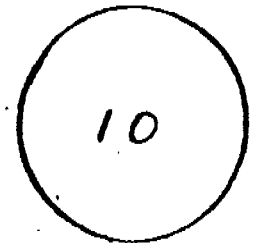
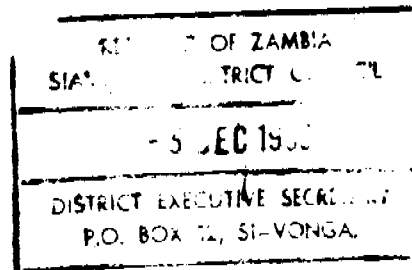


file note LWS

REPUBLIC OF ZAMBIA
SIYVONGA DISTRICT COUNCIL



All correspondence to be addressed to the District Executive Secretary.



GOVERNMENT ROAD,
P.O.Box 12,
SIYVONGA.

3 December, 1993

Telephone: 511340,
Direct line: 511279 (also Fax),
511255.

Your Ref:

Our Ref:

INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

Permanent Secretary
Ministry of Local Government & Housing
Lusaka

- cc: - Permanent Secretary NCDP - Sectoral Planning - Lusaka
- Director Department of Water Affairs - Lusaka
- Permanent Secretary Southern Province - PPU - Livingstone
- Hon. MP F. Hapunda - Lusaka
- UNICEF - Lusaka

Dear Sir

Re Request for a study and assistance to the Lusitu Water Supply - Siyavonga District - Southern Province

The Lusitu Water Supply system has been constructed in the early 60's to provide water to a mainly Tonga population, resettled from the Chipepo area, following the construction of the Kariba Dam. This system provides water to 15,000 inhabitants, mainly subsistence farmers living in a harsh environment.

The system is old, poorly maintained and on the verge of total breakdown.

Please find attached an urgent appeal for emergency assistance and a structural solution for a reliable and affordable water supply in this area. This request contains background information and basic data on the system and a request for assistance consisting of three main components:

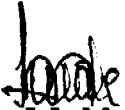
1. Financial assistance to the Siavonga District Council for emergency maintenance and operation of the system (reviving of the Gwembe Development Fund);
2. Technical Assistance to perform a comprehensive socio-economic and technical study of the system which should result in a project proposal;
3. Financial assistance to implement the project proposed in the above mentioned study.

By copy of this letter all other addressees are kindly requested to comment on this request, and inform the council and the RDPP planning adviser what assistance may be given.

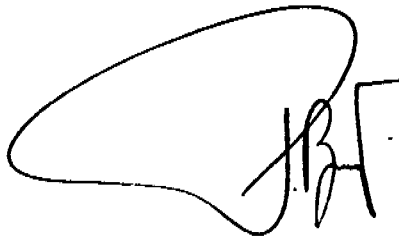
It is suggested that subsequent to your reaction a meeting of all involved parties is convened in Siavonga to discuss further steps to be undertaken.

Your assistance is much appreciated.

Sincerely yours



Ms. L.L. Mwale
Council Secretary



Peter J. Bury
Planning Adviser RDPP Siavonga District

- enclosure: request for assistance -

RECEIVED
SIYAMUSI
13/05/2012

15N 13292
824 ZM5093

THE LUSITU WATER SUPPLY SYSTEM A REQUEST FOR ASSISTANCE

BRIEF HISTORICAL BACKGROUND

Following the completion of the Kariba Dam in the late 50's, the Tonga living in the Zambezi valley were resettled. A big group from Chipepo area were resettled to the Lusitu area (see map attached). This area was thought to be suitable for agriculture. The Government put in infrastructure and seems to have promised the resettled community free provision and maintenance of services, including water supply. Since there was no adequate water supply and the ground water seemed unsuitable for consumption (this has to be checked), a water supply scheme was constructed in 1960 to provide water to people and their livestock. The project was constructed by Water Affairs and handed over to the then Gwembe District Council for operation and maintenance under the Gwembe Special Fund. Several extensions and rehabilitation measures have been taken since (see available data below).

From 1987 till 1991 the Gwembe Integrated District Development Project (GIDDP) has given assistance to the Gwembe District Council in partial rehabilitation and maintenance of the Lusitu Water Supply System (LWSS). Presently there is no mayor donor support to LWSS. The RDPP/GTZ planning adviser advises the council on the operation of the system and assists in scouting for technical and financial assistance for LWSS. During the drought relief in 1992-93 funds were made available by Canada Fund and UNICEF to build an extension pump to the LWSS intake to allow pumping of water from the Zambezi river at times when the water level is low. UNICEF has additionally agreed to provide some of the much needed spare-parts to keep the LWSS operational. funds are available under the UNICEF water programme.

PRESENT SITUATION

The responsibility for the operation and maintenance of the LWSS rests with the newly created Siavonga District Council (April 1993). In the previous period little or no funds were made available through the Gwembe Development Fund, administered by the Gwembe Council (e.g. the K300,000 available for 1992 for the LWSS were never released to Siavonga). ZESCO bills are not being paid due to lack of funds.

The council foreman (electrical and rural water supply) operates and maintains the LWSS with assistance of 5 pump operators and 6 general workers. The council pays the salaries of this personnel. Except for a few adhoc purchases (e.g. grease, smaller spare-parts) the council makes no funds available what so ever to the LWSS. The tractor and trailer are out of order and are not being repaired by the council. Water users do not contribute in any way to the maintenance or the operational costs of the system.

The LWSS is an old system. It has been poorly maintained, except for a few adhoc rehabilitation measures over the past 30 years. Pipes are breaking, due to excessive erosion in the area and vandalism by the local population. Several sections are out of order. Storage tanks are leaking or out of use, there are no provisions for overflows. Cattle troughs are dilapidated and not maintained by villagers. Water taps are leaking or not closed by users. Water tap points are not kept clean and are not protected against animals. Villages, with a few exceptions, have not created water user committees to manage and maintain the water points.

The system has frequent break-downs, people may be without water for periods up to one week. During the rain season frequent outbreaks of cholera have occurred in the past and may erupt this year again. Even if the system works the water quality is poor since it does not have a water treatment plant.

Available data

An overview of the system and its present general condition is given on the attached map.

