	5,736.0	5,391.1	5,940.0
(ii) External Sources	3,390.0	3,293.5	2,770.6	3,901.4	3,724.0
(d) Bank Borrowing	1,795.0	1,852.0	2,965.4	1,489.7	2,141.0
(e) Non-Bank Borrowing	3,278.0	4,206.0	4,699.0	3,340.4	5,778.0
(f) External Loans & Grants	783.0	814.0	788.0	1,125.0	1,850.0
(g) Other Income	1,795.0	1,852.0	2,965.0	1,489.7	2,141.0
(h) Ministries and Parastatals	1,583.1	—	—	—	—
(i) Region	4,537.0	4,583.2	5,047.0	4,467.1	5,266.0
	648.0	562.3	687.0	924.0	674.0

Source: Mali ya Uchumi wa Tatica Mwaka 1985

Table 2 Fond Plan for 1986/87 Development Plan in Each Sector (thousand TSh)

Sector	Government Budget		Other Fond*	Total of Budget	Ratio of Composition %
	Local	Foreign			
◦ Product Sector					
Agriculture & Stockbreeding	888,063	703,148	1,431,819	3,023,030	30.6
Industry	274,476	492,009	172,750	939,325	9.5
Natural Resources	86,901	20,326	2,840	110,067	1.1
Mining	232,100	211,842	25,520	469,462	4.8
Sub Total	1,481,100	1,427,415	1,632,929	4,328,591	46.0
◦ Economic Services					
Water Supply	81,988	38,000	—	99,988	1.0
Energy	123,800	230,000	86,382	440,182	4.5
Construction & Land	517,549	170,325	403,618	1,091,492	11.2
Commercial & Tourism	41,000	—	335,691	376,691	3.8
Transportation	153,330	378,460	349,333	881,123	8.9
Sub Total	897,667	816,785	1,175,024	2,836,263	29.3
◦ Social Services					
Water Supply	169,261	130,204	—	299,465	3.0
Education & Culture	332,803	511,806	—	844,409	8.5
Public Welfare	188,645	66,543	37,500	292,688	3.0
Sub Total	690,509	708,533	37,500	1,295,360	14.5
◦ Administration & others	847,284	115,247	41,510	1,004,041	10.2
Total	3,917,000	3,068,000	2,886,963	9,871,963	100.0

* Other funds are bank-borrowing, funds of public institutions, special funds, etc.

Source: Mpongo wa Maendeleo wa Mwaka 1986/87

Table 1 Degree of attainment during the first period of long-term plan for the manpower development

Level of function	Degree of attainment in the end of 1974				Degree of attainment in the end of 1980			
	N° of actual workers	N° of vacancies	Total N° required	% of vacancies	N° of actual workers	N° of vacancies	Total N° required	% of vacancies
A-Research	(3,660)	(2,188)	(5,848)	(37.4)	(5,871)	(2,569)	(8,440)	(17.4)
A-Engineering	(4,146)	(1,362)	(5,508)	(24.7)	(7,242)	(2,311)	(9,553)	(24.2)
A's sub total	7,806	3,550	11,356	31.3	13,113	4,880	17,993	27.1
B	21,328	5,281	26,609	19.8	43,583	12,111	55,694	21.7
C	96,031	10,806	106,837	10.1	178,903	19,172	198,075	9.9
Total of A, B, C	125,165	19,637	144,802	13.6	235,599	36,703	272,302	13.5

Source: Uchunguzi wa Wahitaji ya Wafanyakazi wa Paraja La Juu wa La Kati

Table 2 Supplement rate by Tanzania during the first period of long-term plan for the manpower development

Level of function	Supplement rate by Tanzanians in the end of 1974				Supplement rate by Tanzanians in the end of 1980			
	N° of actual workers	Tanzanians	Foreigners	% of Tanzanians	N° of actual workers	Tanzanians	Foreigners	% of Tanzanians
A-Research	(3,660)	(2,487)	(1,173)	(68)	(5,871)	(5,244)	(627)	(89.3)
A-Engineering	(4,146)	(3,401)	(745)	(82)	(7,242)	(6,865)	(377)	(94.8)
A's sub total	7,806	5,888	1,918	75.4	13,113	12,109	1,004	92.3
B	23,149	23,149	845	96.5	43,583	43,293	290	99.3
C	93,036	90,036	3,329	96.4	178,903	178,640	256	99.9
Total of A, B, C	125,165	119,073	6,092	95.1	235,599	234,049	1,550	99.3

Source: Uchunguzi wa Wahitaji ya Wafanyakazi wa Paraja La Juu wa La Kati

Table 3 Estimation of the member of vacancies during the first five-years plan in the second long-term plan for the manpower development

	N° of Vacancies in the end of 1980	N° of Vacancies increased newly during 1981-'86	Total
A-Research	(2,569)	(3,498)	(6,067)
A-Engineering	(2,311)	(2,686)	(4,997)
A's sub total	4,880	6,184	11,064
B	12,111	12,720	24,831
C	19,712	56,618	76,330
Total of A, B, C	36,703	75,522	112,225

Source: Uchunguzi wa Wahitaji ya Wafanyakazi wa Paraja La Juu wa La Kati

Level A Job that requires degree-level from University or equivalent.

Level B Job that requires degree-level from F.T.C. colleges plus at least two years on the job training.

Level C Job that requires secondary school education plus at least two years on the job training.

Table 1 Development estimates for the capital development programme
for the year 1986/87 (thousand TSh)

	Local Funds	Foreign Funds	Total
1. Planning and Designs			
(i) Master Plan Review	4,415	92,571	96,986
(ii) Engineering Designs	6,710	(Grant-UNCDF)	6,710
(iii) Architectural Drawings	4,415		4,15
(iv) Survey Programme	1,776		1,776
Sub Total	17,306	92,571	109,877
2. Infrastructural Services		African Development Bank	
(i) Master Trunk Services (Phase I & II)	52,976	(Loan-AfDB) 50,180	103,156
(ii) Central Business Park	3,532	(Grant-UNCDF)	3,532
(iii) Nkuhingu Infrastructure	15,659	10,596	26,255
(iv) Parliament Complex	15,893		15,893
Sub Total	88,060	60,776	148,836
3. Industrial Development			
(i) Quarry Plant Phase II	1,766		1,766
(ii) MPMO Work-shop Complex	25,201	(Grant-UNCDF)	25,201
(iii) Building Materials Production/Supply Center-Nkuhingu	10,595	35,329	45,924
Sub Total	37,562	35,329	72,891
4. Housing and Public Building			
(i) Kikuyu Primary School	1,957		1,957
(ii) Mbwanga Primary School	10,897		10,897
(iii) Dodoma Hospital Extension	8,829		8,829
(iv) Ministerial Offices	15,451		15,451
(v) Majengo Market	45,913		45,913
(vi) Prime Minister's Residence	12,381		12,381
(vii) Low Cost Housing	6,005		6,005
Sub Total	101,413		101,413
5. Municipal Services			
(i) Road Maintenance Operations	8,829		8,829
(ii) Arusha Road Nursery	4,415		4,415
(iii) Landscape Consolidation	4,415		4,415
(iv) Afforestation Programme	7,946		7,946
Sub Total	25,605		25,605
6. UNDP Technical Assistance		(Grant-UNDP) 18,109	18,109
Grand Total	269,946	206,785	476,731

Source: Speech by Hon.S.J.Sitta(MP.), Minister of State in the President's Office-Capital Development to the Budget Session of the National Assembly for year 1986/87-

Table 2 FIVE YEAR INTERIM TRANSFER PROGRAMME (1986/87 - 1990/91)

Ministry/Department	Building	Space (M ²)	Date of Transfer
1. Speaker's Office	CCT	1,438	1986/87
2. Local Government and Co-operative Development	CDTF	1,545	1987/88
3. Foreign Affairs	NPF	2,141	1988/89
4. State House	CC	—	1988/89
5. Energy and Minerals	Existing	—	1988/89
6. Finance, Planning and Economic Affairs	TanESCO & THB	7,805	1989/90
7. Justice	CDA Ext.	2,469	1989/90
8. Defence and National Service	TBD	—	1990/91
9. Home Affairs	TBD	—	1990/91

Table 3 NUMBER OF PEOPLE WHO WILL MOVE TO DODOMA UNDER THE INTERIM TRANSFER PROGRAMME (1986/87 - 1990/91)

Ministry/Department	Civil Servants		Dep of CS 2/3	SP 30%	Children of CS 4/5	Children of SP 4/5	Dep of SP 2/3	Total of Transferees
	Total	Transferees						
1. Speaker's Office	39	89	59	27	401	122	18	716
2. Foreign	351	351	234	105	1,580	473	70	2,813
3. Justice	594	146	97	44	657	198	29	1,171
4. Home Affairs	873	407	271	102	1,832	549	81	3,242
5. Energy and Minerals	121	121	81	36	545	162	24	969
6. Defence and National Service	684	684	456	205	3,078	923	137	5,483
7. Finance, Planning and Economic Affairs	1,497	550	367	165	2,475	743	110	4,410
8. State House	318	206	137	62	927	279	41	1,652
9. Local Government and Co-operative Development	398	316	211	95	1,422	428	63	2,535
Total	4,925	2,870	1,913	841	12,917	3,877	573	22,991

NB: DEP --Dependants
CS --Civil Servants
SP --Support Population.

