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Signatur

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Aktenzeichen

3/83

Titel

Gwembe South Development Project (GSDP), Bewässerungslandwirtschaft

Band

2

Laufzeit

1979 - 1988

Enthält

Unterlagen betr. Bewässerungslandwirtschaft im GSDP, Schriftwechsel, Protokolle, Berichte, Arbeitspläne, auch Finanzen; Unterlagen Buleya Malima 1985-1987; Nkendabwe 1983 u. 1988, Schriftwechsel, Progress Reports; Vorschläge zu Small Scale Irrigation, 19

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Buleya
Malima

1. DATE: 4-2-88

2. STATION: BUEYA MALIMA IRR. SCHEME

3. REPORTING OFFICE: KINGSLEY MULEMWA

4. WORK DONE: Laying down & and Connecting
of the pipes going to our second pump site.

- Construction of the pump house and the other
hydraulic structures at the site is also in progress.

5. ACHIEVEMENTS MADE :- The pipe line has now
reached the site, and we are now only waiting for
some few items like non-return valve so that the line
could be tested.

6. CONSTRAINTS : heavy rains during the month were a big
problem that at one time the pipes got
disconnected.

7. SOLUTIONS: Speed up the work

8. PLANS FOR NEXT MONTH: Finish the pipeline
- ~~start~~ ~~fast~~ ~~construct~~

K. Mulemwa

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

12.2.1988

His Excellency the Ambassador
Embassy of Japan,
Lusaka.

att. of Mr. Kitamura,

Dear Sir,

Enclosed you find copies of previous letters and quotations from ZESCO. The letter of the Permanent Secretary of the Ministry of Finance, d.d. 22.9.1987, requested your embassy for an additional amount of K 1,524,079, due to the increased prices.

I am very happy to be able to inform you about the following:

1. The MCC of Livingstone requested the Government to release the import duties on the goods, needed for the electification programme at Buleya Malima, which request was granted and could be seen as the Government share in the programme.
2. Together with the MCC of Livingstone we negotiated with ZESCO about the price, and due to the permission under point 1, we got the price down to K 1,798,231 (see enclosed quotation of the 7th of January.)
3. This means that having paid already K 700,000.-- as a deposit to Zesco, and the share of the local fisherman up to K 400,000.-- only an additional amount of K 700,000.-- is needed to finish the programme.

I am happy to report to you that the construction of the pipeline and the new pumpstation are progressing very well, and that the people are very hard working to get the work done.

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

2.

May I kindly request that this application for additional funds could be considered at your earliest convenience, since the ZESCO has started the work and any delay in paying the remaining part could bring up prices again.

Yours faithfully,

S.C. Krisifoe
S.C. Krisifoe

Gossner Mission representative
Liaison officer GSDP

GOSSNER SERVICE TEAM
*The Liaison Officer
P.O. Box 50162
LUSAKA ZAMBIA

c.c. The permanent secretary MAWD

The permanent secretary
Ministry of Finance

The Coordinator of Gwembe South Development Project,
Sinazeze, Box 4.

The Chairman Gossner Service Team,
Box 4 Sinanzeze

The Technical Advisor of Buleya Malima,
Box 4, Sinanzeze.

✓ Gossner Mission

Zambia Electricity Supply Corporation Limited

Telephone: 213177
Telex ZA40140
TELEGRAMS: GENERATOR

DISTRIBUTION AND SUPPLY
DIVISION (SOUTH)

All Correspondence to be addressed
to the Divisional Manager

P O BOX 30040
LUSAKA

Your ref no.
Our ref no. L/CHOMA/1670/1203/01/88

7th January, 1988.

The Technical Adviser
Buleya Malima Irrigation Scheme
P.O. Box 15
Sinazeze
CHOMA.

Dear Sir,

RE: ELECTRICITY SUPPLY TO BULEYA MALIMA IRRIGATION SCHEME

We acknowledge your part payment of K700,000.00 against our quotation of K2,833,928.00 towards the total cost of providing power supply to your irrigation scheme.

Further to the discussions we had with the Member of Central Committee Hon. Luputa and yourselves, we have revised estimate based on the following:-

- (1) Excluding the Duty and Tax element for the imported items.
- (2) Considering a modified type of line construction.

The revised quotation now amounts to K1,798,231.00. ZESCO will undertake the importation of all major materials. However it will be your responsibility to make necessary arrangement and documentation for availing the duty and tax concessions.

Please confirm the acceptance of the above to enable us proceed with the procurement of materials.

Yours faithfully,



K. A. J. BROOKS
ACTING DIVISIONAL MANAGER (D&S - SOUTH)

/anc

22nd September, 1987

His Excellency the Ambassador
Embassy of Japan
LUSAKA

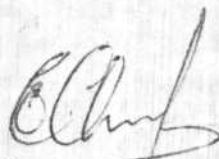
Your Excellency

HILEYA-MALIMA IRRIGATION SCHEME

I refer to my letter of MF/L&I/IN/520/002 of 19th June, 1987 regarding the above project, in which we requested for funding. The original request was unable to cover the full construction of the electricity line. We would therefore like to kindly request you to consider an additional amount of K1,524,079 to complete the project.

I would be most grateful for your assistance in this matter.

Please accept the assurances of my highest consideration.



Ben Chindwa
For/PERMANENT SECRETARY
MINISTRY OF FINANCE

c.c. The Permanent Secretary
Ministry of Agric. & Water Development
Lusaka

c.c. The Liaison Officer
Gossner Service Team
LUSAKA

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

9th September, 1987

The Permanent Secretary
National Commission for Development Planning
P.O.Box 50268
Lusaka.

Dera Sir,

Re: Buleya Malima Irrigation Scheme - Japanese Counterpart
Funding for Electrification and Rehabilitation Programme.

Dear Sir,

Herewith I would like to refer to the letter of the Permanent Secretary of the Ministry of Agriculture of the 4th May, 1987 (copy enclosed). The funds mentioned in this letter have been released two weeks ago, for which the people of the Buleya Malima Scheme are very grateful.

However, since the project proposal with estimates was submitted in February, the costs for construction of the electricity line have increased tremendously.

<u>Comments:</u>	<u>Costs estimated</u>	<u>Costs at present</u>
Electrification common job	K. 700,000	K.2,219,617
2 x 100Kwa transformers, and breaker-suit substation		
Internal lining		75,000
Subtotal		2,294,617
10% contingencies		229,462
Local contribution of 2-fishermen	300,000	
Total	<u>K.1,000,000</u>	<u>K.2,524,079</u>

(see enclosed proposal) of Mr. J. Kurian, Zesco Planning Engineer)

2.

Shortfall of funds due to increased costs is at present estimated at K.1,524,079.-- .

All other estimated costs are still the same.

Pipes have been ordered and paid for.

I should be most grateful if you would kindly submit another request to the Japanese Government for additional funds.

The Japanese Embassy has been informed about the subject, and is awaiting a formal request from your office.

Also the Director of Agriculture has been informed, who instructed me to send this request straight to your office.

Yours faithfully,

I.J.Krisifce

Acting Liaison Officer, Gossner Mission.

cc. Mr. Mossain, Buleya Malima

cc. The Director of Agriculture
Min. of Agriculture and
Water Development, Lusaka.

Zambia Electricity Supply Corporation Limited

Telephone. 213177
Telex ZA40150
TELEGRAMS GENERATOR

DISTRIBUTION AND SUPPLY
DIVISION (SOUTH)

P O BOX 30040
LUSAKA.

All Correspondence to be addressed to the
Divisional Manager

Your ref no.
Our ref no. L/CHOM/1670/6274/87

9th October, 1987.

The Technical Adviser,
Buleya Malima Irrigation Scheme,
P.O. Box 15,
SINAZEZE (via),
CHOMA

Dear Sir,

RE: ELECTRICITY SUPPLY TO BULEYA MALIMA IRRIGATION SCHEME

We would refer to your application and to the discussions with our engineers regarding the extension of electricity supply to your irrigation scheme.=

The works involved in establishing this new supply are:

- (1) Installation of one 11kV Circuit Breaker pannel at Sinazongue Substation.
- (2) Construction of approximately 16km of 11kV Over Head Line.
- (3) Installation of one 200 kVA 11/0.4kV transformer in common for your houses, offices as well as for the two fisheries.
- (4) Erection of approximately one kilometre of Low Voltage line for supply distribution to the houses and office.
- (5) Erection of approximately 0.9km of 11kV overhead line and installation of one 100 kVA 11/0.4kV transformer for the pumps.

The total payment required for the above project amounts to K2,833,928.00, which consists of the following cost:-

- | | | | |
|-----|-------------------------------|---|---------------|
| (a) | Cost of bringing 11kV supply) | = | K2,485,577.00 |
| | to the area. (1 & 2 above) | | |

2/.....

Zambia Electricity Supply Corporation Limited

CONTINUATION PAGE 2

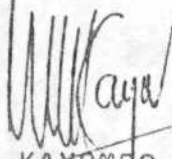
- (b) Independent job for Buleya Malima Scheme = K214,053.00
- (c) Supply to D.L. Fisheries = K67,149.00 + proportionate share of the main line (part "a" as above).
- (d) Supply to Blue Water Fisheries = K67,149.00 + proportionate share of the main line (part "a" as above).

As explained to you, we are not in a position to carry out the above job immediately because of a shortage of various distribution materials.

Because of the uncertainty of material availability and its prices, the Corporation reserve the right to revise the estimate based on the price increases. You are required to pay the difference in cost as and when necessary.

Our standard offer of supply is attached for information about the terms and condition.

Yours faithfully,
for and on behalf of Zambia Electricity Supply Corporation Limited,


V. C. KAYOMBO
ACTING CHIEF ENGINEER (D&S) SOUTH

JK/plm.

BULEYA MALIMA IRRIGATION SCHEME

FINANCIAL STATEMENT

MONTH: ^{2nd} JULY 1987

Eingegangen
24. Aug. 1987
Erledigt:

Sources/Items	INCOME			Total
	C/F From half yearly report	Banked	To be banked	
Supporting Unit (orchard)	37,449.20	22,884.00	4,735.00	65,068.20
Domestic water	552.00	187.00	94.00	833.00
Farmers Irrigation	2,037.00	345.00	160.00	2,542.00
Tractor Hire	423.00	154.00	90.00	667.00
General Repairing	-	-	50.00	50.00
Bank Interest	-	792.75	00 00	792.75
TOTAL	40,461.20	24,208.75	5,129.00	69,952.95

	Fixed deocsit	Savings	
C/F from 1986	50,000.00	1,238.32	51,238.32

GRAND TOTAL

K121,191.27

6

Items	EXPENDITURE	
	Withdrawals from Bank	Expenditure
	4,000.00	
Orchard management		1,534.50
Allowance (management)		1,110.00
Miscellaneous		927.40
Total	4,000.00	3,571.90
	Cash in hand	428.10

NET CAPITAL AVAILABLE AT THE BANK

Total Income K121,191.27

Expenditure -K 4,000.00

K117,191.27

Date: 13 - 8 - 1987

The Manager
Standard Chartered
North End Branch
Lusaka.

Dear Sir,

re: GOSSNER SERVICE TEAM (BULEYA MALIMA) ACCOUNT.

We write to inform you that the Buleya Malima Committee once again met this morning to discuss the handling procedure of the account. The Committee has resolved that there will be two (joint) signatories for the operation of this account. It has been decided that the Chairman, Mr. B. Hossain and the Secretary, Mrs. S. Krisifoe will be the joint signatories of this account.

We are, therefore, asking you to complete all the formalities required in the controlling of this account along the Committee's decision.