The water intake is situated at Lusitu Sub-Center on the lower Zambezi (see map). The original diesel engine pumps were replaced by electric pumps in 1985 by Water Affairs. The water is pumped through a pipeline network about 21 kilometers long, originally there were 11 storage tanks with a capacity of 472,000 litres. An extension to the north-west of 11 kilometres was completed in 1970, including 8 more storage tanks with a capacity of 372,000 litres. Presently the total length of pipes is approx. 32 kilometres and the system has a theoretical storage capacity of 844,000 litres (equivalent to 56 litres per person including their livestock).

A village survey on the Lusitu Area was done by the RDPP project. The basic data available are attached in the annex.

No study on the availability and quality of local ground water could be traced. Local knowledge has it that ground water is salty and contains certain chemicals which make it unsuitable for consumption.

No technical documentation or feasibility studies of the LWSS have been traced (see note under DOCUMENTATION).

ASSISTANCE REQUESTED

1. Immediate financial assistance to the Siavonga District Council

As an immediate measure, in anticipation of the recommendations of the study proposed under 2., the Central Government through the Ministry of Local Government and Housing should allocate sufficient funds to the Siavonga District Council to operate the LWSS. At least enough funds should be made available for the operational costs like: (1) the electricity bills from ZESCO; (2) essential spare-parts and lubricants (e.g. grease), (3) the running and maintenance costs of the LWSS tractor. The present ZESCO bills amount to approximately K120,000 per month (K 1,440,000 on year basis).

The minimum needed annual recurrent budget in the present situation, including only the above mentioned items, should amount to approximately K 2,500,000. The funds should be provided by the Central Government and annually be adjusted to inflation and price levels. This budget should be made available until a new approach based on the study mentioned under 2. is being introduced.

2. Technical assistance to perform a comprehensive socio-economic and technical study of LWSS, which results in a project proposal

This study should come up with recommendations that are in line with national policies and cater for a viable and sustainable long-term solution on the provision of water to the population and livestock served by LWSS. The study should be performed by a multi-disciplinary team. The team should preferably consist of a water engineer, a geo-hydrologist, an economist and a socio-anthropologist. This team should consult and involve all relevant actors in Siavonga District. The study should cover the following aspects:

Political aspects: all relevant actors at national, provincial and local level (including MP's, councillors, etc..) should be consulted. An inventory of past and present political promises and policies should be made and analysed. An assessment of the present policy and the willingness of politicians to defend new policies (e.g. community participation, payment for services) towards the population should be made.

Socio-economic aspects: village and key-person (e.g. chiefs, NGO's, churches) interviews should be undertaken in the LWSS area to assess the views and capabilities of the water users to adapt themselves to the new national policies with regard to the provision of water, community participation and responsibility and payment for services.

Hydrological aspects: an inventory of available studies on water supply in the Lusitu area should be made. Local knowledge on availability of water (ground water, rainfall, river water, etc...) should be inventorised (Catholic Church, local farmers). The purpose is to find out whether boreholes, wells and dams could be an alternative to the piped water system, which has high operation and maintenance cost and does not easily allow for community participation and management.

Technical aspects: based on the results of the hydrological study a choice will have to be made to either remain with a piped water system or to switch to ground water solutions. In any case a thorough technical study will have to be undertaken with recommendations on the technical solutions regarding water supply in the area. A full inventory and assessment of the present state of the LWSS has to be made.

Financial aspects: a study has to be undertaken on the present available funding and the operational costs of running and maintaining the LWSS. Based on the recommendations of the other studies, cost estimates for capital expenditures (rehabilitation, new investments, etc.) and recurrent expenditures and revenues (water tariffs, community participation, etc.) have to be prepared. It should be specified which contributions are expected from the Siavonga Council and which contributions should come from the water users.

Managerial aspects: an assessment of the management capacity, the financial and technical expertise of the Siavonga District Council personnel should be made. Recommendations should be made on an eventual reorganisation of the management of LWSS (e.g. creation of a water authority, handing back to DWA, decentralisation to local communities?). It should be investigated which assistance and contributions can be expected from the national agencies addressed by this request.

Funding aspects: it should be investigated which possible sources for funding and technical assistance (zambian and/or foreign) could be tapped.

3. Financial assistance to implement the project proposed under 2.

The study mentioned under 2, should recommend who should play the lead role in scouting for funding to implement the solutions proposed in the study.

TERMS OF REFERENCE (TOR'S) FOR THE STUDY

The Terms of Reference will have to be specified more in detail on the basis of this request. It is suggested that UNICEF may assist the Government in preparing these TOR's and could possibly fund the study as well. Local knowledge is available in Siavonga and should certainly be used wherever possible.

DOCUMENTATION

The documentation listed below is partly attached to this request. The remaining documentation is available at the RDPP project in Siavonga. Documentation on the LWSS is extremely scarce. The newly created Siavonga District does not have any documentation on LWSS. Gwembe District and the PWE (Choma) have not been able to provide us with more documentation (especially on ground water studies, technical implementation studies for LWSS).

#	Title
1	Mwanamwenge, P.K., <i>Information paper on the rehabilitation of the water works at Lusitu resettlement scheme, Gwembe District, Southern Province, 2 p., undated (1988)</i>

2	Republic of Zambia, <i>Gwembe District Special Fund (dissolution)</i> , Chapter 481 of the laws of Zambia, Gov. Printer, Lusaka, 1968
3	GIDDP, <i>Instructions for Operation and Maintenance of 'Village water places' (VWP)</i> , 2p., March 1990
4	Mwanamwenge, P.K., <i>Information paper on the demonstration site at Lusitu Resettlement Scheme for the PSSC National Workshop</i> , 6 p., January 1989
5	RDPP, <i>Lusitu Water Supply System (Basic Data)</i> , 2 p., November 1993
6	Meijer, P.A. & Chelemu, K., <i>Lusitu soil and water conservation tillage</i> , Magoye, 1990
7	Warmbier, P.G., <i>Pre-feasibility study: Development of irrigation schemes in Lusitu</i> , Eschborn, 1988

LUSITU WATER SUPPLY SYSEM
(Basic Data)