Source: Capital Development to the Budget Session of the National Assembly for the year 1986/87

(Speech by Hon. S. J. Sitta (MP.), Minister of State in the President's office)

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Table 1. Analyzing table of estimation in the diffusion of radio sets

	Data of estimation for the diffusion of radio sets				Sets produced in the Dar es Salaam of Matsushita						
	No. of radio sets estimated in case of 15 years life cycle (V + VII')	No. of radio sets estimated in case of 10 years life cycle (VI + IX')	No. of radio sets estimated in case of 15 years life cycle except importation (VIII + XI')	I. No. of radio sets plus radio sets with cassette tape recorder produced for year	II. No. of radio sets for Zanabaz bar, produced for year	III. No. of radio sets for export produced for year	IV. = I - (II + III)	V. Accumulated number of radio sets in case of 15 years life cycle in I.	VI. No. of radio sets failed in 10 years life cycle in I.	VII. Accumulated number of radio sets in case of 10 years life cycle in I.	VIII. Accumulated number of radio sets in case of 15 years life cycle in IV.
1966	14,000	14,000	12,860	4,627	161		4,466	4,627			4,466
87	34,000	34,000	31,220	73,614	2,565	6,104	64,945	78,241			69,411
88	83,400	83,400	76,570	107,482	3,743	7,846	95,843	185,673			165,254
89	174,200	174,200	159,930	182,280	4,617	15,770	111,873	317,933			277,127
90	292,600	292,600	268,630	185,284	5,762	20,764	138,738	483,197			415,865
91	422,500	422,500	387,880	173,537	6,053	3,120	164,364	656,734			560,229
92	590,327	590,327	542,166	234,802	8,191	533	226,078	891,536			808,307
93	815,841	815,841	746,371	156,867	5,472	3,386	148,029	1,048,423			954,336
94	1,094,273	1,094,273	999,374	150,110	5,233	7,340	137,537	1,198,533			1,091,873
95	1,336,833	1,336,833	1,212,507	115,103	4,015		111,088	1,313,636			1,202,961
96	1,599,597	1,599,597	1,453,605	87,831	3,068	84,763	84,763	1,401,467	4,627		1,287,724
97	1,837,634	1,837,634	1,756,129	35,070	1,224	33,039	33,039	1,358,840	73,614		1,320,763
98	2,379,336	2,295,936	2,172,147	30,783	1,071	1,843	27,869	1,436,487	107,432		1,348,632
99	2,694,923	2,490,723	2,438,326	37,225	1,294	2,002	33,899	1,467,270	132,260		1,382,531
80	2,811,533	2,618,933	2,664,453	13,804	472	2,489	10,843	1,504,485	165,264		1,382,531
81	3,078,136	2,869,636	2,822,811					1,518,229			1,393,374
82	3,167,767	2,611,440	2,809,234								
83	3,167,187	2,444,946	2,809,593								
84	3,138,170	2,218,097	2,882,562								
85	3,106,395	2,062,162	2,853,111								
86	3,052,229	1,861,202	2,801,624								
Total				1,518,299	52,941	71,984	1,393,374		483,197		
Remaining rate								(100%)			(68.2%)

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Table 1. Analyzing table of estimation in the diffusion of radio sets (continue)

Sets produced in the Arusha factory of Philips											
	I'. No. of radio sets produced for year	II'. No. of radio sets with cassette tape recorder produced for year (estimate)*1	III' = I' + II'	IV'. No. of radio sets for Zanzibar and export (estimate)*2	V' = III' - IV'	VI'. No. of radio sets failed in 15 years life cycle in III'	VII'. Accumulated number of radio sets in case of 15 years life cycle in III'	VIII'. No. of radio sets failed in 10 years life cycle in III'	IX'. Accumulated number of radio sets in case of 10 years life cycle in III'	X'. No. of radio sets failed in 15 years life cycle in V'	XI'. Accumulated number of radio sets in case of 15 years life cycle in V'
1966	14,000	0	14,000	1,140	12,860		14,000		14,000		12,860
67	20,000	0	20,000	1,640	18,360		34,000		34,000		31,220
68	43,000	6,400	49,400	4,050	45,350		83,400		83,400		78,570
69	79,000	11,800	90,800	7,440	83,360		174,200		174,200		159,930
70	103,000	15,400	118,400	9,700	108,700		292,600		292,600		288,630
71	113,000	16,900	129,900	10,650	119,250		422,500		422,500		387,880
72	142,000	21,200	163,200	13,380	149,820		585,700		585,700		537,700
73	132,000	19,700	151,700	12,440	139,260		737,400		737,400		676,860
74	149,000	22,200	171,200	14,040	157,160		908,600		908,600		834,120
75	96,000	14,300	110,300	9,040	101,260		1,018,900		1,018,900		935,380
76	97,000	14,500	111,500	9,140	102,360		1,130,400	14,000	1,116,400		1,037,740
77	131,000	19,500	150,500	12,340	138,160		1,280,900	20,000	1,246,900		1,175,900
78	180,000	26,900	206,900	16,960	189,940		1,487,800	43,400	1,404,400		1,365,840
79	112,000	16,700	128,700	10,550	118,150		1,616,500	30,800	1,442,300		1,433,990
80	84,000	12,500	96,500	7,910	88,590		1,713,000	118,400	1,420,400		1,572,580
81	57,000	3,500	60,500	5,370	55,130	14,000	1,764,500	129,900	1,356,000	12,860	1,619,850
82	19,000	2,800	21,800	1,780	20,020	20,000	1,786,300	183,200	1,214,600	18,360	1,621,510
83	12,000	1,800	13,800	1,130	12,670	49,400	1,736,700	151,700	1,076,700	45,350	1,588,830
84	27,000	4,000	31,000	2,540	28,460	90,800	1,670,900	171,200	936,500	83,360	1,533,930
85	43,000	6,400	49,400	4,050	45,350	118,400	1,601,900	110,900	875,600	108,700	1,470,580
86	54,000	8,000	62,000	5,080	56,920	129,900	1,534,000	111,500	826,100	119,250	1,408,250
Total	1,707,000	249,500	1,956,500	160,370	1,796,130	422,500		1,130,400		387,880	
Remaining rate							(79.2%)		(42.7%)		

#1 Number of radio sets with cassette tape recorder produced by Matsushita are corresponding to 14% of all kinds of products. So those produced by Philips are estimated to be in the same rate.

#2 Number of radio sets for Zanzibar and export produced by Matsushita are corresponding to 8.2% of all kinds of products. So those produced by Philips are estimated to be in the same rate.

Table 2. Number of radio sets distributed to each region in main land of Tanzania and Diffusion rate of radio sets in each region (excluding ones for Zanzibar and export)

	Name of Province	1977/78 Censuses			Capacity of distribution to regions in Matsushita's products			Philips's products		Matsushita's + Philips's Total	Diffusion rate in households
		Total No. of households	No. of Urban households	No. of Rural households	1 band radio	2-4 bands radio	radio with record player or cassette tape recorder	Distribution to regions (estimate)	Total		
Service Areas (S.A.) of Medium Wave Broadcasting (M.W.B.)	DAR ES SALAAM	207,534	188,405	18,129	56,453	230,823	44,272	200,000	531,548	256.1 %	
	COAST	118,252	7,985	111,267	5,184	20,959	4,133	30,000	110,276	92.5	
	ARUSHA	175,826	18,877	156,949	12,885	52,501	10,174	100,250	175,810	100.0	
	MWANZA	240,718	32,336	208,382	20,371	83,984	16,185	120,000	240,720	100.0	
	MBEYA	217,750	22,101	195,649	10,308	41,996	8,139	106,000	166,443	76.4	
	Sub Total	961,080	269,704	691,376	105,401	430,243	82,903	606,250	1,224,797	average [127.4%]	
	Ratio (%)				(17%)	(69%)	(14%)	(100%)			
Regions audible barely from S.A. of M.W.B.	MOROGORO	201,388	31,645	169,743	10,278	41,985	8,078	61,000	121,341	60.2 %	
	TANGA	220,438	32,950	187,488	10,308	41,996	8,139	61,000	121,443	55.1	
	KILIMANJARO	170,198	16,969	153,229	15,627	63,105	12,552	92,000	183,284	107.7	
	SHINYANGA	227,277	12,741	214,536	10,308	41,996	8,078	61,000	121,382	53.4	
	MARA	116,639	10,530	106,109	10,308	41,996	8,078	61,000	121,382	104.1	
	KACERA	224,233	8,328	215,905	10,308	41,996	8,078	61,000	121,382	54.1	
	IRINGA	207,062	18,810	188,252	7,731	31,497	6,106	46,000	91,334	44.1	
	Sub Total	1,367,255	131,973	1,235,282	74,868	304,571	59,109	443,000	881,548	average [64.5%]	
	Ratio (%)				(17%)	(69%)	(14%)	(100%)			
Central Regions not audible from S.A. of M.W.B.	DODOMA	207,403	18,566	188,837	10,308	41,996	8,078	61,000	121,382	58.5 %	
	SINGIDA	193,439	12,872	120,567	5,184	21,019	4,133	31,000	61,338	46.0	
	TABORA	163,153	24,721	138,432	10,308	41,996	8,078	61,000	121,382	74.4	
	Sub Total	503,995	56,159	447,836	25,800	105,011	20,289	153,000	304,100	average [60.3%]	
	Ratio (%)				(17%)	(69%)	(14%)	(100%)			
Boundary Regions not audible from S.A. of M.W.B.	KIGOMA	117,541	12,219	105,322	6,450	26,258	5,119	38,000	75,827	64.5 %	
	RUKWA	87,975	11,130	76,845	5,169	21,009	4,133	31,000	61,311	69.7	
	LINDI	118,771	11,734	107,037	5,169	21,009	4,133	31,000	61,311	51.6	
	MTWARA	177,718	21,715	156,003	8,457	26,258	5,119	38,000	75,834	42.7	
	RUVUMA	107,509	8,940	98,569	6,457	26,258	5,119	38,000	75,834	70.5	
	Sub Total	609,514	65,738	543,776	29,702	120,792	23,623	176,000	350,117	average [57.4%]	
	Ratio (%)				(17%)	(69%)	(14%)	(100%)			
Grand Total		3,441,844	523,574	2,918,270	235,771	960,617	185,924	1,378,250	2,760,562	average [57.4%]	