Sincerely Yours,

B. Hossain

B. Hossain, Chairman.

S. Krisifoe

S. Krisifoe (Mrs), Secretary.

N. Nagatomo

N. Nagatomo, Treasurer.

GOSSNER SERVICE TEAM

P.O. Box 15

Sinazenge.

Buleya Malima Irrig. Scheme

Gossner Mission,

Liaison Office,

P.O. Box 50162, Lusaka

Tel: 250580.

Date: 13 - 8 - 1987

The Director of Agriculture
P. O. Box 50291
Lusaka

Dear Sir,

re: CELEBRATION OF 1ST YEAR OF BULEYA MALIMA'S
SELF- RELIANCE.

I write to inform you that we have arranged to celebrate our achievements in the 1st year of Buleya Malima's Self-Reliance. We will try to illustrate all our achievements of this short period of time and will give a future plan of development for the Scheme. Furthermore, there will be prizes distribution ceremony to the Farmers of the Year and bonus distribution to the Management Staff for their successful performance.

Pon. M C C, Cde. Luputa of Southern Province has confirmed that he would come and officiate the Ceremony. The Ceremony will be held at Buleya Malima on the 11 th September, 1987, time 10.00 hrs.

It will be very useful if your office is represented with a team of up to 4 members. There is arrangement of lunch for all the invited guests.

Sincerely Yours,

B. Hossain

B. Hossain.

Technical Adviser.

GOSSNER SERVICE TEAM

P.O. Box 4, or 15.
 Mazoeze, Zambia
 Date: 10 - 8 - 1987

Gossner Mission,
 Liaison Office,
 P.O. Box 50162, Lusaka.
 Tel: 250580.

The Embassy of Japan
 P. O. Box 34190
Lusaka

Dear Sir,

re: GRANT OF K1.386 MILLION FOR ELECTRIFICATION AND
 REHABILITATION PROGRAMME OF THE BULEYA MALIMA
 IRRIGATION SCHEME.

On behalf of the Farmers of the Scheme and the Residence of
 Buleya Malima I sincerely thank for your consideration and allocation
 of K1.386 million from your Grant Aid for Increased Food Production
Programme to rehabilitate Buleya Malima Irrig. Scheme.

Gwembe Valley is the worst drought affected area in Zambia.
 Past years drought had adversely affected our Irrigation Scheme through
 recession of the Lake level 1 km away from the existing pumping sta-
 tion. Your fund is going to assist us to extend our pipe-line up to
 the present lake level thus restoring the irrigation system and
 extending its area.

The most exciting part of the programme is the electrification
 of the scheme which will, for sure, give the answer for many present
 present problems and open the door for future development. Unstable
 prices of fuel and lubrication had never given us chance to budget
 our irrigation precisely. Furthermore, the maintenance cost of the
 irrigation set-up was one of the biggest problems for smooth running
 of irrigation. Diesel pumping is not economically viable here for
 many reason. Only electricity can give a sustain answer.

Enclosed is copy of our tentative Works-Programme for your
 information. Although, things are sometimes difficult we will try
 hard to maintain our schedule. I will send a progress report to your
 office in every 3 months. If there is any point needs to be clarified
 please feel free to contact me. I will be happy to reply you in
 time.

c.c: The Director of Agriculture
 P. O. Box 50291, Lusaka.

c.c: The Liaison Officer, GST,
 P. O Box 50162 Lusaka.

Sincerely Yours,

B. Hossain
 Technical Adviser
 Buleya Malima Irrigation
 Scheme.

GOSSNER SERVICE TEAM

P.O. Box 4, or 15

Sinazeze,
Zambia

Date: 10 - 8 - 1987

Gossner Mission,

Liaison Office,

P.O. Box 50162, Lusaka.

Tel: 250580.

The Development Engineer
Z E S C O
Lusaka

Dear Sir,

re: BOLEYA MALIMA GROUP SUPPLY ENQUIRY;

Referring to the letter of the District Engineer, Choma, dated the 16th February, 1987, I write to inform you that we have now received fund for the above programme. Electricity is the Key for the future development of our scheme. Looking at its practical needs, the Japanese Govt. has donated us this fund.

Initially, when the proposal was written to your office by the District Engineer, there were other 3 partners, Blue Water Fisheries, D. L Fisheries and Mukwela Fisheries who wanted to share the cost of the power line equally. But due to the increased cost of your operation it has become out of capacity for an individual to bear such a big amount in this exercise. We are therefore, suggesting you that when you prepare the quotation please put 60% cost of the drawing of powerline to our account and share remaining 40% among the three Fishermen. The cost of the transformers will be borne separately by each individual. The proposal was for 14 Km 11KV OHL but to be on the safe side I suggest you to consider 18 Km over head line in to account.

I would urge you to give the quotation as soon as possible. Our fund is available for the programme. The Hon. MCC, Cde Luputa of Southern Province is one of the initiators of this fund from the Japanese Govt. He has expressed that he would like to inaugurate this powerline together with the Japanese Ambassador in November this year.

Your prompt action and cooperation will be highly appreciated.

Sincerely Yours,

B. Hossain.

B. Hossain

Technical Adviser

Buleya Malima Irrig. Scheme

cc: Hon. M C C
Livingstone

Gossner
Mission

WORKS-PROGRAMME

Considering the Technical need of different components of the programme, a priority has been set in the works-programme. The Restoration of Irrigation and the Electrification programmes are the basis of other programmes. Therefore, these 2 items have been taken as first priorities before any expansion programme is considered. Part of the renovation work (office building and 4 staff houses) has been included into this year's programme.

Physical development of 20 ha (lining of canals, fencing etc) and resettling of farmers will be done next year when the programmes of electrification and restoration of irrigation are completed.

AUGUST 1987:

Programmes	Works to be done
Electrification:	- preparation of a fresh proposal with ZESCO Dist. Engineer, Choma after necessary surveying. - organising the neighbouring fishermen for their K300,000 contribution towards drawing of power line.
Second Pumping Station:	- identifying the location of the 2nd pumping station near the existing water level. - clearing bush to the way of the pumping stn. - surveying work for the pipe line.
Rehabilitation of the Central Reservoir for irrig. :	- buying cement - collecting sand by using tractor - making wooden frame for slabs.
Renovation of Office and Staff Houses :	- arranging carpenter, painter, & brick-layer for renovation works, - organising and buying materials for renovation works.

Cont...../2

SEPTEMBER 1987:

Programmes	Works to be done
Electrification:	- taking final proposal to ZESCO, Lusaka and secure a quotation for it, - making payment to ZESCO together with the contribution from the fishermen.
2 nd Pumping Stn. :	- surveying, - arranging with TAP building product for supply of required Cement Asbestos Pipes with necessary fittings, - transporting pipes to the scheme - making trances for pipe line with an excavator.
Rehabilitation of Central Reservior:	- making slabs for lining of the reservior.
Renovation of Office and Staff Houses:	- renovation of old office building, making 2 small office unit (low cost), and renovation of 3 staff houses.

OCTOBER 1987:

Electrification:	- monitoring the progress of ZESCO's works
2nd Pumping Stn. :	- laying down the pipe line, - initiation of the Intake canal
Rehabilitation of Central Reservior:	- Lining of reservior, - repairing of main canal from reservior to the field
Renovation of Staff Houses:	- another 2 houses should be renovated then the programme will stop until next year.

Cont...../ 3

NOVEMBER 1987.

Programmes

Works to be done

Electrification:	- monitoring the progress of ZESCO's works.
2nd Pumping Stn. :	- construction of intake canal - construction of pump house.
Rehabilitation of Central Reservoir:	- completion of the lining of the reservoir and testing it by pumping water in to it. - lining of the main canal should be completed. - a non-return valve has to be fitted at the intake of the reservoir to reduce energy loss by the pumps.

DECEMBER 1987.

Electrification	- Inauguration of the power line
Second Pumping Station:	- testing of pumps if installation of power line is completed.

In January and February 1988, some of the existing irrigation lay out will be rehabilitated. Canal construction and fencing of other 20 ha will start in April/May, 1988 .

B. Hossain.
B. Hossain.
Technical Adviser.

EMBASSY OF JAPAN
P.O. BOX 31190
LUSAKA
ZAMBIA

Bulaya Malima

Mr. J. Mtonga
Permanent Secretary
Ministry of Finance and N.C.D.P.
P.O. Box 50062
LUSAKA

23rd July 1987

Dear Sir

RE : BULAYA-MALIMA IRRIGATION SCHEME

With reference to your letter dated 19th June 1987, concerning the above project, I have been informed from Tokyo that the Government of Japan has agreed to apply to this project a part of the counterpart fund deposited in the account of your Ministry against the Japanese Grant Aid for Increased Food Production Programme in terms of the Notes exchanged between both Governments.

The amount to be transferred to the special account to be opened for this Irrigation Scheme will be One Million Three Hundred and Eighty Six Thousand (1,386,000) Kwacha.

Further, I should be grateful if you could kindly inform us whether the Government of the Republic of Zambia has deposited the counterpart fund against the following projects :

- 1) Increased Food Production Programme for 1983 (Supply of Fertilizer to Namboard). The Exchange of Notes were signed on December 16, 1983.
- 2) Food Aid for 1984 Fiscal Year (Supply of Burma Rice). The Exchange of Notes were signed on June 28, 1984.
- 3) Increased Food Production Programme (Supply of Tractors and Fertilizer). The Exchange of Notes were signed on June 28, 1984.

In the event that the above fund has not yet been deposited, you are kindly requested to provide the Embassy with an explanation note for the delay.

Yours faithfully

EMBASSY OF JAPAN

Y. Imagawa
Y. IMAGAWA
CHARGE D'AFFAIRES A.I.

- 2 -

c.c. Permanent Secretary
Ministry of Agriculture and Water Development
P O Box 50291
LUSAKA

Permanent Secretary
Southern Province
P O Box 60298
LIVINGSTONE

Mrs S Krisifoe
Gossner Service Team
P O Box 50162
LUSAKA

✓ *Technical Adviser*
Buleya Malima Irrigation Scheme
P O Box 15
Sinazeze

BULEYA MALIMA IRRIGATION SCHEME

Belin

HALF-YEARLY FINANCIAL STATEMENT

PERIOD: 1ST JANUARY - 31ST JUNE

SOURCES/ITEMS	I N C O M E		
	BANKED	TO BE BANKED	TOTAL
Supporting Unit (orchard)	36062.00	1387.00	37449.00
Domestic water	552.00		552.00
Farmers Irrigation	1997.00	40.00	2037.00*
Tractor Hire	283.00	140.00	423.00
Total	38894.00	1567.00	40461.00
C/F from 1986	Fixed Deposit 50000.00	Savings Acc. 1238.32	51238.32
GRAND TOTAL			91699.32

farmers 54 x 75 K
 378
 270

4 ha under cultivation

** goal 40500 K/year*

ITEMS	EXPENDITURE	
	WITHDRAWALS FROM BANK	EXPENDITURE
	3000.00	
Orchard management		1465.00
Allowances (management)		555.00
Miscellaneous		709.40
Total	3000.00	2729.40
	BALANCE	270.60

Farmers Irrigation: Farmers are busy selling their produces okra, bananas, cabbages, tomatoes and rape.
 -Bananas 2.8 tons
 -Tomatoes 0.41 tons
 -Okra 0.145 tons

Supporting Unit (Orchard) A total of 37 tons of fruits have been marketed giving us a sum of K37,449.00

Irrigation Water: The sump on the river bed is the only source of water. An excavator has been finally secured from the Dept. of Water Affairs which was digging and expanding the sump. The amount of water has been increased and is sufficient for the existing cropping area for the farmers including the orchard.