Area/ Village	No. of H-Holds	Population	Type of Supply	Present = Condition	No. Taps	Appr.dist. to water (Km)	No. of Cattle	No. of Goats
Chilindi								
Siadombozya	75	566	LW-Tap	W	3		346	688
Uzibwamano	44	282	LW-Tap	W	1		282	573
Total in area:	119	848					628	1261
Kayuni								
Chiyambuka	32	202	LW-Tap	W	1			
Namukungulu	47	374	LW-Tap	W	2		100	117
Siamapabi	46	446				0.5	219	150
Siamutumbu	17	122	LW-Tap	W	1		74	64
Total in area:	142	1144					393	331
Lumbembe								
Kademaunga	31	192				1.2	56	383
Lumbembe	64	473					118	167
Mdangila	42	264	LW-Tap	N	3	0.6	36	96
Total in area:	137	929					210	646
Lusitu								
Chatumwa	67	332	LW-Tap	W	1		204	144
Gunduza	46	311						
Masaga	23	156				0.3	34	14
Mukuna	10	67				0.4	5	10
Munenga	45	381					93	225
Musulumba	98	678	LW-Tap	W	23		267	319
Ntambale	48	332	LW-Tap	W	12		152	153
Siachanga	34	190				0.2	63	74
Siambaza	80	547				0.3	162	144
Siamwanja	130	1131	LW-Tap	W	12		50	144
Simwelele	15	124	LW-Tap	W	1		49	158
Total in area:	596	4249					1079	1385
Machavika								
Chalisingandu	28	195				0.5		
Machavika	57	388	LW-Tap	W	2		19	20
Total in area:	85	583					19	20
Pambazana								
Chisamu	115	776	LW-Tap	W	2		1095	778
Dumbula	19	120	LW-Tap	W	2		5	
Mazulu	44	404				1.0	157	118
Pambazana	67	532	LW-Tap	W	7		111	175
Sialuselo	48	332	LW-Tap	W	1		358	619
Siamuzwe	20	121				0.5	57	22
Siasuntwe	126	786					198	444
Simwaalu	18	157	LW-Tap	W	1		115	48
Zindoga	31	224				1.5		31
Total in area:	488	3452					2096	2235

LUSITU WATER SUPPLY SYSEM
(Basic Data)

Area/ Village	No. of H-Holds	Population	Type of Supply	Present * Condition	No. Taps	Appr.dist. to water (Km)	No. of Cattle	No. of Goats
Simaundu								
Kadabuka	45	269	LW-Tap	P		-9.0	90	490
Kajazyo	42	199	LW-Tap	P		-9.0	74	183
Siabulembo	54	340				-9.0	398	12
Simakodolwa	38	251				-9.0	133	5403
Simanyangu	10	52	LW-Tap	P		-9.0	80	372
Simaundu	21	109	LW-Tap	P		-9.0	10	156
Total in area:							785	6616
Sitinkwi								
Chalichusya	42	374	LW-Tap	W	2		49	960
Muyaule	35	230				1.0	11	101
Siambote	30	296				1.3	37	582
Sitinkwi	37	321	LW-Tap	W	2			
Total in area:							97	1643
Sub Centre								
Irrigation Sch.	25	311					111	228
Nanjowelelwa	18	104				0.3		
Siajongolo	27	245	LW-Tap	W	1			
Siamuyaka	27	213				0.4		
Sianzebwe	40	275	LW-Tap	W	1		162	760
Total in area:							273	988
Total Lusitu Area:							5580	15125

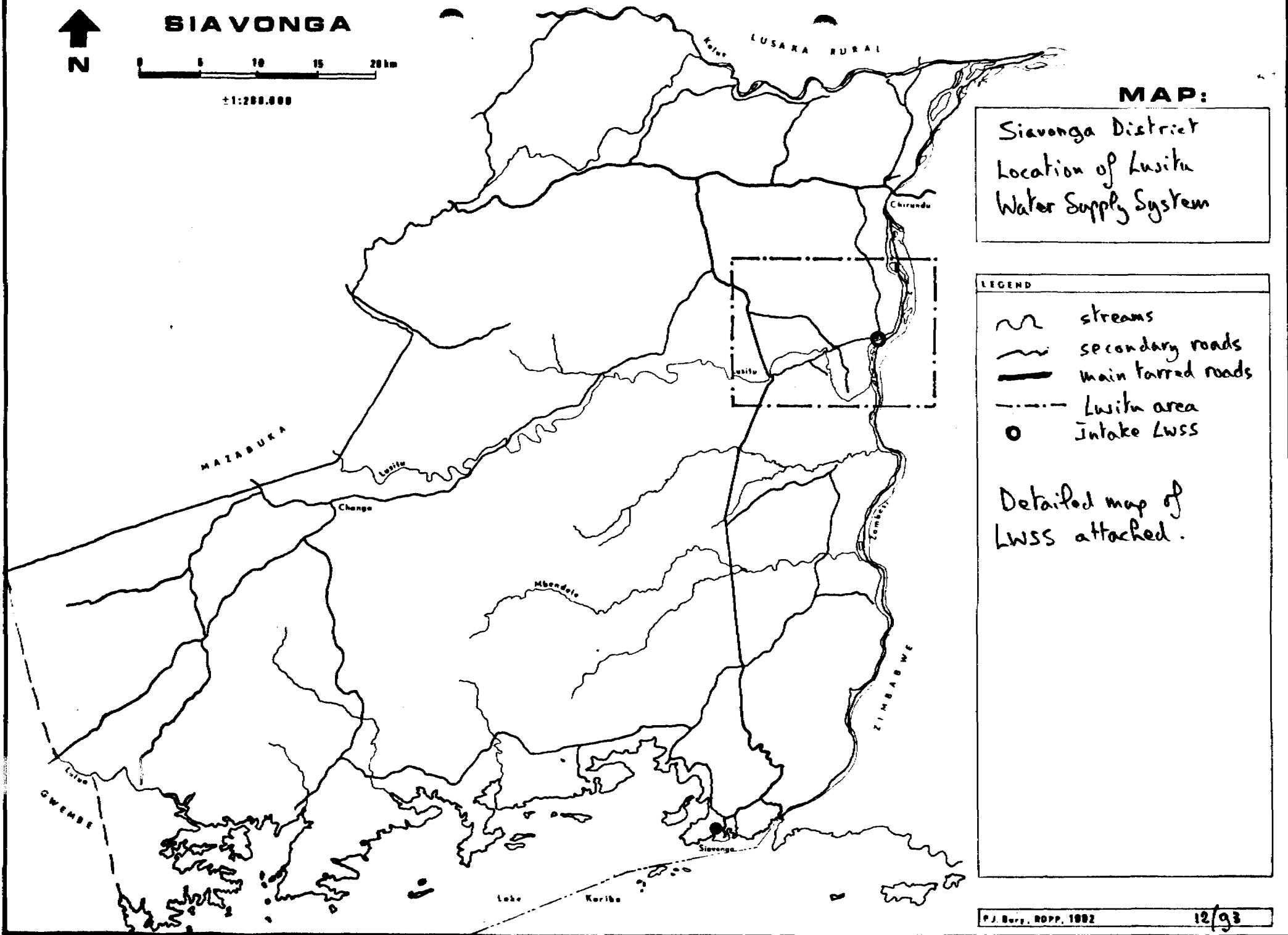
Note (*) Present condition: N = not working, P = proposed new extension, W = working
Appr.distance to water: -9.0 means village has no supply from the water system