Costs of main living goods (Official) / Market Prices
and Public Service Charge

Costs of main living goods (Official) / Market Prices		
Item	Unit	Price
Rice	100kg	1,900 TSh
Salt	100 "	1,100
Sugar	100 "	2,890
Beer (Restaurant)	1 middle bottle	70~80
Cigarette	20 pieces	(26~38)
Fluorescent lamp (20W)	1 piece	220
Radio receiver (MW portable type)	by Matsushita	(914)
" (MW/SW table type)	"	(2,380)
" (MW/3SW table type)	"	(4,747)
" (FM stereo radio cassette)	"	(14,501)
Battery (UM1)	"	(23)
Gasoline (Regular)	1 l	25.65

Public Service Charge		
Item	Unit	Price
Electricity charge (Domestic 0-40kWH)	1kWH	0.75 TSh
Water charge	—	—
Telephone (Booth)	30km	2.00
Postage (Post card)	Kigoma-Dar es.	1.50
	Dar es.-Japan	6.00
Newspaper fee	Swahiri	3.00
	English	4.00
Rail fare (1, 2, 3 class)	465km	880
	(Dar es.-Dodoma)	400
		135
Bus fare (Ordinary rate)	465km	Ordinary
	(Dar es.-Dodoma)	226
Taxi fare	1.5km	100~120
School fees (P, S, C, U)		free
School fees (Vocational)	for 1 year	750

Table 1. Salary scale

NTA	985(+285) ~ 1,300(+325)
NTB.1	1,135(+285) ~ 1,485(+370)
NTB.2	1,540(+385) ~ 1,960(+490)
OS.1	810(+245) ~ 840(+240)
OS.2	850(+245) ~ 895(+255)
OS.3	905(+260) ~ 965(+275)
OS.4	990(+285) ~ 1,115(+280)
OS.5	1,135(+285) ~ 1,285(+320)
MU	880(+255) ~ 1,125(+280)
MS.1	1,135(+285) ~ 1,485(+370)
MS.2	1,540(+385) ~ 1,960(+490)
MS.3	2,130(+480) ~ 2,670(+600)
MS.4	2,790(+630) ~ 3,725(+650)
MS.5	3,850(+675) ~ 4,475(+560)
MS.6	4,505(+565) ~ 4,775(+600)
MS.7	4,860(+610)
MS.8	4,950(+620)
MS.9	5,040(+555)
MS.10	5,165(+515)
MS.11	5,310(+400)
MS.12	5,465(+410)
MS.13	5,530(+420)
MS.14	5,795(+435)
MS.15	6,005(+330)
MS.16	6,210(+155)
MS.17	6,420(+180)
MS.18	6,830(+170)
MS.19	7,245(+180)

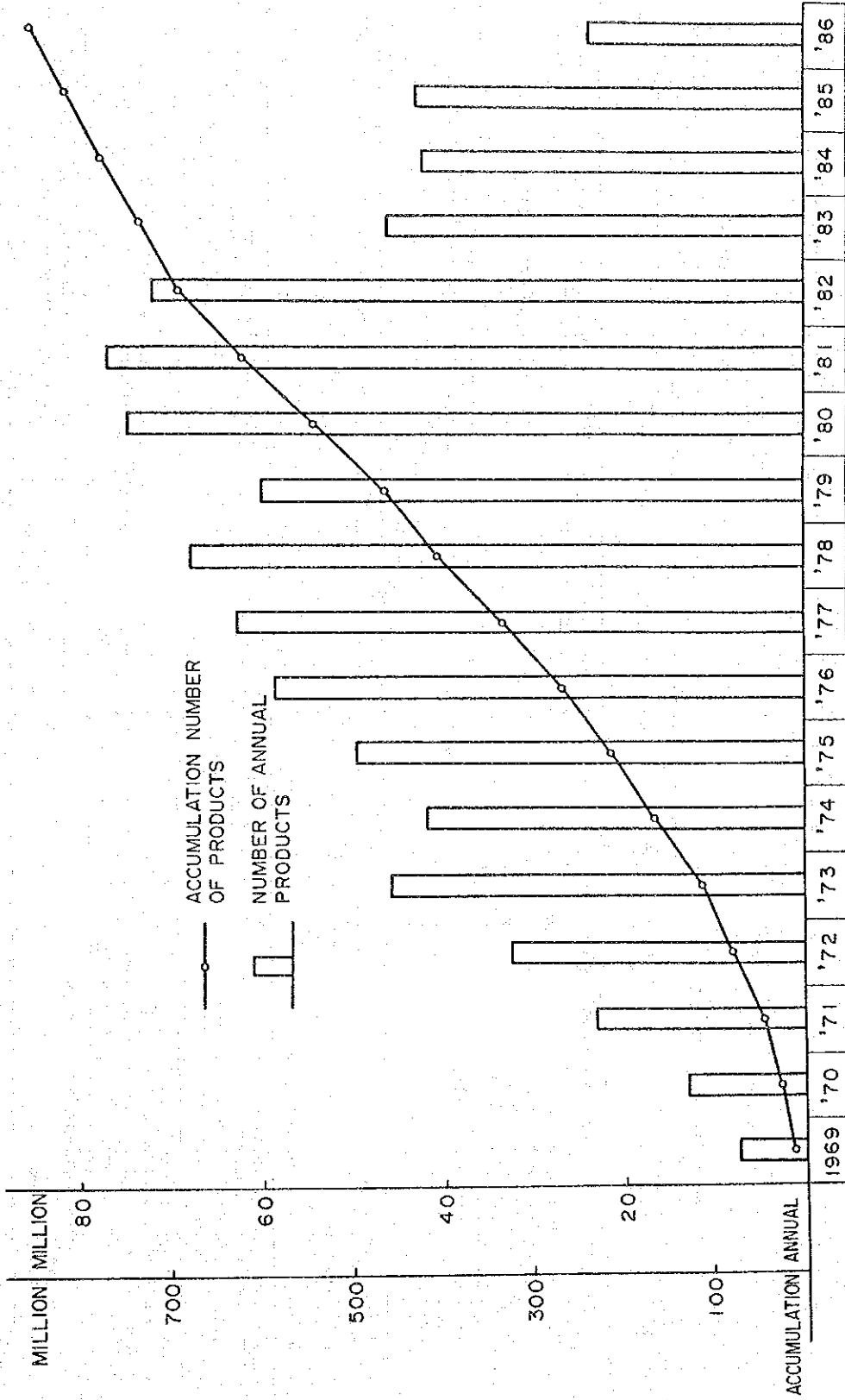
Re. : Figures inside parentheses are special allowance in 1986/87.

Sources : Waraka wa Watumishi wa Serihali Na : 2 wa Mwaka 1986

Malipo Maalum ya Ziada (Pay Addition) Kwa Watumishi wa Serikali

Table 2. Function and Salary scale

(i)	Technical Auxiliary Grade I	MU 1
(ii)	Assistant Technician	MS 1
(iii)	Technician Grade IV	MS 2
(iv)	Technician Grade III	MS 3
(v)	Technician Grade II	MS 4
(vi)	Technician Grade I	MS 5
(vii)	Senior Technician	MS 6
(viii)	Principal Technician	MS 7 - 9
(ix)	Senior Principal Technician	MS 10 - 11
(x)	Chief Technician	MS 12
1.	Assistant Engineer	MS 4
2.	Engineer	MS 5
3.	Executive Engineer	MS 6
4.	Senior Executive Engineer	MS 7 - 9
5.	Principal Engineer	MS 10 - 12
6.	Senior Principal Engineer	MS 13 - 14
7.	Chief Engineer	MS 15 - 18



NUMBER OF PRODUCTS ON DRY BATTERY (MATSUSHITA DAR ES SALAAM)

Findings of Questionnaire Survey of Radio Programs on Health

Question	Total No. of respondents	No. of respondents to the question		Remarks
		No. of respondents	%	
1. Whose radio set is used for receiving radio broadcasts? a) Own radio set. b) Neighbor's radio set. c) Relative's radio set or borrowed radio set.	319	271 38 10	85 12 3	* Radio sets have come into widespread use. * Many people are listening to RTD programs.
2. Do you listen to "Secret of Promoting Health"? a) Yes. b) No.	402	299 103	74 26	* Many people are listening to "Secret of Promoting Health".
3. Reasons for being unable to listen to "Secret of Promoting Health" a) Have no radio set. b) Cannot receive RTD radio transmission. c) Reception conditions are bad/Have no battery. d) Do not know when the program is broadcast. e) Engaged in work when the program is broadcast.	200	72 49 17 52 10	36 24 9 26 5	* Radio set and battery are in short supply. * Reception conditions are bad. (Outside of service area/short-wave.) * Lack of information on radio programs.
4. Who is listening to "Secret of Promoting Health"? a) Father and mother only. b) Children only. c) All family members.	391	297 43 51	76 11 13	* Adults rather than children are listening to the program.
5. How helpful are radio programs? a) Helpful in everyday life. b) Helpful in working at my lessons. c) Helpful in doing my job. d) Provide useful information on longevity and promotion of health.	375	339 9 24 3	91 2 6 1	* Programs on longevity and promotion of health are very effective.
6. Opinions about "Secret of Promoting Health" a) The program should be continued. b) Its contents should be published in newspapers and books. c) The time for the program should be extended. d) Health workers should be kept informed of the program (so that they may explain this program to their patients). e) It is necessary to improve RTD's broadcasting equipment. f) Radio set/battery prices should be reduced. Their steady supply is requested. g) Visit by those who have participated in the program is requested.	205	57 19 61 3 10 21 34	28 9 30 1 5 10 17	* Much is expected of this program. * It is necessary to expand the service area. * Steady supply of low-priced radio sets and batteries is necessary.
7. Reception conditions at the time of listening to radio programs. a) Occasional jamming. b) Reception conditions are good.	370	165 205	45 55	* Jamming from a neighboring station, noises, scratches and fading. * Voltage drop due to shortage of batteries.
8. Diseases contracted. a) Hookworm disease b) Tuberculosis c) Hansen's disease	420	403 12 5	96 2.8 1.2	