June, 1987

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,

P.O. Box 50162, Lusaka.
Tel: 250580.

Eingegangen

11. Jun 1987

Erledigt:.....

6.6.1987.

Gossner Mission,

Erhard Mische, 1990 on that date 89 of 40 ya tatted 4 al 8 on

Handjerystrasse 19-20, 1990 on that date 89 of 40 ya tatted 4 al 8 on

1000 Berlin, 41, (Friedenau),

West-Germany. 1990 on that date 89 of 40 ya tatted 4 al 8 on

Dear Erhard, 1990 on that date 89 of 40 ya tatted 4 al 8 on

Enclosed you find a lot of correspondence which took place during
May 87 about Buleya Malima. 1990 on that date 89 of 40 ya tatted 4 al 8 on

No.1. An article which was written in the newspaper. 1990 on that date 89 of 40 ya tatted 4 al 8 on

No.2. The letter of the PS Southern Province to PS MAWD after
the District and the Provincial Council have approved the project
proposal for Buleya Malima. 1990 on that date 89 of 40 ya tatted 4 al 8 on

No.3. Letter of the PS MAWD to ~~Buleya~~ PS NCDP about releasing the
Japanese counterpart funds for BM. 1990 on that date 89 of 40 ya tatted 4 al 8 on

The PS fully agreed that the FAO should not be at BM, also
not housed there. 1990 on that date 89 of 40 ya tatted 4 al 8 on

No.4. Letter from Mr. Hossain to PAO about the FAO accommodation.

After this letter ~~is~~ was called to Mr. Mutello, who told me that
FAO Man, Mr. Mayer and Mr. Wadda had come to his office complaining
about Mr. Hossain who had thrown them out of their houses, which they
had renovated with FAO funds. They had told Mr. Mutello that Mr.
Hossain had been inviting them to BM to assist in the development
and now had refused them BM. They had threatened Mr. Mutello, if they
did not get BM they would pull out with all their promised programme,
e.g. a borehole drilling programme. 1990 on that date 89 of 40 ya tatted 4 al 8 on

The PS MAWD had not been informed, and Mr. Mutello wanted to settle
the matter through the department of Agriculture. He called a meeting
for May 29th at Buleya Malima.

Unfortunately he had to postpone it to the 3rd of June.

In the meantime the CAO informed the PS MAWD about the intended meeting and FAO's still being present at BM.

The PS wrote letter no 5, telling FAO to go back to Chiyabi, where GRZ will help them with accommodation.

In the meantime Hossain had secured a written statement of the fisherman about the electrification, for which the PS MAWD had asked. (see paper no 6)

No 7 is a recommendation to the DG from PAO's office, written by Mr. Morris. The PAO explained paragraph 3 different than it is written there. He says, if FAO wants to spend money at BM, let them do it through GM.

No 8 is a letter by DG to PS MAWD that he does not understand why a meeting should be held at the 3rd of June, since he does not want FAO at BM.

This letter stirred up a lot of dust. Mr. Mutello told the PS that our information was not right. The PS called me and just shouted at me that Mr. Hossain had misled him. He did not wish to listen to explanations of my side, but called a meeting with all parties involved at Wednesday morning 11 am at his office.

At 8^{am} ^{Wednesday} Mr. Mwananyina, representing the DG, informed the PS about the present situation, and now everything changed again, the meeting was cancelled, Mr. Hossain was again the good fellow, and Dr. Mayer the bad one, and somebody was sent on Friday 5th of June to make a report about the situation at BM and Chiabi. Mr. Nagotomo, the Japanese volunteer was allowed to go back to his house again, instead of boarding with the Hossain's like the last 5 months.

Unfortunately of this letter I cannot enclose the copy, since this is still with Mr. Mwananyina, who had to leave for the Copperbelt after the meeting, because his wife is seriously ill. She got a caesarian section and the child died after the operation. Her own condition seems to be very serious.

Anyway, the Matter Buleya Malima was widely discussed during the last weeks and I will keep you informed about further development.

The PS MAWD had put somebody in charge of following up the electricity at Zesco and the Money matter at NCDP/finance.

Mr. Mwansa of Landuse Planning really arrived on Thursday evening and will send us a copy of his report to the PS MAWD.

So far this matter,

Siethe

Copy/

OPMS/3/13/2

The District Governor,
Gwembe District,
P.O. Box 1,
Gwelo.

Copy/

24th April, 1987.

Dear Sir,

The Permanent Secretary,
Ministry of Agriculture and
Water Development,
P.O. Box RW 50291,
LUSAKA.

I enclose a project proposal for Buleya Malima Irrigation Scheme for your consideration and early action.

The District Executive Secretary for Gwembe has reported that the District Council has already approved the project and the Provincial Council considered this project at its meeting on 13th of this month and approved it. You may further wish to know that the Director of Agriculture and Water Development was consulted in the course of preparing this proposal and the Japanese Embassy which has a volunteer in the existing scheme has expressed willingness to fund the scheme to the total of K1,386,000.00. I should therefore be grateful if you could request the Ministry of Finance to make the necessary approach to the Japanese Embassy.

For this purpose I enclose a draft that you may use to write the Ministry of Finance and another to the Japanese Embassy.

Our fund is ready as cash in the bank. I have written to the donor on behalf of the committee. I have also written cheques payable to ZESCO within 14 days.

We all believe that rural development is any part of Zambia.

I.H.B. Manda
PERMANENT SECRETARY
SOUTHERN PROVINCE

c.c. The Permanent Secretary,
National Commission for Development Planning,
LUSAKA.

T. Y. Jones
D. L. Fisherien
P. O. Box 430029
Choma.

O. J. Manda
Mukwinda Fisherien
P.O. Box 430029
Choma.

W. J. Manda
Mukwinda Fisherien
P.O. Box 430029
Choma.

CONFIDENTIAL AND URGENT

4th May, 1987

Mr. P.K. Chiwenda,
Permanent Secretary,
National Commission for Development
Planning,
LUSAKA.

BULEYA-MALIMA IRRIGATION SCHEME

As you may be aware, the above scheme was conceived in 1963. Since that time, only a very small pilot scheme has been implemented in the area.

2. - Informal discussions on the financing of the project have been held between Local Leadership in the area and the Japanese Embassy. I have now been requested by Provincial Leadership to submit a formal request for financial assistance from the Japanese Government through your office. In this regard, please see the attached correspondence.

3. Buloya-Malima is one of the drought stricken areas in the Gwembe Valley. Implementation of this project will go a long way to alleviating famine in the area.

4. I should, therefore, be most grateful if you would kindly submit this request to the Japanese Government urgently.

ME
E.S.S. Nebwe
PERMANENT SECRETARY
MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

c.c. Mr. J.M. Mtonga,
Permanent Secretary,
Ministry of Finance,
LUSAKA.

2K 4
BM/MM/87/7

BULEYA MALIMA IRRIGATION SCHEME,
P.O. BOX 15,
SINAZEZE.

6th May, 1987

The Provincial Agricultural Officer,
Southern Province,
P.O. Box 630042,
Choma.

Dear Sir,

RE: STAFF ACCOMMODATION IN BULEYA MALIMA

Following the recent development of Buleya Malima's rehabilitation programme, I would like to inform you that the proposed Japan Counter Part fund of K1.3m project proposal for Buleya Malima's rehabilitation and electrification programme has been approved by the Ministry of Agriculture after the District Council and Provincial Council's approval. We are going to get this fund very soon.

In the meantime, you may wish to know that Mr. Noriaki Nagatoma has expressed his willingness of extending his contract for one more year to work in Buleya Malima for the above project proposal. We have discuss this matter in JOOV, Lusaka office as well as Director of Agriculture Office. The house he is presently occupying following your decision is required for his accommodation. We are prepared to reimburse the cost of renovation to FAO from our fund.

The second renovated house, which sometimes they use as their second shelter to NIRS accommodation is also required for our purpose. Soon we will receive our Civil Engineer for our work and he needs accommodation. We will similarly reimburse the cost of renovation for both the houses to FAO.

To be realistic, Buleya Malima's accommodation should be first for Buleya Malima's management. Initially we thought FAO would do some work in Buleya Malima but now we have to do everything and we need accommodation for our work. I am requesting you to make necessary arrangement to reshelter FAO team at your earliest convenience.

Your prompt action will be appreciated.

Sincerely yours,

B. Hoassin
B. Hoassin

TECHNICAL ADVISOR
B/MALIMA IRRIGATION SCHEME

cc The Director of Agriculture
cc The A/GAO, Sinazongwe Boma
cc The Officer In Charge, Nanga
cc The Project Manager, FAO
cc The Liaison Officer, GM

BH/mec



REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

MULUNGUSHI HOUSE, INDEPENDENCE AVENUE

P.O. BOX 5010,

RIDGEWAY

LUSAKA

19th May, 1987

His Excellency Dr. S. A. T. Wadda,
F.A.O. Representative,
Food and Agriculture Organisation,
Pioneer House,
LUSAKA.

Your Excellency,

DEPLOYMENT OF FAO PERSONNEL AT CHIABI PILOT IRRIGATION SCHEME

Please refer to our telephone conversation of this morning during which I informed you that Dr. Mayer had now shifted from Chiabi Pilot Irrigation Scheme to Puleya-Malima Scheme contrary to the spirit of the arrangements under which he was detailed to this project.

2. As agreed, I should be most grateful if you would direct Dr. Mayer to stay at the site of the project in Chiabi in order to ensure effective coordination of the development of the scheme. Dr. Mayer's stay several kilometres away from the project site on the pretext of not having adequate accommodation will serve no useful purpose. The question of accommodation can be effectively addressed by you and myself if the local leadership has problems in resolving this issue.

3. I shall be most grateful if Your Excellency will kindly deal with this matter urgently.

Yours sincerely,

E. S. S. Nkwwe

PERMANENT SECRETARY

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

6

Buleya Malima

Date: 20-5-1987

Copy/

The District Governor,
Gwembe District,
P.O. Box 1,
GWEMBE.

Dear Sir,

The Permanent Secretary,
Ministry of Agriculture, Water and Livestock Development,
P.O. Box 30490,
LUSAKA.

re: ELECTRIFICATION PROGRAMME OF BULEYA MALIMA

We are the Kapenta Fisheries settled around the Buleya Malima Irrigation Scheme. Since we are operating from Buleya Malima we would like to take keen interest for the development of the community here.

In our last preparatory meeting held at Buleya Malima on the 12th May, 1987 with Mr. R. J. Mwananyina, A/C.A.O. of Sinazongwe Sub District and Mr. B. Hossain, Technical Advisor of Buleya Malima Irrig. Scheme, we have been briefed that the Japanese Govt. is willing to finance rehabilitation and electrification programme of Buleya Malima Irrigation Scheme through its Counter part funding programme. We have been further informed that a Project Proposal of K1.386 m for the purpose is on progress.

We being the local community of the area are very much delighted to hear it and prepared to contribute in the programme as local contribution. We write to confirm you that we are 3 kapenta fishing camps around Buleya Malima and prepared to contribute K100,000 each in the drawing of the power line. Besides up to K50,000 each will contribute towards the cost of the transformers. This means a total contribution of K450,000; for line K300,000 and for transformers K150,000.

Our fund is ready as cash in the bank. Please take this message to the donor on behalf of the community. We will give bank certified cheques payable to ZESCO within a week notice.

We all believe that rural electrification is the key of development in any part of Zambia.

Looking forward to hearing from you soon.