SIAVONGA








±1:200,000



MAP:

Siavonga District
Location of Lusitu
Water Supply System

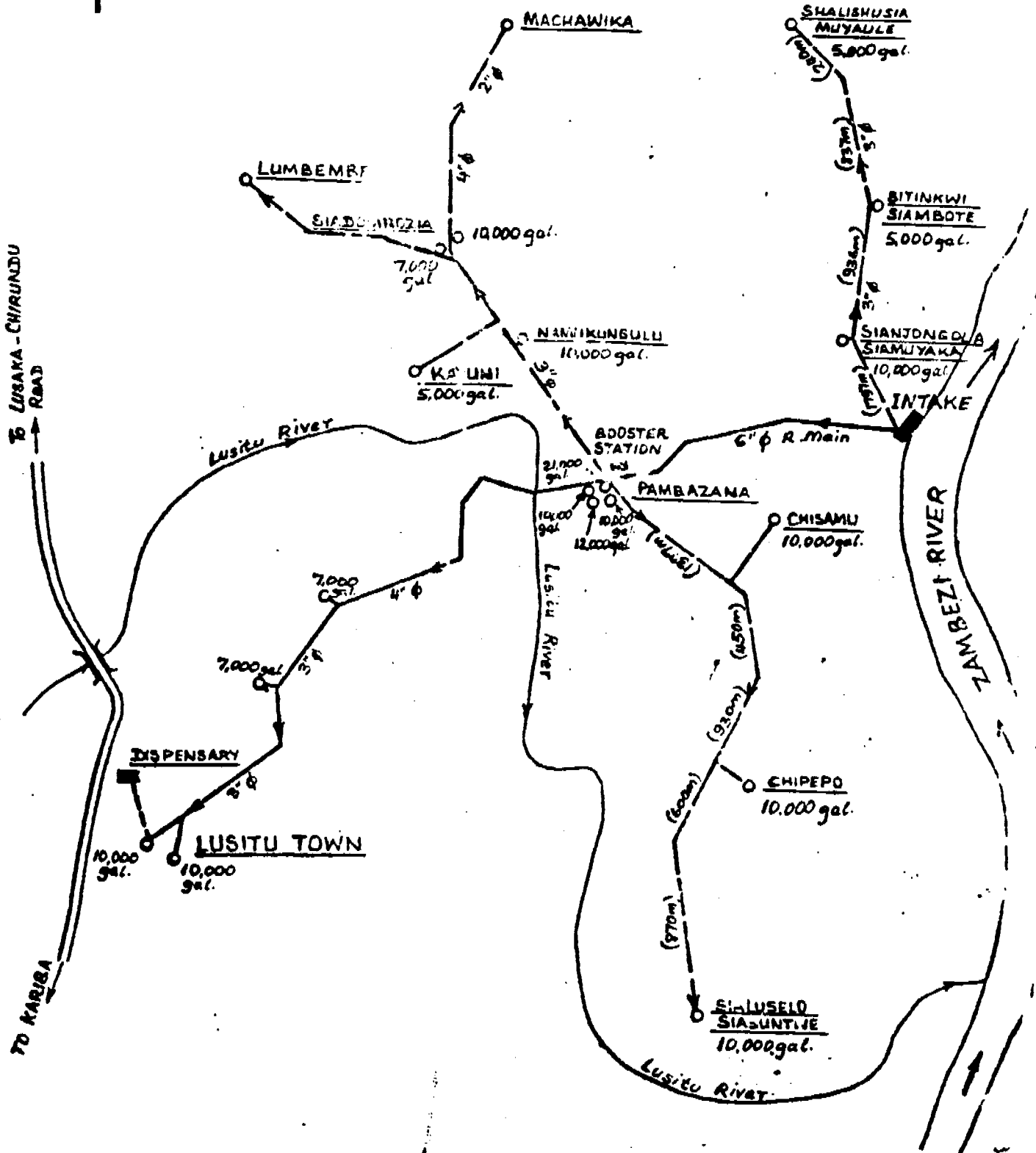
LEGEND

-  streams
-  secondary roads
-  main tarred roads
-  Lusitu area
-  Intake LWSS

Detailed map of
LWSS attached.

LUSITU TOWNSHIP WATER SUPPLY

LAYOUT PLAN



Notes:

- Pambazana to Si'luselo = 6022m (6" pipe)
- Intake to Shalishusia = 3310m (6" pipe)

10000 gal. storage

2 1/2 inch pipes

- E.L. at Bitinkwi = 1269.50'
- E.L. at Shalishusia = 1260.62'
- E.L. at Siantongola = 1278.70'
- E.L. Zambezi Intake = 1250.00'

• All elevations in feet

1990
not implemented

Gwembe Integrated District Development Programme (GIDDP)

Lusitu Water Supply System

**Instructions for Operation and Maintenance of
"Village Water Places" (VWP)**

The following instructions are briefly summarizing essential activities to operate and maintain water places successfully. Formulated proposals have to be considered as **absolute minimum** requirements to guarantee a sustainable water supply for human and livestock use.