1981 - Study Programme in Engineering Department

	Name of College/ Other Institution	Type of Education	Duration	No. of Students				
				1982	1983	1984	1985	1986
1	Radio Tanzania Training Center	Radio Transmission Technics (Technician)	3 months	12	16	20	6	-
2	Cairo Institute of Telecommunication	Telecommunication Principals (Technician)	5-6 months	3	3	3	3	3
3	National Institute of Productivity in Tanzania	Telecommunication on Management Courses (Engineer/Technician)	1-3 weeks	8	4	7	2	7
4	Technical College of Dar es Salaam	Telecommunication (Technician)	3 years	6	8	6	5	7
5	TANESCO Technical College	Telecommunication (Technician)	3 years	3	4	2	1	2
6	Foreign Training Institute (UK, W.G., JAP, USA, etc.)	Telecommunication (Engineer/Technician)	up to 1 year	3	8	8	5	4
7	Other Colleges in Tanzania	Telecommunication (Engineer/Technician)	Varies depend- ing on passes the exams	7	4	6	6	8
8	Dar es Sallam University	Telecommunication Dep.	4 years				1	1

Average Maximum and Minimum Temperature per Month
 TANZANIA Meteorological Agency

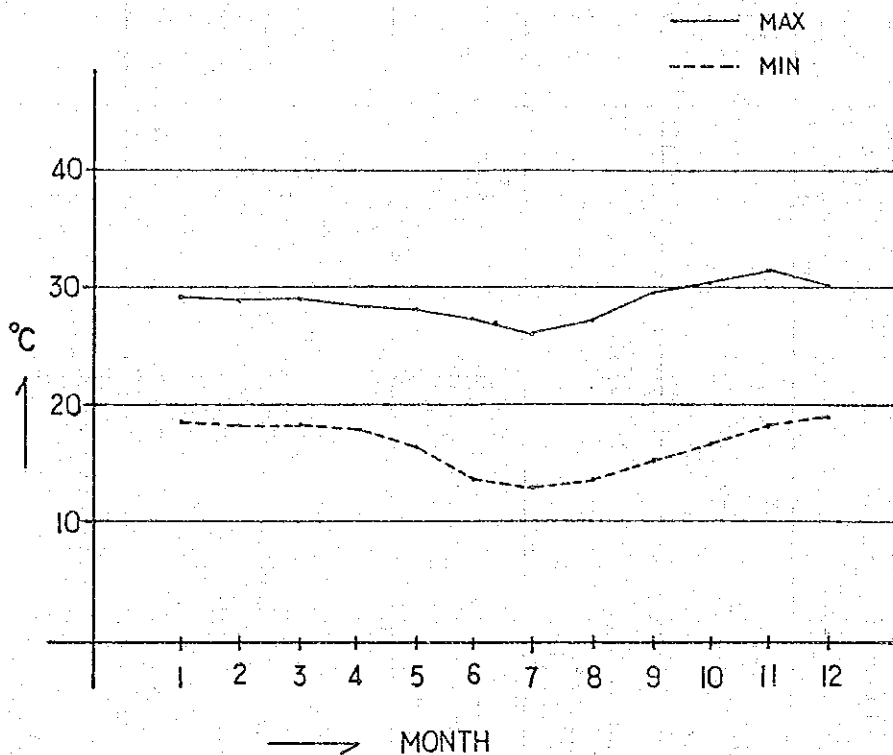


Fig.1 Average Maximum and Minimum Temperature (DODOMA)

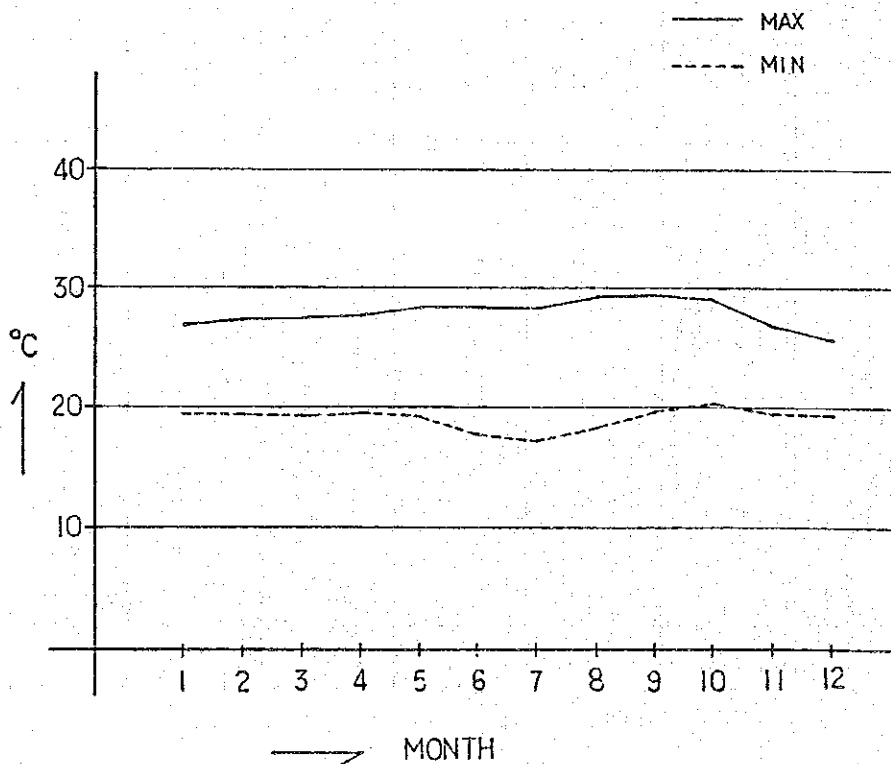


Fig.2 Average Maximum and Minimum Temperature (KIGOMA)

Average Humidity per Month

TANZANIA Meteorological Agency

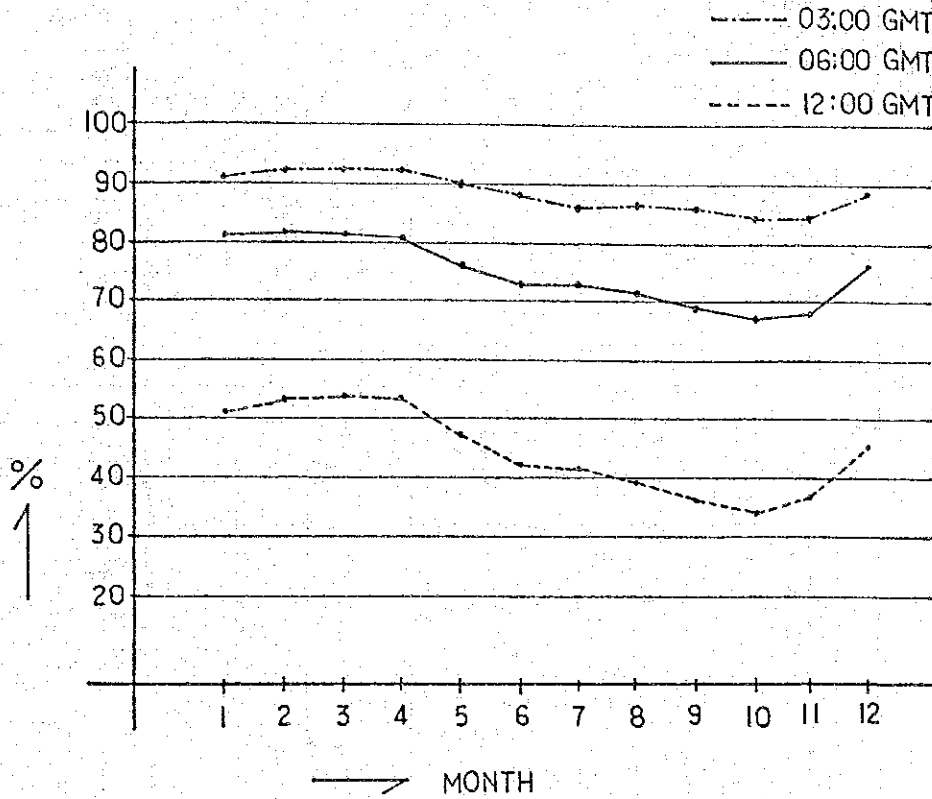


Fig. 3 Average Humidity (DODOMA)

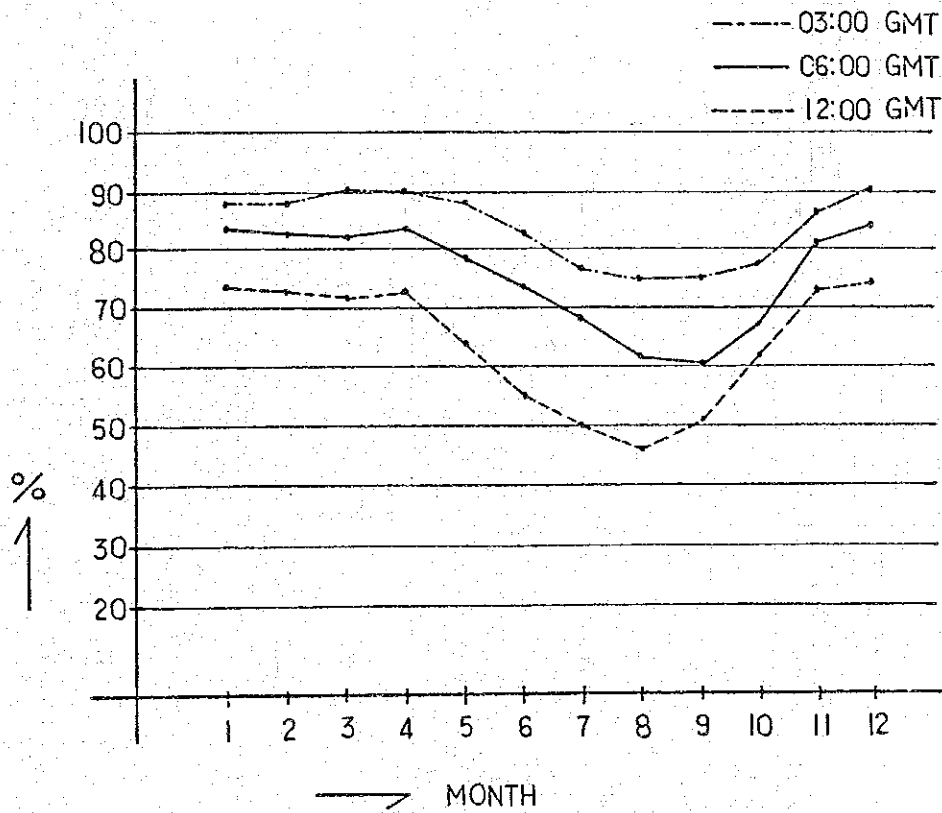


Fig. 4 Average Humidity (KIGOMA)