Sincerely Yours,

T. Y. Jones
D. L. Fisheries
P. O. Box 630029
Choma.

O. J. Horton
Mukwela Fisheries
P.O. Box 630355
Choma.

W. C. Mulders
Blue Water Fisheries
P.O. Box 61
Sinazeze.

Cont...../2

c.c. The Permanent Secretary,
Ministry of Agriculture & Water Development,
P.O. Box 50197,
LUSAKA.

c.c. The Permanent Secretary,
Southern Province,
P.O. Box 60298,
LIVINGSTONE.

c.c. Mr. B. Hossain,
Technical Advisor,
Buleya Malima Irrig. Scheme,
P.O. Box 15,
SINAZEZE.

2x 7

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

DEPARTMENT OF AGRICULTURE
P.O. Box 630042,
CHOMA.

2nd June, 1987

The District Governor,
GWEMBE

RECOMMENDATIONS BULEYA MALIMA AND CHIYABI
IRRIGATION SCHEMES

The following are our recommendations for Chiyabi and Buleya Malima Irrigation Schemes.

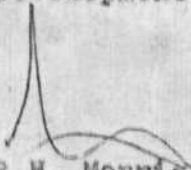
1. F.A.O. Continue to Develop Chiyabi according to their original principles in which they were to have a small scale garden of 1.8a to 2.8a under various appropriate methods of irrigations and to then disseminate the lessons learnt from this Garden to (i) the Actual Scheme (ii) the adjunct Farmers who are interested in irrigation. by this scheme develop an approach to irrigation development Crop Storage and Marketing Appropriate to the Gwembo Valley - to eventually be incorporated in the Gwembo Valley Farming System".
2. The Gossner Service team along with any Japanese input available to develop the Existing Section of Buleya Malima and bring it into a situation where it can be handed back to the people to be run by the people without direct participation by either the Department of Agriculture or the Gossner Service team or Gwembo I.R.D.P.
3. F.A.O. to Develop the Buleya Malima extension and bring that into production along lines similar to Chiyabi but improved by knowledge gained by the Chiyabi experiences. In effect to have an Experience/Learning plot managed at Buleya Malima on irrigation scheme run from knowledge gained from the Experience/Learning plot and and irrigation extension service to those local farmers engaged in irrigation including the Kapenta Fishing Camps. The whole search for knowledge to be restricted to appropriate technology but not restricted to peasant input but rather cover the whole spectrum of small scale irrigation and marketing in the Valley.
4. Ancillary services such as communications should in the first place be temporarily up-graded by F.A.O. funds but final RE-contraction to be done by an appropriate donor such as E.D.C.

Electricity to the schemes should be brought in to the area by F.A.O. in conjunction with any Private Centre prevents such as Mining Companies, Fish parking, or Agricultural Companies.

SUMMARY:

FAO to Manage + Fund Chiyabi
FAO to Manage + Fund Buleya Malima Phase II
Gossner/Japan/W. Germany Buleya Malima Phase I
FAO/EDC Gwembe Valley Roads
FAO/Private Electricity

We hope the above suggestions can form the working basis for a Development Programme in this area.


P.H. Morris
Senior Planning Officer
for PROVINCIAL AGRICULTURAL OFFICER
SOUTHERN PROVINCE

c.c. Director of Agriculture, Lusaka.

2x. 11

BULEYA MALIMA IRRIGATION SCHEME
BECOMES SELF-RELIANT

It was in 1984, when the Hon. Kamanga, MCC visited the Scheme with a great shock. The Orchard of 900 orange trees dried up, the Farmers were out of the land, in short, the so build heavy infra-structures became waste of Govt. funds. The MCC had no choice except to ask the Dept. of Agriculture to do something for this White Elephant.

The Buleya Malima Irrigation Scheme in Gwembe South on the bank of the Lake Kariba was initiated by the Project Division in 1970---

- to resettle the homeless people due to the formation of the Lake Kariba,
- to intensify farming income under irrigation farming because the land became limited in the area,
- to screen out the crop adaptability for the area.

In 1977, the Project Division wound-up handing over its management to the Dept. of Agriculture. Although the Dept. of Agriculture tried very hard in many ways to progress the scheme, several unforeseen constraints hinder the progress of the scheme---

- Zimbabwe war until 1980,
- irregular management, and
- finally the past years devastated drought.

The Lake Kariba receded more than $1\frac{1}{2}$ km from the existing pumping station turning the scheme in to disastrous situation.

However, the visit of the Hon. MCC had probably blessed the scheme. After his entourage had left the PAO's office, Choma took a request to the Gossner Service Team (Gossner Mission, of West Berlin) working in the Gwembe South whether they would n't be able to second one of their technical personnel to up-lift the scheme. The Gossner Mission had finally agreed and once again they seconded a team member with new sets of objectives-- mainly to rehabilitate the scheme, improve the management system of the scheme and eventually find ways and means for self-supporting thus reducing Govt. burden for the scheme.

Since January 1985, the rehabilitation work had started and after 2 years of joint effort something great has been achieved. The scheme for the first time is going to stand on its own feet starting from 1987 depending on its own accumulated resources.

The irrigation water was made available from the dry river-bed by digging a Sump and increasing its efficiency through underground perforated pipe line. Although it is not a permanent and adequate solution for irrigation water it has been able to revive the scheme. A permanent solution will be carried out in this year through which the existing pipe line will be extended up to the lake and a 2nd pumping station will be installed. The dead Orchard has been resuscitated through intensive care. The dead trees have been replaced with new ones. The most unique achievement is the accumulation of fund by selling oranges from the same dead orchard-- up to date a sum of K51,500 has been accumulated in the Farmers Committee's account in Choma National Commercial Bank. Never before had the orchard produced so much money what has been produced in 1½ years. In the past the maximum sale was 6000 kwacha a year.

There were 54 farmers resettled in the scheme ^{when} ~~by~~ the Project Division left, each one with 1 lima under irrigation. These farmers have been misled by many free things in the past from the Govt. However, they have elected a new Farmers' Committee and gradually started realizing that they have to take care for their own irrigation. No longer will Govt. or any agency ~~is going to~~ arrange free things for them. On a Technical Advisory Committee meeting held on the 14 the November, 1986 the scheme (the unit of 20 ha which include the Orchard and 54 Farmers) has been officially handed over to the Farmers together with a suggested Management model for it. The farmers have the following financial resources to support themselves---

- Investment income of K50,000	-----	K 10,000	/ year
- sale of fruits from the Orchard	-----	K 30,000	/ year
- farmers' contribution to irrig. water	-----	K 5,000	/ year
- others	-----	K 5,000	/ year
Total:		K 50,000	/ year

The present running cost of the scheme with 54 farmers and the orchard is K30,000 / year which means a surplus of K20,000 every year. Some of items for this year budget have been prefinanced and , therefore, the capital of the Farmers Committee is expected to reach nearly 95,000 kwacha at the end of 1987.

The Dept. of Agriculture has seconded a Scheme Manager for the scheme who is getting trained by the Technical Adviser of Gossner Service Team and expecting to take the full responsibility of the scheme towards the end of 1988.

If the farmers are motivated and organized in right direction and the future electrification programme for the scheme is carried out thus converting irrigation system from diesel power to electric power, then there is no reason why the scheme can n't run on its own with all that potential resources in it. In Zambia we need to take this type of challenge to support ourselves and reduce ~~80%~~ dependence on the Govt.

(B. Kossner, 1987)

COPY/

1st June, 1987.

The Permanent Secretary,
Ministry of Agriculture and Water Development,
P.O. Box 50291,
LUSAKA.

Dear Sir,

F.A.O.'S INTENTION TO OPERATE AT BULEYA-MALIMA

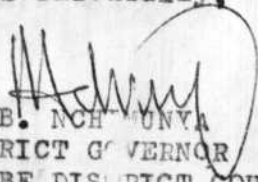
I have been reliably informed that the Director of Agriculture and Water Development has arranged for a meeting between Gossner and F.A.O. for the 3rd June, 1987 to discuss the intended shifting of the F.A.O. from Chiyabi to Buleya Malima.

I would like to inform you that my Council does not give its blessings to the intended meeting, hence will not be represented. My Council's stand is that F.A.O. should continue with its operations at Chiyabi, where very little has been done so far. I see no reason why F.A.O. should pull out of Chiyabi before its scheme achieved the desired goals. Let it first of all show us its capabilities on the existing scheme before it can be considered for alternative areas, and we have a lot of such areas which need to be developed such as Gwembe Central.

Why in the first place should F.A.O. insist on taking over a scheme which is being managed by other agencies? If it is for the sake of electrical power, F.A.O. has the capabilities of tapping it from Buleya Malima where a line will be brought to from Gwembe Valley Development Company by the Japanese and Commercial Fishermen. (See attached letters).

Let me sum it up by saying that F.A.O. is not welcome at Buleya Malima, and this is my Council's stand. Let it continue with the Chiyabi project, which is its own brain child and where farmers are complaining day-in and day-out.

Yours faithfully,


N.H.B. NCHUNYA
DISTRICT GOVERNOR
GWEMBE DISTRICT COUNCIL

- c.c. The Permanent Secretary, Southern Province, Box 60298, Livingstone
c.c. The Liaison Officer, Lusaka
c.c. The Acting Chief Administrative Officer, P.O. Box 91, Sinazongwe.

NHBN/jkn.

Gwembe South Development Project
P. O. Box 3
Sinazeze
Zambia.

Date: 4 - 6 - 1987.

Mr. B. Hossain
Technical Adviser
Buleya Malima Irrigation Scheme
P. O. Box 15
Sinazeze
Zambia.

Dear Mr. Hossain,

re: MR. N. NAGATOMO'S ACCOMODATION AT BULEYA MALIMA.

I have received a directive from the Permanent Secretary, Ministry of Agriculture and Water Development on the above subject. He has directed that Mr. Nagatomo be accomodated in to one of those empty houses in Buleya Malima with immediate effect. Although the houses have been renovated by the FAO they are not being occupied by them. Would you please make necessary arrangement for Mr. Nagatomo's movement in to these house through your management system at your earliest convenience.

The Permanent Secretary has further indicated that there will be an officer from the Ministry to visit Buleya Malima today. Please provide him all the necessary assistance to him.

Sincerely Yours,


J. K. C Halupepe
Project Coordinator.

c.c. The Provincial Agriculture Officer
P. O. Box 630042
Choma.

c.c. The A/ Chief Admn. Officer
Sinazongwe Sub District.

c.c. The Liaison Officer
Gossner Mission.

Buleya Malima

Date: 20-5-1987.

The District Governor
Gwembe District
P. O. Box 1
GWEMBE

Dear Sir,

re: ELECTRIFICATION PROGRAMME OF BULEYA MALIMA

We are the Kapenta Fisheries settled around the Buleya Malima Irrigation Scheme. Since we are operating from Buleya Malima we would like to take keen interest for the development of the community here.

In our last preparatory meeting held at Buleya Malima on the 12 th May, 1987 with Mr. R. J. Mwananyina, A/C.A.O of Sinazongwe Sub District and Mr. B. Hossain, Technical Advisor of Buleya Malima Irrig. Scheme, we have been briefed that the Japanese Govt. is willing to finance rehabilitation and electrification programme of Buleya Malima Irrigation Scheme through its Counter part funding programme. We have been further informed that a Project Proposal of K1.386 m for the purpose is on progress.

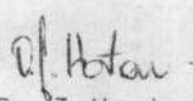
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Our fund is ready as cash in the bank. Please take this message to the donor on behalf of the community. We will give bank certified cheques payable to ZESCO within a week notice.

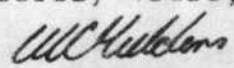
We all believe that rural electrification is the key of development in any part of Zambia.

Looking forward to hearing from you soon.