1. Village Water Committee (VWC)

In order to organize necessary repair/maintenance works, every village should form a **Village Water Committee (VWC)**, consisting of 4 to 5 representatives of every sub-village. Two seats from every Sub-village should be reserved for women. In case a Village Health Worker is positioned, he/she should be an active member of the VWC.

Every VWC has the following tasks:

- to organize **maintenance** of water places in cooperation with the District Council. Repair requests have to be immediately forwarded to the District Council through the **Lusitu Water Supply Committee (LWSC)** and followed-up by the VWC.
- to introduce and supervise a **careful utilization** of all installations and check if rules and regulations are observed. **Regularly**, two members of the Committee should visit all the water places, assess the conditions and teach customers how to use the places properly.
- to elaborate **proposals** for the improvement of water places and their surroundings. The Committee should forward them to the District Council and follow them up carefully.

Every VWC has to meet regularly, in the starting phase (first three months) monthly and afterwards quarterly.

Every VWC has to elect one representative for the Lusitu Water Supply Committee (LWSC), situated in Lusitu Town and meeting quarterly on a fixed schedule. Transport has to be organized by the members themselves. Allowances are not being paid by the LWSC or any other organization. All repair/maintenance requests have to be discussed and compiled by this Committee and, after approval, forwarded to the District Council.

2. Rules and Regulations for Operation and Maintenance

STORAGE TANK

- Clean manhole frequently, not less than weekly
- Check gate valve (inlet and outlet) weekly
- Check ball valve monthly

TAP PLACE

- Supervise regularly if taps are opened and closed carefully
- Clean tap place and surrounding frequently, not less than weekly
- Clean settling box and drainage frequently, not less than weekly

CATTLE TROUGH

- Check gate valves (inlet and outlet) carefully and frequently, not less than weekly
- Clean cattle trough and surrounding frequently, not less than weekly
- Fill in fresh water every two days

Siavonga, 20th March 1990

Mr. Koch,
GIBDF Infrastructure Advisor

Mr. Mufaya
Electrical Foreman, Lusitu

INFORMATION PAPER ON THE DEMONSTRATION SITE AT LUSITU
RESETTLEMENT SCHEME FOR THE PSSC NATIONAL WORKSHOP
BRIEFING: SIAVONGA, ZAMBIA, 25th JANUARY, 1989

By

P.K. Mwanamwenge

PROVINCIAL WATER ENGINEER
SOUTHERN PROVINCE

NATIONAL WORKSHOP ON PIPED WATER SUPPLIES FOR SMALL
COMMUNITIES IN ZAMBIA, 23RD-28TH JANUARY, 1989
SIAVONGA, ZAMBIA

BRIEFING ON FIELD VISIT TO LUSITU PIPED
WATER SUPPLY SCHEME

INTRODUCTION

The area we shall be visiting is located between the main road leading to Siavonga and the Zambezi river. It is 50 Km from Siavonga as one drives back to the Lusaka - Chirundu road. The inhabitants are a farming community that originally lived along the Zambezi river in the area upstream of the Kariba Dam now occupied by the Lake Kariba.

Resettlement of these people took place before Zambia became an independent country. The resettlement issue had both political and economic aspects attached to it. The government by then had promised to give free water to the new settlers in Lusitu area. This idea or promise was arrived at when these people wanted an assurance from the government to be provided with free water simply because when they lived along the river Zambezi they drew water from the river at no cost. After the assurance was given to them they had to shift and start resettling themselves early in 1960. The economic aspect involved the whole country's benefit from the hydroelectric supply from the Kariba dam.

ORIGIN OF THE LUSITU WATER SUPPLY

The settlers in the Lusitu area had no source of water supply. Hence the government allocated some funds to for the construction of an adhoc water supply scheme. It was an adhoc scheme in the sense that, as it will be seen, the treatment plant was not included in the plan. An explanation to this anomaly cannot be given now. Of course plans are now underway to construct a treatment plant in the form of a slow sand

No. 1
filter. This is a project which is proposed to be undertaken by German Technical Aid to Zambia (GTZ).

The water abstraction was originally done by pumping water from the Zambezi river using Diesel Engine driven Pumps. Water was pumped through a pipeline almost twenty one (21) Kilometres long. There were eleven (11) storage tanks with a total capacity of 472000 litres. The project was constructed by the Department of Water Affairs and then handed over to the Gwembe Rural Council for the operation and maintenance under Gwembe Special Fund.

EXTENSION OF THE SCHEME

As time went by more and more people went to the Lusitu area for resettlement since the expansion of the lake reached other distant areas not originally anticipated. Hence more people left their original dwelling places opting to join the resettlement scheme. This increase in the population brought an increase in water demand. Hence there was a felt need to extend the water services further.

In 1968, 4 years after Zambia became an independent country, there was a proposal to extend the scheme to people living in the new settlements. The necessary extension of the pipeline totalling eleven (11) Kilometres was completed in 1970. Also, eight (8) more storage tanks with a total capacity of 372,000 litres were constructed. This now meant that the total pipeline of the whole scheme was 32 Kilometres and 19 storage tanks with a total capacity of 844,000 litres.

REHABILITATION

(a) Electrical Motors and New Pumps

By 1984 the Diesel Lister Engines and pumps originally installed 24 years earlier were not only uneconomical to maintain but that spare parts were becoming scarce. The only solution to maintain the water supply was to bring electricity

supply and install electric motors with suitable pumps. To do this work a total of K33287-87 was spent.

Electrification work and replacement of obsolete diesel engines with electric motors and appropriate pumps was completed by the Department of Water Affairs in 1985 and the system became operational on 22nd June 1985.

(b) Piping System

There has been an annual problem on the piping system. The pipe section crossing the Lusitu river has been breaking annually. Despite suspending the pipeline on huge reinforced concrete pillars every year the pipeline broke down during the rainy season by the thrust of the Lusitu river water. A recommendation has however been made on how to solve this problem. It has been recommended that a trench should be dug across the river bed about 1 to 1½ metres deep and then compacted. The surface should be grouted and then the pipeline should be laid on the grout while being anchored in either gabion or honeycomb concrete. The implementation of this work was assigned to Gauff Consulting Engineers Branch Office in Lusaka who have to do the job after rains are over.