Table 1 DODOMA Weather Data

TANZANIA Meteorological Agency

STATION NAME DODOMA MET. STATION STATION NUMBER 96.35/001
 ALTITUDE 06°10.5' S LONGITUDE 35°46' E ALTITUDE 3670 FEET (1119 METRES)

MONTH	ATMOSPHERIC PRESSURE (1932-80)		TEMPERATURE		EXTREMES		1932-80		WET BULB		RELATIVE HUMIDITY		RAINFALL (1911-80)				
	0600 GMT	1200 GMT	MIN.	RANGE	HIGHEST	LOWEST	0600 GMT	1200 GMT	0600 GMT	1200 GMT	%	0600 GMT	1200 GMT	MEAN	HIGHEST	LOWEST	MAX. FALL
January	890.0	886.4	18.3	10.9	35.3	15.0	21.2	27.8	18.8	30.2	91	81	51	134	417	13	99.8
February	890.0	886.5	18.1	11.0	36.0	12.6	21.0	27.8	18.8	30.4	93	82	53	111	313	1	119.8
March	890.2	886.7	18.0	11.1	34.4	14.6	21.0	27.7	18.9	30.4	93	82	53	118	288	16	94.2
April	890.8	887.5	17.7	10.9	33.6	13.8	20.9	27.4	18.6	30.1	93	81	53	53	208	2	92.4
May	892.2	889.1	16.1	11.9	32.9	10.3	20.2	27.0	18.5	30.2	90	76	47	4	20	0	41.7
June	893.6	890.6	13.9	13.3	32.2	8.5	18.5	26.2	15.3	30.3	83	73	42	1	74	0	11.4
July	893.8	891.0	13.2	13.4	31.1	7.6	17.5	25.6	14.5	30.4	86	73	41	0	0	0	0.6
August	893.4	890.1	13.8	13.5	34.1	9.0	17.8	26.3	14.7	30.5	87	72	39	0	1	0	10.8
September	892.9	889.0	15.0	14.2	33.8	10.2	19.3	28.2	15.5	30.6	86	69	36	1	1	0	1.0
October	892.9	887.0	16.5	14.1	36.1	11.3	21.0	29.7	16.8	30.7	84	67	34	3	59	0	42.2
November	890.8	886.4	18.0	16.6	36.0	14.4	22.2	30.5	18.1	30.8	84	68	36	21	223	0	61.9
December	890.2	886.5	18.6	11.7	36.4	12.2	21.9	28.9	18.8	30.9	88	76	45	107	284	5	82.0
Year	891.7	888.2	16.4	12.5	36.4	7.6	20.1	27.8	18.8	31.0	89	75	44	528	965	221	119.8

MONTH	MEAN NUMBER OF DAYS OF RAIN	THUNDER	DAILY SUNSHINE (1974-80)		DAILY RADIATION (1965-80)		MONTHLY EVAPORATION		CLOUD AMOUNT (1932-80)		DAILY WIND RUI	WIND SPEED (1956-80)	CALMS (1966-80)	VISIBILITY (1961-80)				
			MEAN	MIN.	MEAN	MIN.	MEAN	HIGHEST	LOWEST	TOTAL				LOW	FOC	MIST-HAZE		
January	11	10	7.6	6.7	20.77	23.88	17.57	5.5	5.7	3.1	4.5	6	5	8	11	1	0	
February	10	10	8.5	7.2	20.65	23.29	15.97	5.5	5.4	3.3	4.7	6	5	10	8	1	0	
March	9	9	7.4	6.6	20.55	22.86	15.62	5.8	5.5	4.0	4.9	7	6	10	5	0	0	
April	6	3	7.3	6.6	19.62	21.67	16.20	6.0	5.7	4.7	4.5	5	7	4	5	0	1	
May	1	0	9.0	8.6	19.06	21.43	14.66	4.6	5.2	3.2	4.6	9	8	1	2	0	0	
June	0	0	9.6	8.7	19.95	21.53	16.95	3.5	4.0	2.4	3.3	9	8	1	1	6	0	
July	0	0	9.4	7.5	19.03	21.58	17.08	3.1	3.6	2.1	3.3	10	8	1	2	0	0	
August	0	0	9.5	9.1	20.99	23.18	14.63	3.0	3.5	2.4	3.3	12	10	0	1	0	0	
September	0	0	9.9	10.4	21.96	23.81	14.20	2.7	3.1	2.0	2.4	13	10	0	1	0	0	
October	0	0	9.8	10.6	22.49	24.55	14.97	3.6	3.8	2.1	2.6	13	11	0	1	0	0	
November	2	2	9.8	9.9	22.46	25.17	15.63	4.2	4.7	3.0	4.2	11	9	1	1	0	0	
December	8	8	9.0	9.7	20.49	23.28	17.33	5.0	5.4	3.5	4.3	8	6	7	9	0	0	
Year	47	43	9.8	9.2	20.79	22.58	17.46	4.5	4.8	3.0	4.2	9	8	43	50	2	1	10

Table 2 KIGOMA Weather Data

TANZANIA Meteorological Agency

94.2°/004

MONTH	ATMOSPHERIC PRESSURE (1934-50)		TEMPERATURE (1934-50)		EXTREMES		DRY BULB (1934-50)		WET BULB (1934-50)		RELATIVE HUMIDITY		RAINFALL (1936-50)			
	0600 GMT	1200 GMT	MIN	RANGE	HIGHEST	LOWEST	0600 GMT	1200 GMT	0600 GMT	1200 GMT	%	%	MEAN	HIGHEST	LOWEST	MAX. 24 HOURS
January	913.4	911.5	26.9	19.5-7.4	31.7	15.3	22.1	26.2	20.0	21.1	88	84	130	315	37	96.8
February	913.6	911.5	27.2	19.6-7.6	33.2	15.4	22.2	26.4	20.1	22.0	88	83	110	269	35	90.7
March	913.6	911.4	27.5	19.5-8.0	33.1	15.6	22.3	26.7	20.2	22.0	90	85	140	309	41	162.7
April	914.1	911.9	27.4	19.4-8.0	33.2	13.3	22.2	26.3	20.1	22.1	90	84	166	356	53	94.0
May	914.9	913.0	28.3	19.2-9.1	31.9	15.0	22.2	27.2	19.6	21.5	88	79	6	47	0	47.0
June	916.1	914.1	28.2	17.7-10.5	31.6	13.4	20.9	27.5	17.7	20.1	83	74	3	33	0	46.2
July	916.2	914.0	28.3	17.2-11.1	31.1	12.2	20.4	27.4	16.5	19.3	76	68	3	39	0	19.8
August	915.5	912.9	29.1	18.4-10.7	32.7	14.5	21.6	27.8	16.6	19.5	70	61	2	33	0	32.8
September	914.3	912.0	29.6	19.7-11.1	34.9	14.8	23.5	28.4	16.0	21.1	70	60	17	86	0	48.5
October	914.3	911.3	28.0	20.3-8.7	36.8	15.6	23.8	27.7	19.4	21.6	77	67	53	166	3	83.1
November	914.1	911.6	26.8	19.6-7.2	33.7	11.2	22.3	25.4	20.0	21.5	86	81	133	263	42	95.2
December	911.6	911.6	26.4	19.4-7.8	32.6	15.0	21.9	25.4	20.0	21.5	90	84	147	312	54	90.7
Year	914.6	912.2	27.9	19.1-8.8	36.8	11.2	22.1	26.9	19.0	21.2	83	76	975	1363	639	142.7

MONTH	RAIN NUMBER OF DAYS OF	DAILY SUNSHINE (1971-80)			DAILY RADIATION (1934-50)			MONTHLY EVAPORATION (1934-50)			CLOUD AMOUNT (1934-50)			DAILY WIND RUN (1936-50)	WIND SPEED (1936-50)			CALMS (1961-50)			VISIBILITY (1961-50)		
		MAX	MEAN	MIN	MAX	MEAN	MIN	MEAN	HIGHEST	LOWEST	TOTAL	0600	1200		2400	0600	1200	2400	0500	1200	2400		
January	13	6-6	4-9	4-9	163.2	163.2	163.2	6.3	5.8	3.0	2.9	5	8	4	2	0	0	0	0	2	1		
February	11	7-2	5-3	4-1	163.2	163.2	163.2	6.3	5.7	2.9	3.0	4	9	3	1	0	0	0	0	2	2		
March	14	7-1	4-1	4-1	163.2	163.2	163.2	6.4	5.8	3.2	3.4	5	8	4	1	0	0	0	0	2	2		
April	16	7-3	4-9	4-9	163.2	163.2	163.2	6.4	6.0	3.2	3.9	6	9	2	1	1	1	1	1	2	3		
May	7	8-6	5-7	5-7	163.2	163.2	163.2	5.5	5.1	2.9	3.2	7	9	1	1	1	1	1	1	1	1		
June	0	10-1	8-0	8-0	163.2	163.2	163.2	4.2	3.4	1.9	1.8	9	10	1	0	0	0	0	0	1	1		
July	0	10-3	7-7	7-7	163.2	163.2	163.2	3.5	2.3	1.7	1.2	9	11	1	1	1	1	1	1	1	0		
August	1	10-4	8-5	8-5	163.2	163.2	163.2	3.9	2.4	1.6	1.1	9	13	1	1	1	1	1	1	3	1		
September	3	9-3	6-4	6-4	163.2	163.2	163.2	4.7	3.6	2.1	1.8	8	12	1	1	1	1	1	1	3	2		
October	7	8-7	5-7	5-7	163.2	163.2	163.2	5.7	5.1	2.3	2.4	7	10	1	1	1	1	1	1	1	1		
November	16	8-5	4-7	4-7	163.2	163.2	163.2	6.6	6.1	3.3	3.6	6	9	4	1	1	1	1	1	2	3		
December	16	6-0	4-5	4-5	163.2	163.2	163.2	6.5	5.9	3.0	3.2	6	8	5	1	0	0	0	0	2	2		
Year	165	7-2	7-5	6-8	163.2	163.2	163.2	5.5	4.8	2.6	2.6	7	10	28	11	4	2	2	2	22	19		