T. Y. Jones.
D. L Fisheries
P. O Box 630029
Choma.


O. J Horton
Mukwela Fisheries
P. O. Box **630355**
Sinazeze.
Choma

Sincerely Yours,


W. C. Mulders.
Blue Water Fisheries
P. O. Box 61
Sinazeze.

Cont. /2

c.c The Permanent Secretary
Ministry of Agriculture & Water Development.
P. O. Box 50197

LUSAKA.

c.c The Permanent Secretary
Southern Province
P. O Box 60298

LIVINGSTONE.

c.c Mr. B. Hossain
Technical Adviser
Buleya Malima Irrig. Scheme
P. O. Box 15
SINAZEZE.

Buleya Malima Irrigation Scheme.
P. O. Box 15
Sinazeze
Zambia.

Date: 27 - 2 - 1987.

The P A O
Southern Province
P. O. Box 630042
Choma.

Dear Sir,

re: MOVING OF FAO TEAM(GCP/ZAM/032/ITA) FROM NIRS TO BULEYA MALIMA.

Reference is made to your letter dated 19 Dec. 1986. According to your letter and our discussion the FAO team was moving to Buleya Malima basically for accomodation. Of late, they have shown interest of rehabilitating the remaining 41 ha in Buleya Malima. Perhaps, they have picked this idea from the report which was presented to the Technical Advisory Committy on the 14th November, 1986 where you were also a member.

Present Position in Buleya Malima: (ref. enclosed map). The unit of 20 ha (marked with fenced boundary on the map) which includes the Orchard and 54 Farmers has been rehabilitated and given a self-sustained model by the Technical Assistance of the Gossner Mission with joint cooperation of GRZ. Since Jan. 1985, the Technical cooperation of Gossner Mission has started once again with new sets of objectives and after 2 years of painstaking effort the unit has been developed and recently handed over to the Farmers to run it on self-reliance basis. A sum of K51,000 has been generated from the scheme during the last 2 years and kept aside to support the scheme. It is for the 1st time since the establishment of the scheme in 1969, the scheme is taking this effort of standing on its own feet. Careful guidance is necessary to sustain the development and to achieve our goal.

Future Development of 41 ha: (ref. enclosed map). It has been revealed in the Management Report that there is room for rehabilitation of another 41 Ha in Buleya Malima where more than 100 farmers can be resettled. The technical solution for it has also been mentioned in the report as to how this development can take place.

The interest shown by FAO for rehabilitation of this 41 ha is very welcome. Because it is for the benifit of the people of Buleya Malima. But I have a strong feeling that there should be written guide lines specifying the working areas and future cooperations of the 2 teams- Gossner Service Team and FAO Team. We should not forget that the very FAO team was approached to take Buleya Malima in 1982 when they refused because the scheme was in ve y bad shape.

Suggested Future Cooperation: I have the following suggessions to make regarding the future cooperation and working relationship. If you and other concerns have a different/additional suggessions please let me know in writing. And I will request the every concern to attend the next Technical Advisory Committee meeting.

1. The developped 20 ha which has been given a model with 54 Farmers and supporting unit should be given chance to succeed towards its objectives. Its Technica Assistance would continue from Gossner Service Team. It will have a working relationship, if necessary, when the other units are ready.

2. I would suggest that the FAO team develop another 2 similar units. It will help in water distribution from a single source as well as easy management.

3. Second Pumping Station- We have budgeted K70,000 for this programme and the amount is available under sub-head 013 in Ministry of Agriculture budget. With the increasing cost of materials the programme will cost nearly 100,000 kwacha. If FAO team carry out this programme we will assist them with our allocation. In future all the units will use this pipeline for irrigation.

4. Electrification- We have also budgeted K70,000 for a joint programme of electrification with the neighbouring fishing camps and the fund is available under the same sub-head. If the FAO team prefinanced our electrification programme we will refund this K70,000 to them as part of the contribution.

5. According to the discussion with the Director's office, once our pumping system is electrified we will let them use our 2 engines and 2 generators in Chiyabi Irrigation Scheme. This will be an asset transfer through normal procedure.

6. The domestic water system at the scheme has been rehabilitated (a new engine, a new pump and a new monostrom head have been installed) by the Gossner Service Team. For any future maintenance for domestic water and campus improvement , the FAO team should be equally responsible. In any case, we should always see that a good relationship is maintained between us.

7. Any future development (technical or social) in Buleya Malima should take place ^{only} after joint discussion between the Technical Adviser of the Gossner Service Team and the Project Manager, FAO.

8. I would ask the Project Manager, FAO to bring his proposal in one of these days to the attention of the Technical Advisory Committee of Buleya Malima.

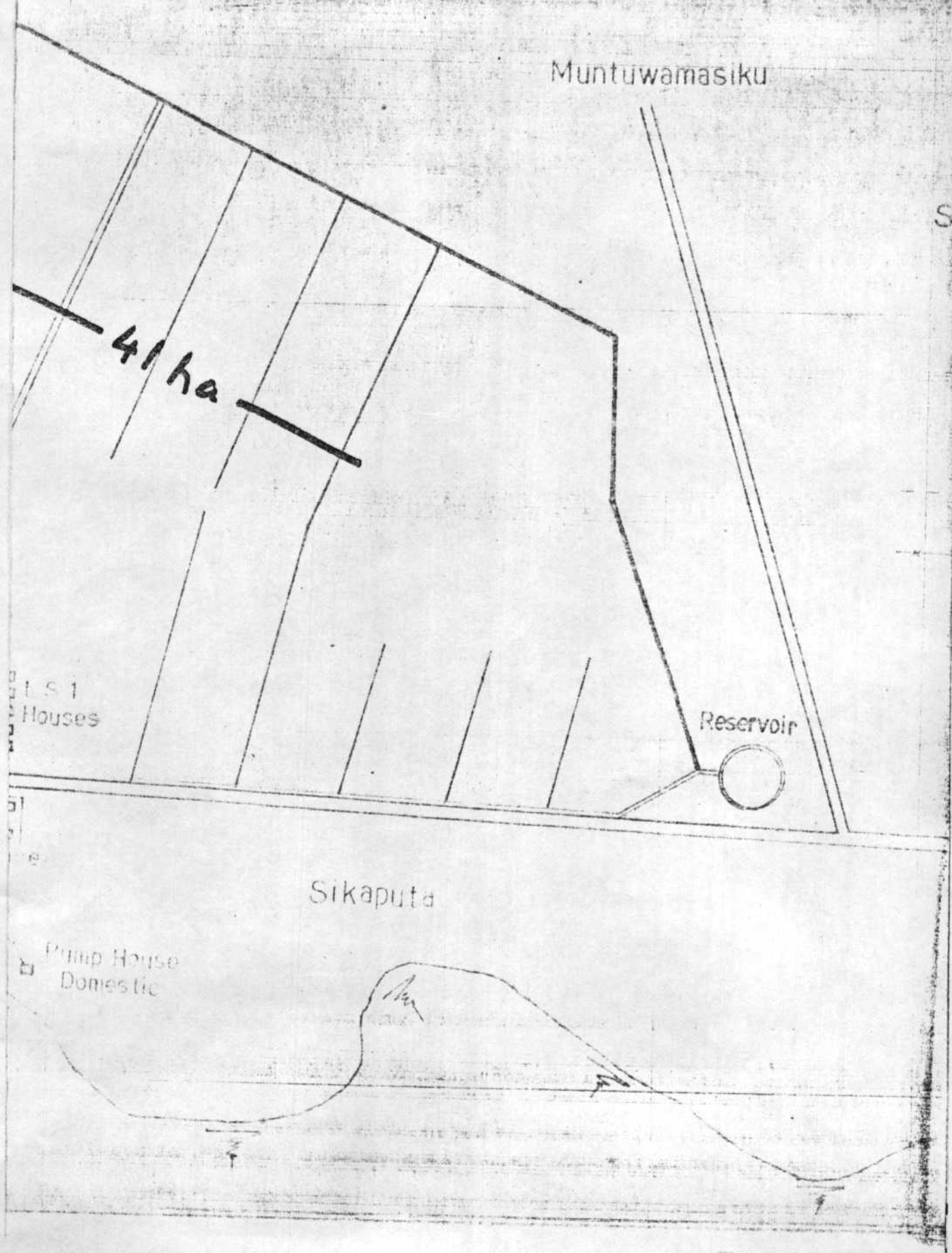
Looking Forward to hearing from you soon.

Sincerely Yours,

B. Hossain

B. Hossain.
Technical Adviser
Gossner Service Team.

cc: The Permanent Secretary, Livingstone.
cc: The Director of Agriculture.
cc: The Chairman, Technical Advisory Committee
cc: The Project Manager, FAO, NIRS.
cc: The Officer-in- Charge, NIRS.
✓ cc: The Liaison Officer, Gossner Mission, Box 50162 Lusaka.
cc: The Coordinator , GSDP.
cc: The Scheme Manager, Buleya Malima.



Muntuwamasiku

41 ha

ORCHARD

C3

C2

C1

LS 1
Houses

Reservoir

to Lake KARIBA

MCH 303
House

MD 1
House

3T
House

Engine
House

Pump
SUMP

Wind
Mill

302
Houses

4AA
Houses

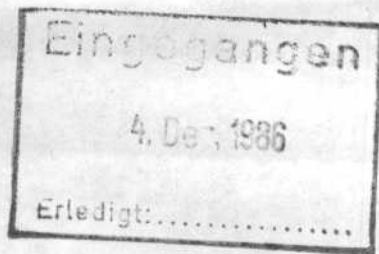
3AA
Houses

B.L.
Fishery

Office

Sikaputa

Pump House
Domestic



Buleya Malima Irrigation Scheme.
P. O. Box 15
Sinazeze.

Rev. Erhard Mische
Gossner Mission.
Handjerystrasse 19 - 20..
1000 Berlin 41.

Dear Erhard,

Please find enclose herewith a copy of the future management report on self-supported Buleya Malima Irrigation Scheme. The report has been presented in front of the enlisted invitied and almost unanimously accepted by them. A very little alteration has been suggested which will come in the form of minute of the meeting.

We are fine. Greetings.

Sincerely Yours,

B. Hossain
B. Hossain.

Buleya Malima Irrig. Scheme
P. O. Box 15
Sinazeze Date: 6-11-1986.

TECHNICAL ADVISORY COMMITTEE MEETING
for the
BULEYA MALIMA IRRIGATION SCHEME;

Place: Buleya Malima Irrigation Scheme.

Date: 14/11/86 Time: 0800 hrs.

The Director of Agriculture

The P A O , Choma.

The Chief Land use Planning Officer

The District Governor, Gwembe.

The Chief Admn. Officer, Sinazongwe Boma.

The Chief Sinazongwe.

The Project Manager FAO, Chiyabi Pilot Irrig. Scheme.

The Officer-in-Charge, N I R S.

The Liaison Officer, GST.

The D.A.O., Gwembe.

The Coordinator and Secretary, G. S. D P.

The Agric Advisor, Siatwinda Irrigation.

The Chairman, Buleya Malima Farmers' Committee.

The Word Councillor, Mangombe Ward.

Dear Sir,

I write to inform you that the rehabilitation work for the scheme has been nearly completed and as from 1987 the scheme is going to stand on its own feet after 16 years of its establishment. A suggested future management report for self-supported Buleya Malima Irrig. Scheme has been prepared and will be presented in the meeting.

You are, therefore, requested to attend this important meeting with your best effort, and contribute your valuable knowledge and experience towards the success of the scheme.

A simple lunch will be provided on the meeting day.

The Project Manager FAO, Chiyabi Pilot Irrig. Scheme.