POPULATION GROWTH

The population in the resettlement has grown tremendously. The population in 1988 is summarised in the following table

Population Table

Village	Population
Bridge	4155
Lumbembe	500
Chilindi, Kayuni, Pambazana	2941
Subcentre	5344
Total	12941

Conclusion

Although the scheme was constructed by the Department of Water Affairs and handed over to the Council for operation and maintenance there has been close co-operation between the two institutions. The Department of Water Affairs has always availed itself for technical advice and certain breakdown maintenance beyond the capability of the Gwembe Council Workers; this has been at the request of the Council.

THE PERMANENT SECRETARY
MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT
LUSAKA.

TELETYPE
16/5/88.
vide 611

361

10/88

ATTENTION OF MR. FELIX I. MWINGA

INFORMATION PAPER ON THE REHABILITATION OF THE WATER WORKS
AT LUSITU RESETTLEMENT SCHEME
GWEMBE DISTRICT
SOUTHERN PROVINCE

BACKGROUND

THE PEOPLE LIVING IN THE LUSITU RESETTLEMENT SCHEME ORIGINALLY LIVED IN THE GWEMBE VALLEY ALONG THE ZAMBEZI RIVER. WHEN THE ZAMBEZI RIVER WAS DAMED AT KARIBA, THE LAKE KARIBA SUBMERGED ALL THE AREA INHABITED BY THESE PEOPLE. HENCE THE GOVERNMENT OF THE REPUBLIC OF ZAMBIA RESETTLED THESE PEOPLE IN THE PRESENT LUSITU RESETTLEMENT AREA.

ORIGIN OF LUSITU WATER SUPPLY

SINCE THERE WAS NO ADEQUATE SUPPLY OF WATER IN THE RESETTLEMENT AREA A WATER SUPPLY SCHEME WAS CONSTRUCTED IN 1960 TO PROVIDE WATER TO BOTH PEOPLE AND THEIR LIVESTOCK. THIS WAS THE ORIGIN OF THE LUSITU WATER SUPPLY. BY THEN WATER ABSTRACTION WAS BY PUMPING WATER FROM THE ZAMBEZI RIVER USING DIESEL ENGINE DRIVEN PUMPS. WATER WAS PUMPED THROUGH A PIPELINE ALMOST TWENTY ONE (21) KILOMETRES LONG. THERE WERE 11 WATER STORAGE TANKS WITH A TOTAL CAPACITY OF 472 000 LITRES. THE PROJECT WAS CONSTRUCTED BY WATER AFFAIRS AND HANDED OVER TO GWEMBE RURAL COUNCIL FOR OPERATION AND MAINTENANCE UNDER GWEMBE SPECIAL FUND.

EXTENSION

IN 1968 THERE WAS A PROPOSAL TO EXTEND WATER SUPPLY SERVICES TO PEOPLE LIVING IN THE FOLLOWING VILLAGES: CHALICHUSIA, MUYAULE, SITINKWI, SIAMBOIE, SIANJONGOLA, SIAMUYAKO, CHISAMU, CHIPEPO, SIALUSELO, SIANSUTWE AND KAYUNI. THE NECESSARY EXTENSION OF PIPELINE TOTTALLING 11 KILOMETRES WAS COMPLETED IN 1970. ALSO, 8 MORE STORAGE TANKS WITH A TOTAL CAPACITY OF 372 000 LITRES WERE CONSTRUCTED. THIS NOW MEANT THAT THE TOTAL PIPELINE OF THE WHOLE LUSITU WATER SUPPLY SCHEME WAS 32 KILOMETRES WITH A TOTAL CAPACITY OF 844 000 LITRES.

REHABILITATION

a. Electrical Motors and Pumps

BY 1984 THE DIESEL LISTER ENGINES AND PUMPS ORIGINALLY INSTALLED WERE NOT ONLY UNECONOMICAL TO MAINTAIN BUT THAT SPARE PARTS WERE BECOMING SCARCE. THE ONLY SOLUTION TO MAINTAIN THE WATER SUPPLY WAS TO BRING ELECTRICITY SUPPLY AND INSTALL ELECTRIC MOTORS WITH SUITABLE PUMPS. TO DO THIS WORK A TOTAL OF K332871-87 WAS SPENT AND SUMMARISED AS FOLLOWS:-

(1) BRINGING OF POWER LINE TO THE TWO PUMP STATIONS AT ZAMBEZI AND PANIBAZANE (BY ZESCO)	= K223700-00
(2) ELECTRIC MOTORS - EX HAWKER SIDDELY AND E.W. TARRY'S	= K 28641-00
(3) PUMPS - EX AFE	= K 41119-70
(4) STARTER SWITCH, FUSES ETC. EX ALLEN WEST	= K 28385-00
(5) CABLES - EX ZAMEFA	= K 3601-38
(6) MISCELLANEOUS FITTINGS	= <u>K 7424-79</u>
TOTAL	= <u><u>K332871-87</u></u>

ELECTRIFICATION WORK AND REPLACEMENT OF OBSOLETE DIESEL ENGINES WITH ELECTRIC MOTORS AND PUMPS BY WATER AFFAIRS DEPARTMENT WAS COMPLETED IN 1985 AND THE SYSTEM BECAME OPERATIONAL ON 22ND JUNE 1985.

b, Piping System

THE BREAKING DOWN OF THE PIPE SECTION CROSSING THE LUSITU RIVER HAS BEEN AN ANNUAL PROBLEM. DESPITE SUSPENDING THE PIPELINE ON HUGE REINFORCED CONCRETE PILLARS EVERY YEAR THE PIPELINE BROKE DURING THE RAINY SEASON BY THE THRUST OF THE LUSITU RIVER WATER.

DURING THE FAMINE AND DROUGHT RELIEF NATIONAL TASK FORCE TOUR OF THE LUSITU AREA IN 1987 THIS PROBLEM WAS REPORTED TO THE WATER ENGINEERS IN THE TEAM. A RECOMMENDATION WAS MADE THAT THE PIPELINE SECTION THAT CROSSED THE RIVER SHOULD BE BURIED UNDER THE RIVER BED. TO DO THIS JOB IT WAS RECOMMENDED THAT A TRENCH SHOULD BE DUG ACROSS THE RIVER BED ABOUT 1 TO 1½ METRES DEEP AND THEN COMPACTED. THE SURFACE SHOULD BE GROUTED AND THEN THE PIPELINE SHOULD BE LAID ON THE GROUT ANCHORED IN EITHER GABION OR HONEY COMB CONCRETE.