Table 3 Nachigwea Weather Data

TANZANIA Meteorological Agency

STATION NAME NACHIGWEA PART TIME MET. STATION STATION NUMBER 100.38/007

LATITUDE 10°21'S LONGITUDE 38°45'E ALTITUDE 1520 FEET (462 METRES)

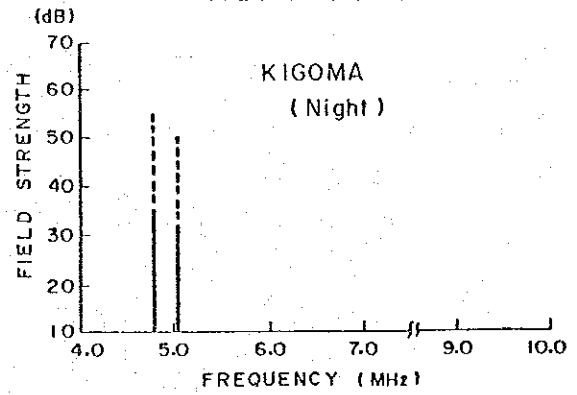
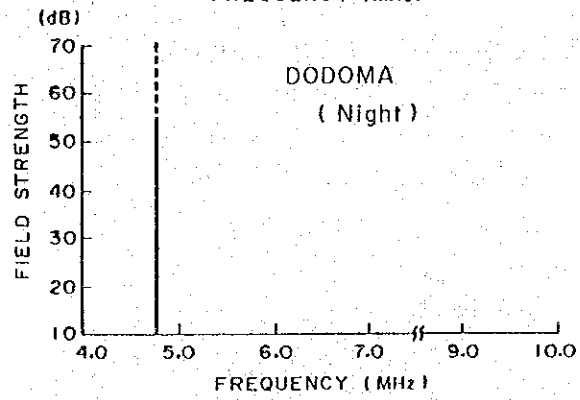
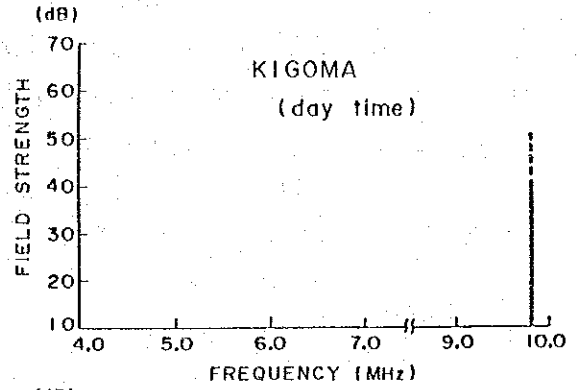
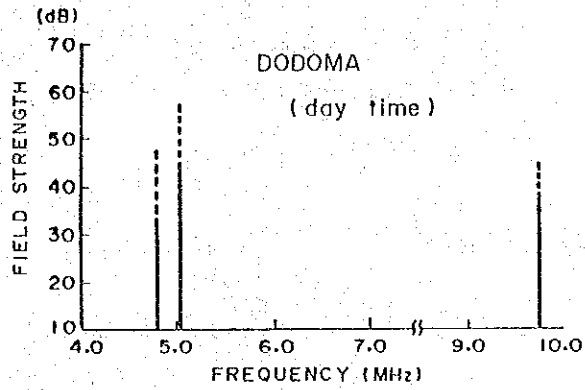
VI-3-1 (5/5)

MONTH	ATMOSPHERIC PRESSURE			TEMPERATURE				EXTREMES			DRY BULB			WET BULB			RELATIVE HUMIDITY			RAINFALL			MAX. 24 HOUR RAINFALL
	0600 GMT	1200 GMT	hPa	MAX.	MIN.	RANGE	HIGHEST	LOWEST	0600 GMT	1200 GMT	0600 GMT	1200 GMT	0600 GMT	1200 GMT	0300 GMT	0600 GMT	1200 GMT	MEAN	HIGHEST	LOWEST	MEAN	HIGHEST	
January	30.5	30.5	10.0	37.4	13.6	24.5	28.9	21.4	21.3	83	63	196	470	48	94.2								
February	30.0	30.0	9.6	35.0	14.5	24.2	28.6	21.7	21.6	86	66	185	328	68	108.7								
March	30.0	30.0	9.6	33.3	10.3	24.3	28.4	21.9	22.0	86	69	196	323	53	121.9								
April	29.3	29.3	9.6	32.6	10.3	23.5	27.8	21.2	21.1	86	67	151	310	40	102.9								
May	28.6	28.6	10.7	33.0	11.6	22.3	27.7	19.0	18.5	81	57	29	151	0	142.3								
June	28.2	28.2	11.8	34.0	9.0	20.8	27.2	17.0	15.5	79	49	30	130	0	112.6								
July	28.1	28.1	11.9	31.5	7.7	20.4	26.8	15.4	13.5	73	44	4	31	0	120.3								
August	29.5	29.5	12.9	36.0	10.8	21.3	28.1	16.4	13.4	73	40	15	15	0	113.0								
September	30.8	30.8	13.3	36.0	11.5	22.9	29.4	17.2	15.1	69	42	1	28	0	23.0								
October	32.1	32.1	13.7	36.3	12.9	24.6	30.8	18.2	16.1	68	42	6	37	0	19.8								
November	33.1	33.1	13.5	38.5	13.5	25.5	31.0	19.4	17.7	69	45	6	211	2	103.0								
December	32.1	32.1	11.7	38.5	12.1	25.5	30.3	21.2	19.6	77	53	125	318	1	123.2								
Year	30.2	30.2	11.5	38.5	7.7	23.3	28.8	19.2	17.9	77	53	950	1241	575	123.2								

MONTH	MEAN NUMBER OF DAYS OF RAIN	DAILY SUNSHINE	DAILY RADIATION			MONTHLY EVAPORATION			CLOUD AMOUNT			DAILY WIND RUN	WIND SPEED	CALMS			VISIBILITY		
			MAX.	MEAN	MIN.	PAN TYPE	HIGHEST	LOWEST	TOTAL	0600 GMT	1200 GMT			0600 GMT	1200 GMT	0600 GMT	1200 GMT	0600 GMT	1200 GMT
January	12	12	37.4	13.6	24.5	28.9	21.4	21.3	83	63	196	470	48	94.2					
February	11	11	35.0	14.5	24.2	28.6	21.7	21.6	86	66	185	328	68	108.7					
March	15	15	33.3	10.3	24.3	28.4	21.9	22.0	86	69	196	323	53	121.9					
April	13	13	32.6	10.3	23.5	27.8	21.2	21.1	86	67	151	310	40	102.9					
May	1	1	33.0	11.6	22.3	27.7	19.0	18.5	81	57	29	151	0	142.3					
June	1	1	34.0	9.0	20.8	27.2	17.0	15.5	79	49	30	130	0	112.6					
July	1	1	31.5	7.7	20.4	26.8	15.4	13.5	73	44	4	31	0	120.3					
August	0	0	36.0	10.8	21.3	28.1	16.4	13.4	73	40	15	15	0	113.0					
September	1	1	36.0	11.5	22.9	29.4	17.2	15.1	69	42	1	28	0	23.0					
October	1	1	36.3	12.9	24.6	30.8	18.2	16.1	68	42	6	37	0	19.8					
November	6	6	38.5	13.5	25.5	31.0	19.4	17.7	69	45	6	211	2	103.0					
December	11	11	38.5	12.1	25.5	30.3	21.2	19.6	77	53	125	318	1	123.2					
Year	73	73	38.5	12.1	23.3	28.8	19.2	17.9	77	53	950	1241	575	123.2					

VII Reference

VII-2-1

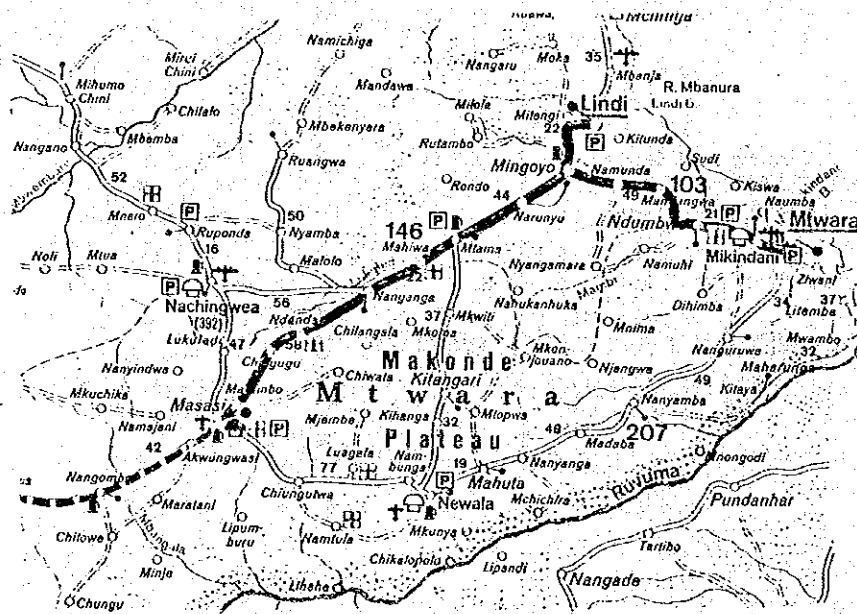


RECEIVING CONDITION OF SHORT WAVE
BROADCASTING AT DODOMA AND KIGOMA SITE

Findings of the Survey of Nachingwea Station

(1) Survey Routes and Transportation

Route	Transportation	Time required
Dar es Salaam - Nachingwea	Airplane (Twin otter)	1 hr and 20 min
Nachingwea - Masasi (47 km)	Car (Land Rover)	1 hr
Masasi - Mtwara (205 km)	Same as above	3 hr
Mtwara - Lindi (103 km)	Same as above	2 hr
Mtwara - Dar es Salaam	Airplane (Boeing 737)	50 min



Route Map

(2) Findings of the Survey

(a) Site

The proposed site for the radio broadcasting station has been procured in the suburbs of Nachingwea. Although it is not yet fenced round, landmarks are put up around it.