The Officer-in-Charge, N I R S.

The Liaison Officer, GST.

The D.A.O., Gwembe.

The Coordinator and Secretary, G. S. D P.

The Agric Advisor, Siatwinda Irrigation.

The Chairman, Buleya Malima Farmers' Committee.

Sincerely Yours,

B. Hossain

B. Hossain

Technical Adviser.

TECHNICAL MANAGEMENT REPORT

for

SELF-SUPPORTED BULEYA MALIMA IRRIGATION SCHEME

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Date: NOVEMBER 1986

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1. BACK GROUND

The Buleya Malima Irrigation Scheme was initiated in 1970 by the Project Division with its primary objective of resettling the homeless people of Lake Kariba. Besides improving the life of the local people it was also aimed at irrigation agronomical trail for crop adaptibility in the area. In 1977 Project Division wound-up and handed over the scheme to the Dept. of Agriculture while its operational cost went to the Provincial and Local Govt. Livingstone.

With the deterioration of its progress in the later days the Dept, in 1979, asked the Gossner Service Team of the Gwembe South whether they would not be able to take Buleya Malima's management through seconding one of their personnel. Although Gossner Service Team provided the personnel the project could not do very well. Besides other reasons, the 3 years consecutive drought eventually collapsed the scheme at the end of 1983-the Lake receded, the irrigation system broke down, the highly p potential and controvertial orchard dried up, the farmers were out of land, in short the entire heavy infrastructures became functionless. Finally, the operational fund had also stopped from the Provincial Govt, Livingstone in 1984.

In 1984, a fresh negotiation was again brought forward with the Gossner Service Team with new objectives. The Gossner Mission at long last agreed to provide personnel from January 1985 but revealed that it cannot provide any rehabilitation cost. However, since January, 1985 the second cooperation started with the following main objectives for the scheme.

2. OBJECTIVES

- rehabilitation of the scheme and
- self-reliance of the scheme

3.1 Fund and self-supporting resources:

Rehabilitation of the scheme needed fund and it was not available, on the other hand, the scheme had resources within its infrastructures for self-supporting of the scheme but it was very difficult to regularise. The orchard after rehabilitation could be the good supporting unit for the scheme but retaining its income in Buleya Malima was the biggest problem.

3.2 Restoration of irrigation:

There were a number of alternate ideas which could be brought under consideration. But the major constraint for them was the fund.

- A canal could be dug and have backward flow from the lake to the pumping station. But digging 2km deep canal on the sandy river bed and having it lined was technically difficult. At least $1\frac{1}{2}$ m head had to be covered. At the sametime it was going to be very expensive.
- Drilling boreholes and using underground water resources was another alternate solution. 3 boreholes have been received from the drought Relief Programme of Southern Province for the purpose. But drilling of these boreholes have been delayed so much that the situation forced to look for another alternate idea. Of late, when one of the boreholes has been drilled after 1 year waiting, the rig has been suddenly transfered to some other place without completing the other two. However, it has given some ideas about the performance of boreholes in irrigation. The so drilled borehole was equipped with windmill and its pump test showed that large scale irrigation through borehole would be impossible. Its out-put was only 5 l per sec, that is, only 1.5 ha could be brought under irrigation by 8 hours pumping per day. With diesel pumping it would not be economically feasible. Again pumps were not available in the country and when it became available it was very expensive. The allocated fund could not afford it.

On the other hand, the underground water has high content of salt in this area and long time irrigation with this water would result deposition of salt in the field and desalination is an expensive process.

- Installation of a second pumping station at near the water level, $1\frac{1}{2}$ km away and extension of the pipeline up to the place would give an answer. But the whole of last year TAP building products, the sole producer of cement asbestos pipes was out of production because of lack of raw materials in the country. Even if the company had been in production the pipeline would have been very expensive to install, nearly 100 thousand kwacha.
- The last but not the least alternate solution was to make use of water from the Nangombe river bed. A sump could be made and if its output could be increased it would give an easy solution. And probably the cheapest alternate solution.

3.3 The Management system:

The management had for long time not been supervised and monitored, it was difficult to change and fit the staffs into the new system.

3.4 Farmers organisation:

The same was with the farmers attitude. It was, indeed, difficult to make them understand that the scheme is their and they have to take care for it. They had always the impression that it is Govt. scheme and that the Govt. would run it for them.

4. ACHIEVEMENT

4.1 Rehabilitation Fund:

After negotiation with the Ministry of Agriculture, the Department of Agriculture assured to provide rehabilitation fund for 2 years in the middle of 1985.

4.2 Self Supporting means:

The dead orchard was the only supporting mean for the scheme if it could be revived and professionally managed. However, the most crucial point was to regularise the system of keeping the fund in Buleya Malima. The little fund the orchard used to generate was wrongly going back to the Govt. revenue. The first effort was made with the District Council. The technical advisory committee of Buleya Malima and the Council sat on the 24th April, 1985 in Buleya Malima but the result turned out to be negative. First of all, Council could not be optimistic on the dead orchard, secondly, they wanted to take care only the orchard part leaving, the farmers part. Furthermore, they revealed that the income could not be retained in Buleya Malima. The Technical Advisory Committee could not agree with the proposal.

However, one point became clear that the lands still belong to the farmers including the orchard land. Govt. only built the infrastructures.

Second effort was made with the Dept. of Agriculture. The Technical Advisory Committee, the PAO's office and the Director's office and the Liaison office GST sat on the 5th July 1985 in Buleya Malima. The meeting came out with a constructive proposal - the Dept. would provide the rehabilitation cost for the scheme for 2 years, that is, until the end of 1986, in the meantime, the scheme should build its own resources to support itself. The Director's office further revealed that the idea behind every capital project is to build the infrastructure and run it for a period of time then finally hand it over to the people. And Buleya Malima should not be an exception from that. Govt would be happy if it does not have to spend further money on Buleya Malima every year.

4.3 Resources Built for Self Support:

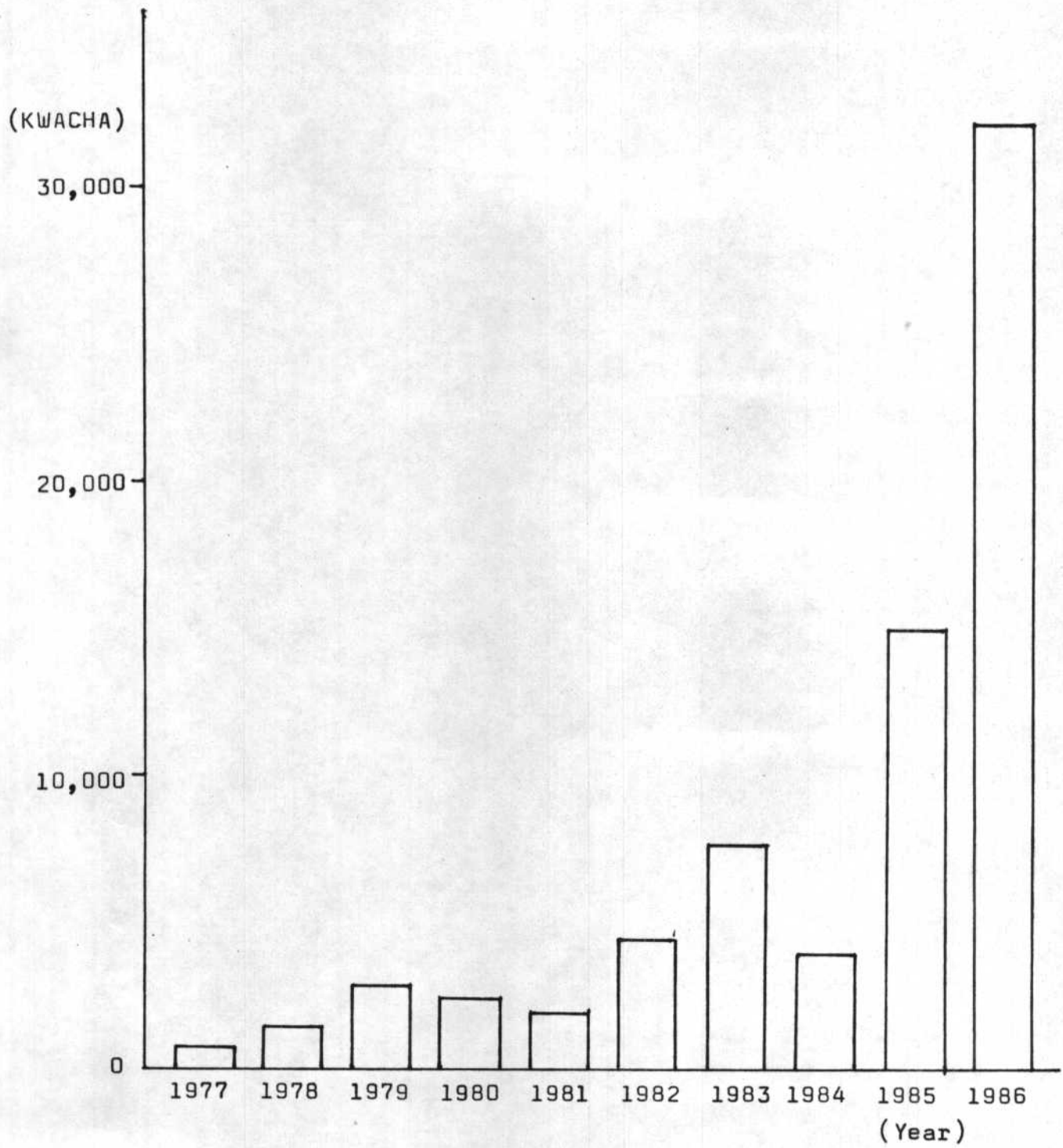
Following the resolution of the meeting, a Bank Account in the name of the Farmer's Committee has been opened in the Zambia National Commercial Bank, Choma, to accumulate resources from the scheme for self-supporting.

Intensive care and professional management soon resuscitated the orchard and within a short period of time it started producing. Within August 1985 some of the fruits became available for sale. At the end of the year 1985 a sum of K15,000 became available from the sale of 28 tons of fruits from the orchard. In 1986, the production has increased to about 50 tons and a sum of K32,000 became available to the scheme. The entire amount has been deposited in the bank account. With the addition of the interest from the account there is already K 50,000.00 available in the bank to support the scheme.