IMPLEMENTATION OF THIS WORK WAS ASSIGNED TO GAUFF CONSULTING ENGINEERS BRANCH OFFICE IN LUSAKA. DROUGHT AND FAMINE RELIEF FUNDS WERE TO FINANCE THIS WORK. AFTER VISITING THE SITE LATE IN NOVEMBER 1987 WORK OF DIGGING THE TRENCH STARTED EARLY DECEMBER 1987. THE TRENCH WAS DUG 1 (ONE) METRE DEEP SPANNING ¼ OF THE 30 METRE WIDE RIVER BED. WORK WAS STOPPED BECAUSE THE RIVER BED BECAME FLOODED WHEN RAINS CAME. SINCE THAT TIME TO DATE NOTHING HAS BEEN DONE. STILL AT PRESENT MOMENT NOTHING CAN BE DONE UNTIL THE WATER IN THE RIVER HAS RECEDED TO A FAVOURABLE LEVEL TO ENABLE TRENCH DIGGING TO RECOMMENCE AND THIS CANNOT BE UNTIL PROBABLY AUGUST.

IN THE MEAN TIME THE PIPELINE WAS LAID IN THE SAND AND UNTIL APRIL 1988 THE PIPELINE REMAINED INTACT.

CONCLUSION

THE WATER SUPPLY SCHEME WAS CONSTRUCTED BY WATER AFFAIRS DEPARTMENT AND THEN HANDED OVER TO THE GWEMBE DISTRICT COUNCIL FOR OPERATION AND MAINTENANCE. OUR DEPARTMENT HAS ALWAYS BEEN AVAILABLE FOR TECHNICAL ADVICE AND CERTAIN BREAKDOWN MAINTENANCE BEYOND THE CAPABILITY OF THE GWEMBE COUNCIL AND THIS HAS BEEN AT THE REQUEST OF THE COUNCIL JUST LIKE WE HAVE BEEN WORKING WITH ANY OTHER COUNCIL IN THE SOUTHERN PROVINCE.

THE ABOVE INFORMATION IS AS FAR AS MY OFFICE HAS BEEN INVOLVED IN AND IS AWARE ON THE LUSITU WATER SUPPLY SCHEME OTHERWISE I AM NOT AWARE OF SPECIFIC DIRECTIVES ON "IMPLEMENTATION OF CABINET DECISIONS"


P.K. MWANAWENZE
ACTING PROVINCIAL WATER ENGINEER
SOUTHERN PROVINCE

PKN/as*

1. A district Water, Sanitation and Health Education (WASHE) committee is operational;
2. The WASHE rural water policy is being implemented in close co-operation with the Community Management and Monitoring Unit (CMMU) and UNICEF;
3. A project proposal for emergency aid, a feasibility study and rehabilitation of the Lusitu Rural Water Supply system was submitted to relevant Ministries.

Training

1. An orientation workshop for councillors, district and line department staff on district planning and management was held;
2. On the job training on development planning and management is given to various development actors;
3. Advice on management, budgeting, income generation, personnel management is being provided;
4. Data management and computer training is being provided;
5. Training in utilisation of GIS is being provided;
6. Field visits and visits to other projects within and outside Zambia are conducted.

Forthcoming Activities

- GIS results on land suitability, environmental hazards, carrying capacity, socio-economic planning;
- Formulation of a draft district development strategy;
- Pilot introduction of area level participatory / multi-disciplinary planning exercises;
- Setting of development priorities, planning and budgeting in the DDCC;
- Implementation of the road / stream crossing rehabilitation programme;
- Implementation of a participatory rural water rehabilitation and maintenance programme;
- Training in (regional and project) planning, human resources management, finance and budgeting, GIS and computer handling.

Constraints in implementation

- Slow recruitment of necessary personnel;
- Late disbursement of counterpart funding;
- Motivation constraints of civil servants;
- Deficiencies in experience and training;
- Low self-help potential of population;
- Insufficient accommodation and office space and therefore insufficient competent district staff;
- Marginality of district, recurrent droughts / food shortages.

Project Counterparts

Mr. Francis Siyunyi
District Planner, Siavonga District Council

Mr. Stewart Ndhlovu
Director of Works, Siavonga District Council

Other Council Officers and support staff

Project Desk Officer

Mr. Lazarus Mwiinga, Asst. Commissioner Town & Country Planning, Ministry of Local Government & Housing - Lusaka. Ph: (01)-250998 / FAX (01)-250859

Project Local Personnel

Mr. Evans Mweetwa
Data analyst / GIS operator

GTZ-Advisor

Mr. Peter J. Bury
Planning Advisor

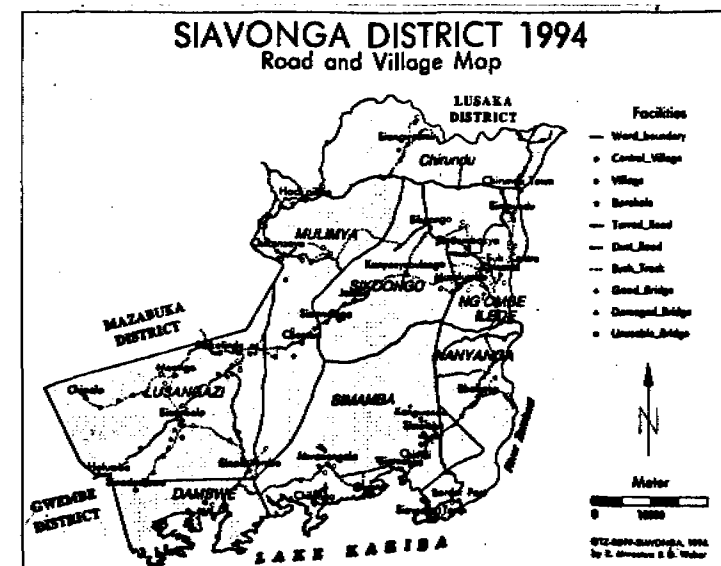
Contact:

Siavonga District Council
P.O.Box 12 - Siavonga
Ph: (01)-511371 / 511340
FAX: (01)-511279

RDPP Advisor
c/o GTZ-PAS
P/Bag RW 37 X - Lusaka - Zambia
Ph: + 260-1-511014 / 511248
FAX: + 260-1-511248 / 222875
e-mail Internet address: RDPP@unza.gn.apc.org

Regional Development & Programme Planning - RDPP - Siavonga District

Projnr: 91.2006.8-01.100



Executed by:

The Ministry of Local Government & Housing /
Siavonga District Council
&
The German Agency for Technical Co-operation 

Project Context

Siavonga District covers 3,600 km² in the northern part of the Gwembe Valley, Southern Province, along Lake Kariba and the Lower Zambezi. The district covers an escarpment zone with a temperate climate and adequate rainfall and the valley area which has one of Zambia's hottest and driest climates, erratic and unreliable rainfall (average 650 mm/y) and shallow soils. Siavonga, former sub-district of Gwembe, became a fully fledged district in 1993. The area has been heavily influenced by the construction of the Kariba dam in 1960 and the creation of Lake Kariba, causing the resettlement of more than 30,000 very traditional Valley-Tonga. Within the district, Lusitu is the main resettlement area. The district population consists of Tonga, Goba and immigrated Bemba and Lozi fishermen. The total population is estimated at 56,000 with a population growth of about 3,8%. The rural population lives concentrated in resettlement areas and along streams and poor roads. Population pressure on accessible arable land is high and exceeds 70/km². About 90% of the population consists of subsistence farmers living of shifting dry-land cultivation and extensive animal husbandry. Along the lakeshore traditional fishermen, mainly from other areas, have settled. The district is a structural food deficit area. Some form of food relief is given most of the years. The district has two small urban centres. Chirundu is Zambia's main border post and gateway to Zimbabwe and Southern Africa. Siavonga township has about 10,000 inhabitants. Formal employment is with the electricity plant KNBC, the tourist and kapenta fishing industry and government institutions.

Project History

In 1987 the Gwembe Integrated District Development Project (GIDDP) started pilot activities covering infrastructure, administration, agriculture, transport and fisheries. Outcome of the 1991 evaluation of the orientation phase was that GIDDP was split into four sector projects: (1) Siavonga Agriculture Development Project (SADP); (2) Lake Kariba Fisheries Project (LKF); (3) Lake Kariba Waterways Ltd. (LKW) and; (4) Regional Development & Programme Planning (RDPP).

Project Purpose

The project is designed to establish the planning and co-ordination basis for a long term development strategy in Siavonga District. A relatively ineffective service provision by the district administration is largely caused by the ineffective operations of the administration, inadequate planning and co-ordination capacity, lack of a co-ordinated district development strategy and the poor participation of

the rural people in self-help development activities. The purpose of the project is to create the basis for formulation and updating of a long term feasible development concept and programme co-ordination.

Project Objectives

The project contributes to the strengthening of the district management and planning capacities. The goal is that the use of available resources for the provision of services and basic infrastructure is continuously planned, co-ordinated and implemented in accordance with the identified needs of the people in Siavonga district. The results needed to achieve the goal are as follows:

1. Development planning and co-ordination capacity in the district administration is strengthened (from plan formulation through to implementation);
2. A district development concept/strategy is elaborated;
3. Village/area level planning and development is promoted and integrated into district development strategy;
4. Road improvement and rural water supply maintenance is supported.

Project Duration and Budget

The project was started in July 1991. Following a midterm review, the project phase was extended and funded till end 1995. A project progress review is scheduled for May 1995, at which time a possible extension of the project will be discussed.

The joint Zambian-German project is funded by both parties. The yearly recurrent GRZ counterpart funds are estimated at 20 Million Kwacha. GRZ capital expenditures for counterpart accommodation and office space is estimated at 26 Million Kwacha (420 ZK = 1 DM). The German assistance is estimated at 2,2 Million Deutsche Mark, including 0,5 Million DM for infrastructure rehabilitation.

Project Equipment

The project operates a number of vehicles and motorbikes, office equipment and supplies and equipment for the Geographic Information System (GIS).

Project Human Resources

The project is implemented by the Siavonga District Council, main technical counterpart staff includes the District Planner and the Director of Works. The project is assisted by one GTZ long term planning adviser and up to 14.4 man months of short term experts in specific

disciplines. Project staff includes a data-analyst/GIS operator and support staff.

Results Achieved To Date

Result 1

1. Management and co-ordination procedures have been/are being improved;
2. Co-operation within and outside the district has been intensified both with private sector and NGO's and with Governmental Institutions and donors;
3. A District Development Co-ordination Committee (DDCC) is operational;
4. Various inter-departmental sector committees are operational;
5. The post of Director of Works and District Planner have been filled since mid 1994. Two staff houses have been built.

Result 2

1. Data collection, up-dating and analysis are taking place; amongst others comprehensive databases on villages, socio-economic infrastructure and physical data have been built up;
2. In collaboration with research and technical institutes in Zambia and Zimbabwe, a Geographic Information System, involving field surveys, local knowledge, aerial and satellite imagery has been set-up and is being further developed. The GIS is being used for various planning purposes and services are being rendered to various end-users;
3. Development strategies are being formulated for specific sectors (water, roads, health, education, social welfare, housing, tourism, agriculture, forestry, animal husbandry, natural resources, land use planning).

Result 3

1. The project is involved in the pilot participatory village level land-use planning exercise. Concepts for setting up local level participatory development planning to be integrated with the village level land-use planning are being developed.

Result 4

1. Implementation of a labour intensive road rehabilitation programme involving Care Zambia, council and population is being prepared;
2. Road rehabilitation priorities have been set, a road/stream crossings survey was done; technical design and programme proposal are being prepared;
3. Co-operation with Roads Department is in place and GRZ funding for road regrading has been obtained in limited quantities;
4. Support is given to the council boreholes maintenance programme. Substantial funding is received from UNICEF and Norad.