No preparatory work for construction of the studio in Lindi is started yet.

(b) Road Conditions

The road between Nachingwea and Masasi which is 47 km in length is not paved. There are several points on the road where the ground is soft. At the time of this survey, the road was sandy at these points. It is obvious that the road will become muddy in the rainy season. The road, when it becomes muddy, will allow no wheeled traffic except for four-wheel-drive vehicles.

The road between Masasi and Mtwara is paved completely. There is no damaged part of the road. There are three bridges near Mtwara. Two of them are concrete bridges and therefore cause no problem. But the one at Mbuo is a steel-frame bridge which may be vulnerable to heavy vehicles. The fact is, however, that trucks loaded with heavy materials are passing this bridge safely to and from the power plant construction site in Masasi.

(c) Electric Power

There are a couple of 350 kW power generators in Nachingwea, which supply a total of 700 kW electricity. Construction of the radio broadcasting station will require approximately 500 kW electricity, which it will be difficult for the two power gene-

rators to supply. In Masasi, however, a project to construct a large-scale power plant with a capacity of 9.63 MW (units of 3.21 MW power generators) with a British aid is well under way. This project will shortly be completed. Already a 33 kV power transmission line is installed near the proposed site. All in all, there will be no serious problem regarding power supply to the site.

(d) Program Transmission Line

A sufficient number of telephone lines are available as far as Masasi. In Masasi, however, there are only a few telephone lines for Nachingwea. Tanzania Posts & Telecommunications Corporation's telephone lines are available as far as Masasi. So it is necessary to install private program transmission link (UHF band) at places beyond Masasi.

(e) Reception Conditions

A survey of reception conditions in the daytime and in the night was conducted. As a result, it was found that medium-wave transmission reception conditions are so bad both in the daytime and in the night. Short-wave transmission reception in the daytime is free from jamming, but it sometimes becomes bad due to fading. In the night, short-wave transmission reception becomes bad due to heavy jamming.

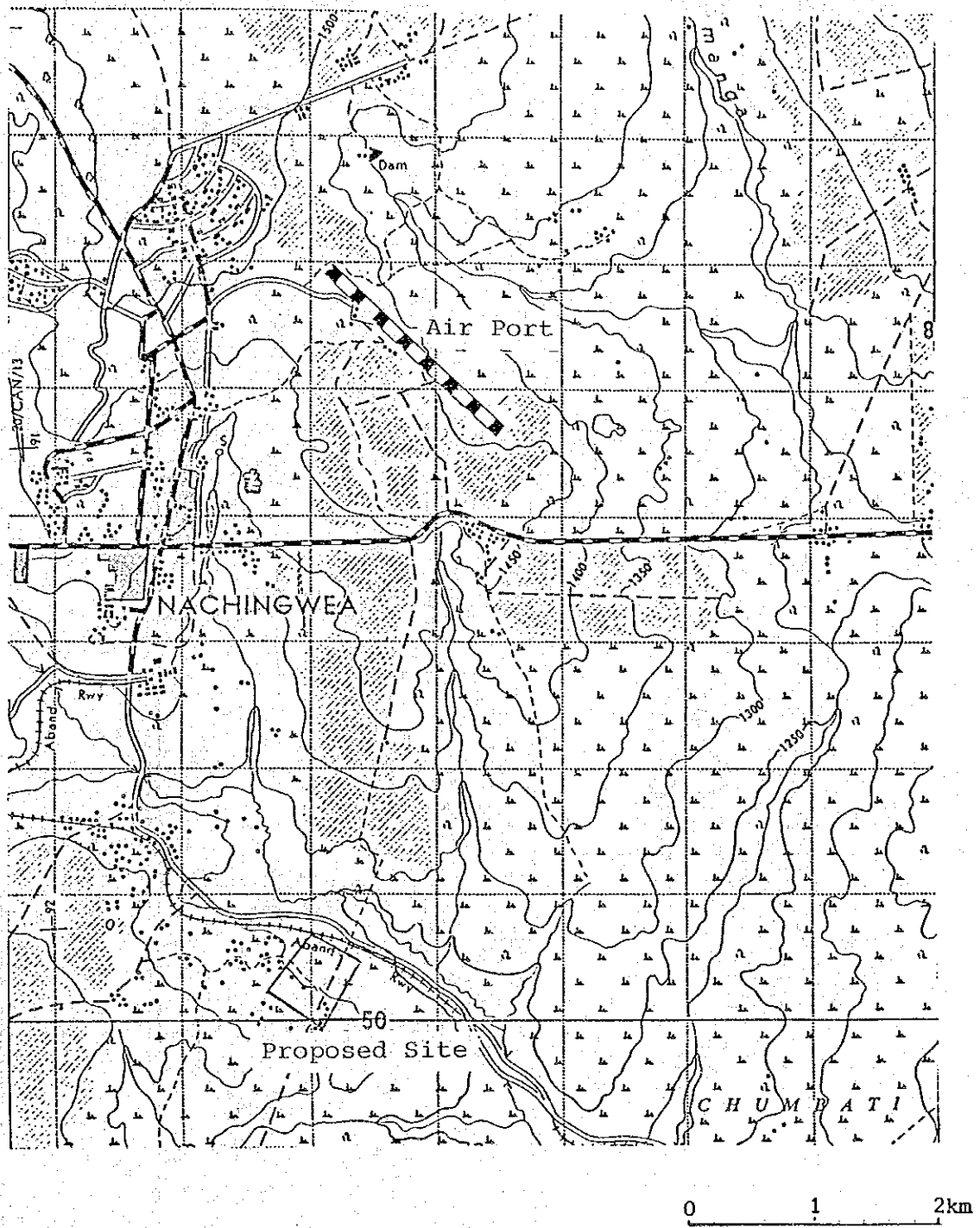
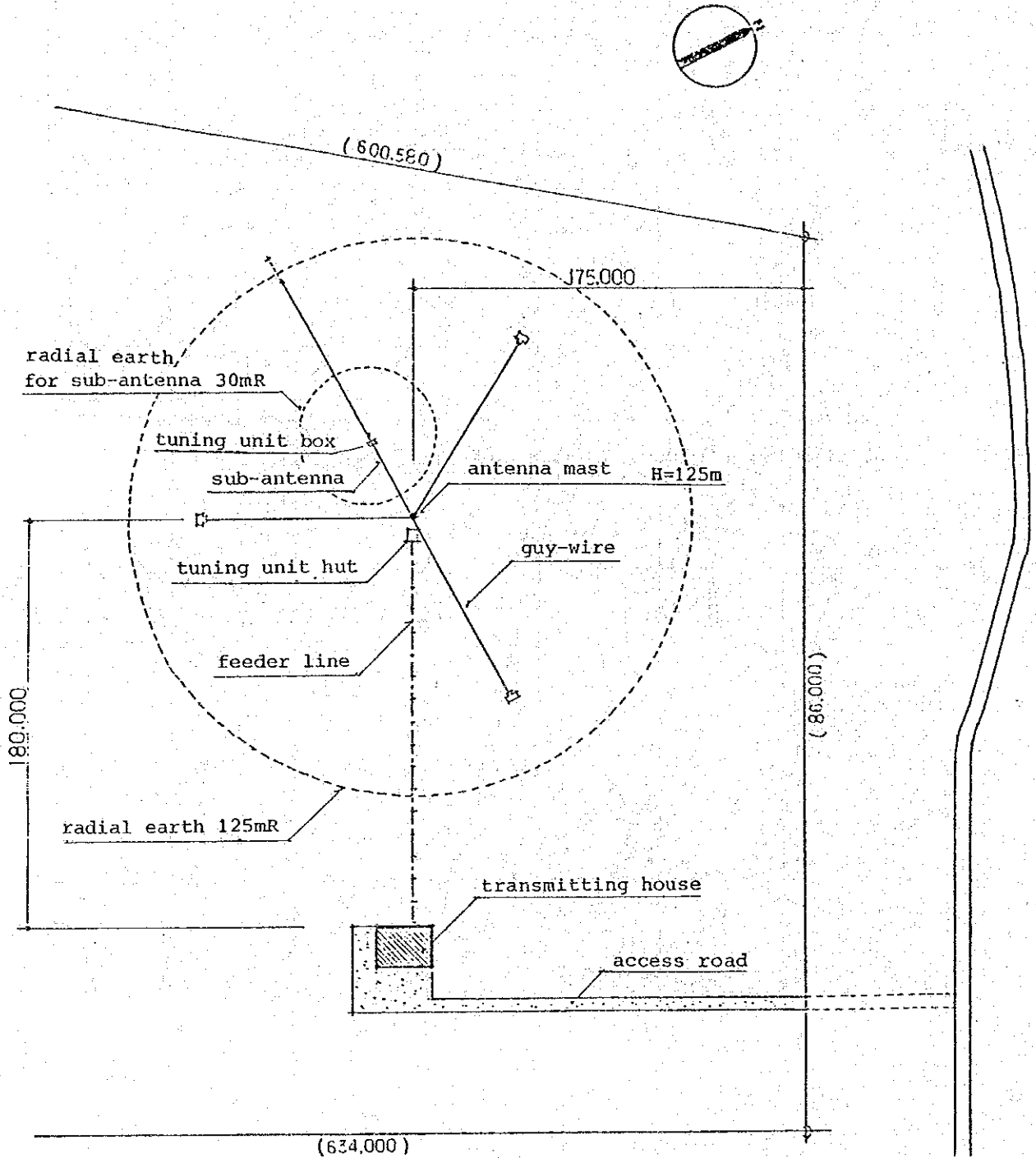