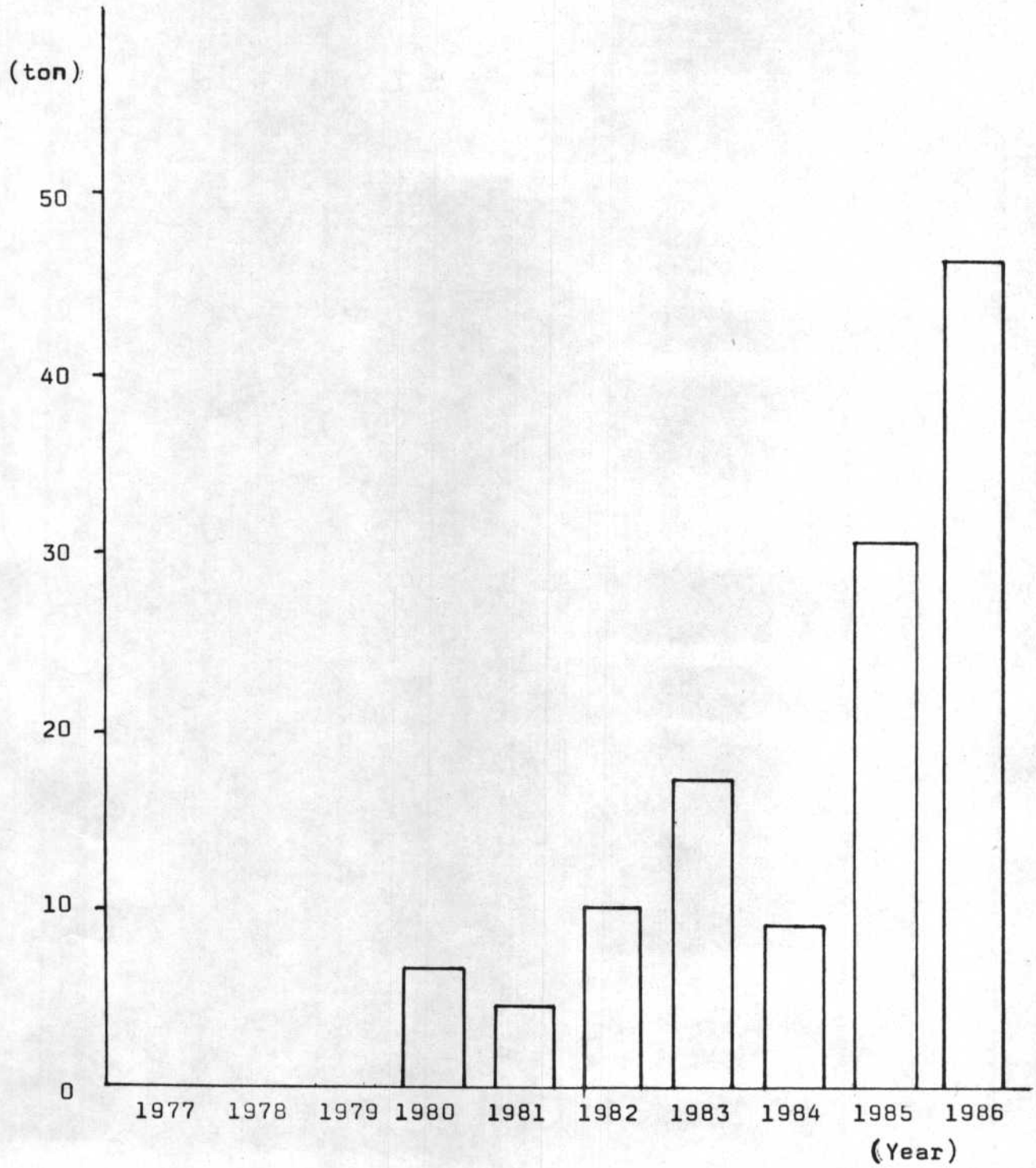
The records of last 10 years sale from the orchard here are brought here for informations. A graphical figures has also been drawn on it for quick understanding.

		<u>Marketable fruits</u>
1977	K 852.--	--
1978	K1,569.--	--
1979	K3,129.--	--
1980	K2,486.--	5.5 tons
1981	K2,046.--	4.5 tons
1982	K4,461.--	9.9 tons
1983	K7,718.--	17.1 "
1984	K4,079.--	9.0 "
1985	K15,000.--	30.0 "
1986	K32,000.--	45.7 "

Yearly Income From The Orchard



Yearly Production Of Fruits



4.4 Restoration of irrigation: (Refer Drawing sheet no. 2)

The only immediate solution was the last alternative - making water available from Nangombe river-bed. A sump (10mx10mx2m) was dug in order to irrigate the orchard. It worked out very well. The orchard had no problem for irrigation from the sump.

In Oct. 1985, the plan of increasing the output of the sump was brought under consideration. 30 PVC pipes (150mm diameter - and 6m long) were brought from Siatwiinda out of their 350 in stock. The pipes were drilled to make it porous. Two 60 m canals (depth: 1m below water table) were dug connecting with the sump. The perforated pipes were then laid on the bottom of the canal and covered it with graded stone-chips. The pipe lines are then re-charging the sump by draining and collecting water from the river-bed. Although it had not sufficiently increased the assumed output of the sump it was enough to revive the orchard in the extreme period of October, 1985.

The most, inique part of this alternative is that it is allowing the same irrigation set-up to be in use. No modification of the system is required.

Last year, heavy rain had increased the efficiency of the sump. The river had its flow until Septmber and the sump was connected to the flow through an open canal. ~~As~~ The farmers were back in irrigating their $\frac{41}{2}$ limas this year. They had almost no problem of water for their irrigation. If the coming rainy season has similar rainfall, the water level is likely to come up to the pumping station. If it does not come it will increase the output of the sump, assuring no problem for $\frac{1}{2}$ lima irrigation for each farmer. However, if necessary, the output of the sump can be further increased though extending its area. If the rainy season is satisfactory and the water level is up to the pumping station the farmers can easily go for 1 lima irrigation from $\frac{1}{2}$ lima.

4.5 Pumping Sets:

There are two lister engines both are in good condition and have been mounted with 2 generators (25kw) and 2 submersible pumps. There is another Deutch pump which has been donated to the farmers from West Germany through Gossner Mission. This pump could be used in emergency. In principle, there should not be any problem in irrigation system.

4.6 Boreholes from drought relief programme:

3 boreholes have been approved for Buleya Malima from this programme. Only one has been drilled and equipped with a windmill. A reservoir (100m³) has to be constructed next to the windmill. The Dept. of Water Affairs has been paid for it. The other 2 boreholes are not yet drilled.

However, from the experience of the 1st borehole it is clear that large scale irrigation is not possible from 150mm casing boreholes because output is not sufficient. It is, therefore, suggested that the other 2 boreholes be drilled in Sikaputa and Muntuwamasiku village and be equipped with handpumps for domestic water supply. The matter can be brought to the attention of the Dept. of Water Affairs. The Dept. has also a sum of K5,000 paid against pump houses which could be used for hand pumps. At this time, equipping boreholes with diesel pumps will be just too expensive apart from its high running cost.

4.7 Farmer's Organisation:

A farmers committee has been formed through general election of the farmers. Hon. Chief Sinazongwe and the Chief Administrative Officer of Sinazongwe Boma became the honorary members of the committee. The committee did not work very well specially in farmer's irrigation management - controlling water, collecting water fees, recording irrigation timetable etc. In May, this year, 3 smaller committees for 3 canals have been formed. The committee consists of 5 members out of 15 farmers in the canal. This committee has performed extremely well. This committee could be considered as "water action committee" and could assist the management.

However, the new system of keeping orchard sale in the farmers' account seems to be changing their attitude very much towards the scheme. Almost everybody has paid irrigation running cost for buying diesel in time.

4.8 Domestic Water Supply

There was complete breakdown of domestic water supply for a long time. The domestic water borehole and its pump set have been renovated. An engine and a new pump set have been provided by the Gossner Service Team. It has been installed very carefully. Proper care can assure domestic water supply for a long period of time. The occupants are paying K10.- and K5.- per month towards the running cost of this water supply. At present, it needs only 1 hour 30 minutes pumping per day to have regular supply of domestic water.

4.9 Workshop:

The scheme should have facilities for basic repairing and servicing of the equipment. In case of major repairing assistance could be taken from the GSDP workshop. The old workshop has been renovated. Some of the basic tools including a gas welding set have been bought. It can easily service the irrigation engines, domestic water engines and the tractor. It can also carry out small scale repairs for the farmers of the area.

4.10 Tractor:

Both tractors were in poor condition because of irregular servicing and misusing its services. The universal is not still in up to date condition. The John Deer has been repaired, serviced and put on new tyres. This is the only means of transport for the scheme. It is, therefore, suggested that the tractor should not be given away for any outside work. As the scheme is becoming independent the farmers won't be able to buy another tractor, therefore, they should take maximum care for it.

4.11 Mobility of the Scheme Manager:

A Suzuki 125 Farm bike has been bought for the scheme. It cost K17,550.-. Only the Scheme Manager is suggested to use it in necessary operational activities (banking money, repairing accidental breakdown etc). However, only 5000 km is allowed in a year through a properly maintained logbook.

Every trip has to be approved by the Adviser at the scheme. Care should be taken for the longer life of this expensive small transport for the scheme. It is, for sure, going to be difficult to get another one as replacement, the scheme cannot afford it.

4.12 Marketing:

Marketing of perishable produce has ever been a problem. Road communication is the main reason for it. Considering all other factors a place has been secured at Batoka J Junction from the Choma District Council. A 7mx4m temporary selling shade has been constructed at this place. The major advantage of this place is that it is along the line of rail and at a railway station.

The shade was not in use this year because this year produces had not faced much of problem in marketing. But with the increasing of production it will be an ideal place for the farmers to wholesale their produce.

The GSDP has been asked to take care for the building, so that, all the irrigation schemes can get the advantage of this building.

5. SUGGESTED MANAGEMENT SYSTEM

The scheme is for the first time in 16 years going to stand on its own feet. Cooperation and assistance are required from every side in order to sustain its development. There are 6 components which could be considered for the self-supported management system of the scheme.

- 5.1 Farmers Executive Committee
- 5.2 Canal Committee or irrigation water management committee
- 5.3 Management staff
- 5.4 Financial Plan
- 5.5 Overseer Organisations
- 5.6 Technical Cooperation

5.1 Farmers Executive Committee:

A full (10 members) executive committee will be elected among the farmers. The election will be held in November every year. Only the farmers of the scheme should have the voting right. The executive committee members must be the farmers of the scheme.

The committee - Chairman
Vice chairman
Secretary
Vice Secretary
Treasurer
Vice Treasurer
4 members

The Chief Sinazongwe and the Chief Administrative Officer of Sinazongwe Boma will be the honorary permanent members of the committee with their voting right too. This is to strengthen the committee's activity.

Responsibilities of the committee-

- approve any development plan for the scheme
- approve every year's budget and financial plan
- meet quarterly to discuss progress and problems
- assist management staff in every exercise wherever necessary.

5.2 Canal Committee or Irrigation Water Management Committee:

Apart from the Executive Committee there will be another water action committee for each canal. They will be named as "Canal Committee" with 5 members - chairman, secretary, treasurer and 2 members. These are the committees which will help the management very much. The major responsibilities of these committees will be-

- collect water charges from fellow farmers of the respective canal and handover to the scheme manager,
- look into the misusing of water by any farmers, that is control of water distribution,
- keep record of irrigation hours,
- expel any farmer from the canal if it becomes necessary
- keep the irrigation canal clean and system working,
- provide service to the management for the supporting unit (the orchard).
- assist the management for any job that would develop the scheme.

The executive committee members in any canal including the chairman will be powerless in case of canal committee's decision in its area of action. In otherword, any executive committee member will be obliged to carry out any water management decision by the canal committee. If it happens that an executive committee member is expelled by the canal committee for not complying with any water management action then the vice will work in his place and where no vice a re-election could be conducted to re-elect the post of expelled member,

5.3 Management staff:

At this stage the management of the scheme (orchard Management, irrigation management etc.) can not be left in the hands of the farmers. It will not work and it is going to bounce back. Even employing a scheme manager through their limited resources would be difficult.

However, the Dept. of Agriculture has the obligation of providing extension services to the farmers. There are 54 farm families directly affected by the scheme for the improvement of their lives.

Secondment of extension workers in scheme management will not be irrelevant. It is therefore recommended that the Dept. second the following management staffs-

<u>Posts</u>	<u>Qualifications</u>	<u>Remarks</u>
Scheme Manager	NRDC (Crops)	Posted
Asst. Scheme Manager	NRDC (Eng.)	Not posted
Agric. Assistant	ZCA	Posted
2 general workers	General worker	Posted
1 engine attendant	" "	"
1 tractor driver	Driver	"

The present appointed scheme manager Mr. Kingsley Mulemwa is with engineering background, because he is the only one who has gained experience in the past few months in the scheme. The assistant manager requested from the P.A.O.'s office must have crops background.