Fig. 1 Location Map of NACHINGWEA Proposed Site

VII-3-1 (5/6)



1 / 2 5 0 0

Fig. 2 Site Plan of NACHINGWEA Transmitting Station

VII-3-2 (1/7)

Soil Survey of Transmitting Site



**THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF COMMUNICATIONS AND WORKS**

**GEO-TECHNICAL INVESTIGATION WORKS FOR
THE PROPOSED DEVELOPMENT PROJECTS
FOR MEDIUM WAVE RADIO BROADCASTING
NETWORK AT DODOMA AND KIGOMA**

By: 1. Jackson Y. Mrema
2. Dr. Peter F.C. Komba

**CENTRAL MATERIALS LABORATORY
P.O. BOX 9452,
DAR ES SALAAM**

November, 1986

Table 1 Field Test Result of DODOMA Site

BH No.	Depth	Description of the soil strata	SPT (N) Value
1 (For the Transmitting Antennae)	0-1.m	Dry dark grey clayey silt. Very plastic, removal of the SPT sampler barrel during boring was difficult	N > 60
	1.0-2.5m	Dry light brown to reddish clayey silt soil the strata is very stiff as observed from open pit.	
2 (For the Building)	0-1.0m	Light brown to red compacted fine gravelly clay soil	N > 50
	1.0-3.0m	Brown soil very compacted coarse gravel strata	N > 60

Table 2 Presumed Bearing Value for DODOMA Site

BH No.	General Description and remarks of the soil	Presumed Bearing Value kN/m^2 for Foundation width		
		1.0m	2.0m	4.0m
BH No.	Cohesive dry stiff clayey soil Not possible to obtain undisturbed samples for strength determination assumed $C > 150 \text{ kN/m}^2$ with F.O.S.=2.5	500 200	400 160	200 80
BH No.2	Very compacted gravelly clay soil, GC, $N > 50$ with F.O.S.=2.5	600 240	500 200	400 160

VII-3-2 (3/7) MINISTRY OF COMMUNICATION AND WORKS

MATERIALS LABORATORY P.O. Box 9452 DAR ES SALAAM

BORE LOG

Project RTD NEW TRANSMITTING STATION - DODOMA Location MUNDEMU-36km FROM DODOMA

Bore Hole No. 1 Ground Elevation _____ Boring by J.Y. MREMA Date 16.10.86

Depth in cm	Depth in (ft.)	Elevation	Thickness	Legend	Type of soil, colour & consistency	Sample No.	S.P.T. S.C.P.												
							Blows per		(N-Value)										
							6" 15 cm	12" 30 cm	10	20	30	40	50	60					
30	1				Light grey stiff Heavy Clay-Silt	75/10cm													
60	2																		
90	3				Very Stiff Reddish Clay Silt Strata														
120	4																		
150	5																		
180	6																		
210	7																		
240	8																		
270	9																		
300	10																		
340	11																		
370	12																		
400	13																		
430	14																		
460	15																		
490	16																		
520	17																		
550	18																		
580	19																		
610	20																		
640	21																		
670	22																		
700	23																		
730	24																		
760	25																		
790	26																		
820	27																		
850	28																		
880	29																		
910	30																		

Fig. 1 : Borelog for BoreHole No.1 of Mundemu -Dodoma site.

Remarks:-

Driller:-

MATERIALS ENGINEER.

VII-3-2 (4/7) MINISTRY OF COMMUNICATION AND WORKS

MATERIALS LABORATORY P.O. Box 9452 DAR ES SALAAM

BORE LOG

Project RFD NEW TRANSMITTING STATION DODOMA on MUNDEMU

Bore Hole No. 2 Ground Elevation _____ Boring by MREMA Date 15.10.86

Depth in cm	Depth in (ft.)	Elevation	Thickness	Legend	Type of soil, colour & consistency	Sample No.	S.P.T. S.C.P.												
							Blows per		(N-Value)										
							6" 15 cm	12" 30 cm	10	20	30	40	50	60					
30	1				Reddish brown														
60	2				Stiff gravel sand														
90	3				clay		6	58											
120	4					SPT													
150	5				very compacted brown														
180	6				gravel sand-clay														
210	7					SPT	71	5cm											
240	8																		
270	9																		
300	10																		
340	11																		
370	12																		
400	13																		
430	14																		
460	15																		
490	16																		
520	17																		
550	18																		
580	19																		
610	20																		
640	21																		
670	22																		
700	23																		
730	24																		
760	25																		
790	26																		
820	27																		
850	28																		
880	29																		
910	30																		

Remarks:-

Fig. 2 - BoreLog for Borehole No.2 of Mundemu Dodoma Site.

Driller:-

MATERIALS ENGINEER.

Table 3 Field Test Result of KIGOMA Site

BH No.	Depth	Description of the Soil Strata	N-(SPT) Value
1	0-1.0m	Brown to red fine silt clayey soil, very low to non-plastic. The strata is medium to stiff	$N > 20$
	1.0-2.0m	Red gravelly silt soil of very low plasticity to non-plastic. The strata were stiff to very stiff strata	$N > 60$
	2.0-3.0m	Reddish purple boulders soft weathered rock or tuff rock strata	Observations from open pit
2	0-1.0m	Darkbrown, red silt sandy soil with very low plasticity to non-plastic medium to stiff strata	$10 < N < 20$
	1.0-2.0m	Light brown to red compacted gravelly silty soil with very low plasticity to non-plastic	$N > 50$
	2.0-3.0m	Brown to red gravel purple soft-weathered or tuff rock strata	Observation from Open pit

Table 4 Presumed Bearing Value for KIGOMA Site

BH.No.	General description and remarks of soils	Presumed Bearing Value kn/m^2 for foundation width:-		
		1.0m	2.0m	4.0m
BH No.1	Reddish coarse to fine fine gravel silt $N > 50$	600	600	400
	F.O.S. 2.5	240	200	160
BH No.2	Dark brown to reddish purple gravel silt $N > 50$	do as for BH.1	do as BH No.1	do as BH No.1

VII-3-2 (6/7) MINISTRY OF COMMUNICATION AND WORKS

MATERIALS LABORATORY P.O. Box 9452 DAR ES SALAAM

BORE LOG

Project NEW RED TRANSMITTING STATION Location NAHEMBA/KIGOMA
 Bore Hole No. 1 Ground Elevation _____ Boring by J.Y. MREMA Date 28/10/85

Depth in cm	Depth in (ft.)	Elevation	Thickness	Legend	Type of soil, colour & consistency	Sample No.	S.P.T. S.C.P.											
							Blows per		(N-Value)									
							6" 15cm	12" 30cm	10	20	30	40	50	60				
30	1				Light grey, brownish red fine silty clay													
60	2																	
90	3																	
120	4																	
150	5																	
180	6				Reddish to brown coarse gravel silt	SPT	13	23										
210	7					SPT	30	8cm										
240	8																	
270	9																	
300	10																	
340	11																	
370	12																	
400	13																	
430	14																	
460	15																	
490	16																	
520	17																	
550	18																	
580	19																	
610	20																	
640	21																	
670	22																	
700	23																	
730	24																	
760	25																	
790	26																	
820	27																	
850	28																	
880	29																	
910	30																	

Remarks:-

Fig. 3 : Bore log for BH No.1-Nahamba/Kigoma site.

Driller:-

MATERIALS ENGINEER.

VII-3-2 (7/7) MINISTRY OF COMMUNICATION AND WORKS

MATERIALS LABORATORY P.O. Box 9452 DAR ES SALAAM

BORE LOG

Project ~~RTD NEW TRANSMITTING STATION-KIGOMA~~ on ~~MAHEMBE~~ 16km From Kigoma
 Bore Hole No. 2 Ground Elevation _____ Boring by J.Y.MREMA Date 23.10.86

Depth in cm	Depth in (ft.)	Elevation	Thickness	Legend	Type of soil, colour & consistency	Sample No.	S.P.T. S.C.P.											
							Blows per		(N-Value)									
							6" 15 cm	12" 30 cm	10	20	30	40	50	60				
30	1				Top Soil dark grey Silt sand													
60	2				Stiff													
90	3				Dark Brown Sand													
120	4				Silt clayey soil	SPT	3	16										
150	5																	
180	6																	
210	7					SPT	9	49/25cm										
240	8			X X	very dense -stiff													
270	9			X X	Reddish clay-silt													
300	10			X X	sand													
340	11			X X														
370	12			X X														
400	13																	
430	14																	
460	15																	
490	16																	
520	17																	
550	18																	
580	19																	
610	20																	
640	21																	
670	22																	
700	23																	
730	24																	
760	25																	
790	26																	
820	27																	
850	28																	
880	29																	
910	30																	

Remarks:- Fig. 4 - Bore Log for Borehole No.2 -Mahanbe/Kigoma site.

Driller:-

MATERIALS ENGINEER.

VII-4-1

RTD Annual Expenses

(unit: thousand TSh)

I t e m	Actual Values, 1985/1986	
	RTD Annual Expenses	Arusha Station
Personnel expenses	15,924	692
Office & utility expenses (except power rates)	6,154	346
Power rates	8,445	1,655
Maintenance & operation expenses	16,131	847
Renewal & special expenses	2,133	—
Program production expenses	2,001	—
Training expenses	1,495	—
Others	3,455	—
Total	55,738	3,540

JICA