Responsibilities of managers:-

- general management of the scheme,
- keeping the books and accounts in order,
- management of the supporting unit (the orchard) with 2 general workers and farmers,
- banking the income generated from the scheme. By virtue of the post the manager is one of the signatories of the account,
- preparation of the budget and financial plan for the year,
- collection of water charges from the canal committee and bank it,
- making arrangement for buying budgeted diesel and lubricant for running of the irrigation in time,
- keeping contact with the sister organisations (GSDP etc) for any assistance,
- submit quarterly progress report to the committee as well as copy to the PAO's office.

The scheme has 16 staff houses and the area is densely populated. With the opening of the new agricultural District, the Gwembe South with its DAO accommodated in Sinazongwe, Buleya Malima can easily be an agricultural block.

175.

It has not all the accommodation facilities for the staff. The scheme need only 7 or 8 houses for its management, 1 house, has been turned to the Buleya Malima Irrigation Clinic and the remaining houses could be used for block extension staff. In any case the department has to take care of these staff houses.

5.4 Financial Resources and Plan:

This is, indeed, the most crucial point for the success of self-reliance. At the beginning of 1985 the scheme had no financial background. With the introduction of the new system the scheme has already K 50,000.- deposited in its back account. However, it is suggested that the so accumulated K 50,000.- be invested in long term deposit account and withdrawn only the annual interest available from it. At the end of the year surplus income should go and increase the accumulated capital at the bank.

Income Sources

- a. Interest of K 50,000.- in 3 years fixed deposit account at the rate of 22% per year ----- K 11,000.--
- b. Farmers Irrigation Water Charges- The farmers would pay 50% of the irrigation cost while the other 50% would come from the supporting unit. It has been calculated that farmers need total 405 irrigation hours (refer annex II) if they irrigate 1 lima each.
2
Cost: at K20/hour irrigation
= K 8,100.- and 50% would be ----- K 4,050.--
(cost per farmer = 4050
54 = K 75.- per year)
- c. The supporting unit (the orchard):
The orchard has potentiality of producing more than K40,000.- per year when it will be fully recovered. This year it has produced K32,000.--. It is suggested that the management be ~~given~~ extra incentive to keep its production up.

Let's consider that the orchard produces at least K 25,000.- a year. Anything above K 25,000 production would be shared among the management and the scheme. 50% of the excess production of K25,000 would come as bonus to the management. (managers 50%, workers and driver 30%).

Therefore, minimum production from the orchard = K 25,000.--

d. Workshop:

Workshop should be able to generate income through small outside repairings, and renting transport (tractor hiring).
Outside repairing, roughly ----- K 2200.--

Transport to the farmers - The farmers are allowed to hire the tractor and trailer to market their produce. Per kilometre running cost would be K0.80, that is, 0.3 l diesel, in other words, K0.60 for diesel and K0.20 for oil. But they will be charged K1.00 per km. An estimated 3000 km driving per year would give an income of K 3,000.--/ year. Therefore, total workshop income in a year ----- K 3,200.--

e. Domestic Water Fees:

3 big houses would pay K10. per month and remaining 13 houses would pay K5. per month towards the running expenditure of the domestic water supply. (The engine needs 45 litres diesel per month.)

3 houses at K10.-- per month = K 360.-
13 houses at K 5.-- per month = K 780.-
K 1,340!.-

Total income from domestic water supply ----- K 1,340.--
(against K 1,080.- running cost in a year).

Therefore, Total income from the scheme = K 44,590.--

Expenditure:

Every expenditure should be carefully budgeted so that maximum capital can be increased every year.

a. The Orchard

The detail expenditure of the orchard is given in the enclosed work plan report (annex II). The cost of irrigation and transport is brought under workshop budget.

Therefore, total expenditure of the orchard except irrigation and transport----- K 4,540.--

b. Workshop

i) Farmers' Irrigation (refer Annex II):

Total 405 irrigation hours is required 7.5 l diesel per hour pumping, that is, 3,037.5 l diesel is required for 405 hours pumping.

Cost: at K 2 per litre diesel----- K 6,075.--

ii) Orchard Irrigation (refer Annex II):

Total 160 hours irrigation is required in a year. 7.5l diesel per hour pumping, that is, 1200l diesel is required for 160 hours pumping.

Cost: at K 2 per litre----- K 2,400.--

iii) Transport for the orchard (Annex II):

An estimated 17 trips to Maamba for selling fruits is required, that is, approximately 2000 km running cost is required. At 0.3 litre/km diesel 600 l diesel.

Cost: at K 2/ litre ----- KK 1,200.--

iv) Transport to market farmers produce:

An estimated 3000km will be hired by the farmers. At 0.3 l diesel/km need 900 litre diesel for 3000km driving.

Cost: at K 2 per litre----- K 1,800.--

v) General repairing:

Welding gas and its accessories	-	K 1,000.-
Servicing kit for tractor	-	500.-
Servicing kit for domestic water engine	-	100.-
Servicing kit for irrigation engine	-	500.-
1 drum engine oil	-	2,300.-

Total cost on general repairing - K 4,500.- K 4,500.--

vi) Domestic water:

45 litres diesel is required per month
for the running cost of the engine.

Therefore, 540l diesel needed in a year.

Cost: at K 2 per litre ----- K 1,080.--

vii) Transport (motorbike) for the management:

Up to 4000 km are allowed in a year
200 litres petrol and 7 litres 2 stroke
engine oil are required on running
expenditure of motorbike.

Cost: at K3 per litre petrol = K600.00 and
Oil K250.00 and total - K 850.--

Total workshop budget K 17,905.--

c. Stationeries:

An amount of K500.00 is supposed to be enough- ~~1000~~

----- K 500.--

d. Allowance and bonus:

It is suggested that the management staffs be given an extra incentive from the income of the scheme. This is very important to grow their extra initiatives towards the development of the scheme.

Recommended allowance -

Manager - K75/month	= K900 per year
A/Manager- K50/month	= K600 per year
Agric Assistant K30/month	= K360 per year
3 workers K20/month each	= K720 per year
Driver K20/month	= K240 per year

Total----- K 2,820.--

e. Miscellaneous and accidental expenditure:

----- K 1,000.--

Total expenditure budget for the year ----- K 26,765.--

Therefore,

Total income of the year ----- K 44,590.--

Total expenditure budget of the
year----- K 26,765.--

Capital increase at the year endK 17,825.--

=====

This surplus income would go to the investment capital of K50,000 to make it K67,825.-- in the following year. It will assure more income in the next year. If this flow of progress is maintained, there is no reason that the scheme would not succeed in future.

Furthermore, as the electrification programme is coming underway in the next year it will very much assure the success by cutting down the irrigation running cost for the scheme apart from its other benefits.

5.5 Overseer Organisations:

(District Governor, Sinazongwe Boma, GSDP, DAO and PAO's office) Courtesy visits of the District Governor is important to encourage the farmers. Attending one or two executive committee meetings would be very useful. It is in his interest that a project in his area is getting developed and standing on its own feet and the living standard of the people are improving.

The Chief, as the traditional ruler of the area and permanent member of the executive committee would attend every executive committee meeting where progress report will be submitted. His assistance is very much required in disciplining and organising the farmers. The management staff, when ever necessary, would seek his assistance.

The Chief Administrative Officer of the Sinazongwe Boma, as the most senior civil service administrator of the sub district, would from time to time monitor the progress of the project. As a permanent member of the committee he would attend the quarterly meetings, where progress reports will be submitted. Being the nearest office, he would regularly assist the management and see that no financial mismanagement or indiscipline is taking place within the project. He would very much assist in the financial budget plan.

Gwembe South Development Project (GSDP) being the project of the Ministry of Agriculture in the area would coordinate B/malima activities, and assist with its existing facilities at the scheme.

PAO and DAO's office: The management staffs are seconded from the Dept. of Agriculture. It is therefore suggested that these offices would monitor the progress of the scheme and the activities of the staff.

5.6 Technical Cooperation:

The Gossner Mission has provided Technical Assistance to achieve the new objectives of the project since January, 1985. Technical Cooperation has been extended up to April, 1988. Looking at the achievement and the shape of the project there will be no need for further extension of cooperation, in other words, the project should be able to look after itself with Zambian management. Let's see that one of the projects become self-reliant and successful. However, further consideration of technical cooperation for another 1 or 2 years may be recommended if it becomes necessary. It has to make sure that if any further technical assistance is reconsidered the expert should live at the scheme not away from the scheme and try to manage it with one weekly visit.

Assistance is also provided from the Japanese Overseas Cooperation of Volunteers (JOCV) since the end of 1985. A Japanese volunteer has been seconded to the project to assist in the rehabilitation work.

It is suggested that the service of a Japanese Volunteer be continued for another few years.

6. FUTURE DEVELOPMENT OF THE SCHEME

6.1 Electrification of the scheme:

Drawing of powerline from Maamba Collieries by the new irrigation farm, the Gwembe Valley Development Company, has given an advantage for electrification of the scheme. It is going to be very expensive for Buleya Malima alone to draw the powerline. But a joint cooperation has been made with the other 3 neighbouring commercial fishing camps.

Cost: at K22,000 per km and for 15 km	= K 330,000.-
Transformer 50 KVA at K20,000 each	= <u>K 80,000.-</u>
	K 410,000.-

Cost for each party = $\frac{410,000}{4}$ = K 102,500.00

The budget has been prepared for it and submitted to the ministry. As a matter of fact it is an advantage to the department, because the diesel engines and the generators will become available to the department for use elsewhere and the cost at the present market price is more than 100 thousand kwacha.

Buleya Malima's pumping system is designed with submersible flight pumps and no modification will be required with the future electrification. It is only a matter of plugging in pump in the main line.

6.2 Restoration of irrigation:

There is every possibility of increasing the Lake level. If in case the situation becomes worse the 3rd alternative could be reconsidered-extension of the pipeline and installation of a second pumping station at the water level.

cost: 40cm diameter cement asbestos pipes

i) 1000 m at K60,00- meter	K 60,000.-
4mx5m pump house, concrete floor	
ii) asbestos roof and cement block perforated wall	K 5,000.-
iii) a small pontoon (float) for the pump and the switch board	K 5,000.-
iv) Labour, 500 MD at K6	K 3,000.-
Miscellaneous	<u>K 7,000.-</u>
	K 80,000.-

6.7 Marketing:

In future the Batoka selling shop should be turned to a cold room with the joint effort of Chiyabi, Buleya Malima, Nkandabbwe and Siatwiinda Irrigation Schemes. With the future electrification in Sinazeze one could think of starting a cold room at Sinazeze. If Sinazeze and Chiyabi road is tarred marketing problem will be minimised very much. However, building of a small coop. processing plant at Sinazeze for processing excess vegetables and fruits will be absolutely necessary.

If the new Gwembe Valley Farm goes for fruits and vegetables production for export market apart from cotton, it would very much minimise marketing problem for the irrigation farmers. The Irrigation scheme can produce similar crops and market through it.

BULEYA MALIMA IRRIGATION SCHEME

①

Muntuwamasiku

S = 1 : 5000

----- Power Line

-x-x-x- Fence Line

ORCHARD

C3

C2

C1

LS 1
Houses

Reservoir

to Lake KARIBA

MCH303
House

MD 1
House

3 T
House

Engine
House

Pump
SUMP

Wind
Mill

3 O 2
Houses

4 AA
Houses

3 AA
Houses

B.L.
Fishery

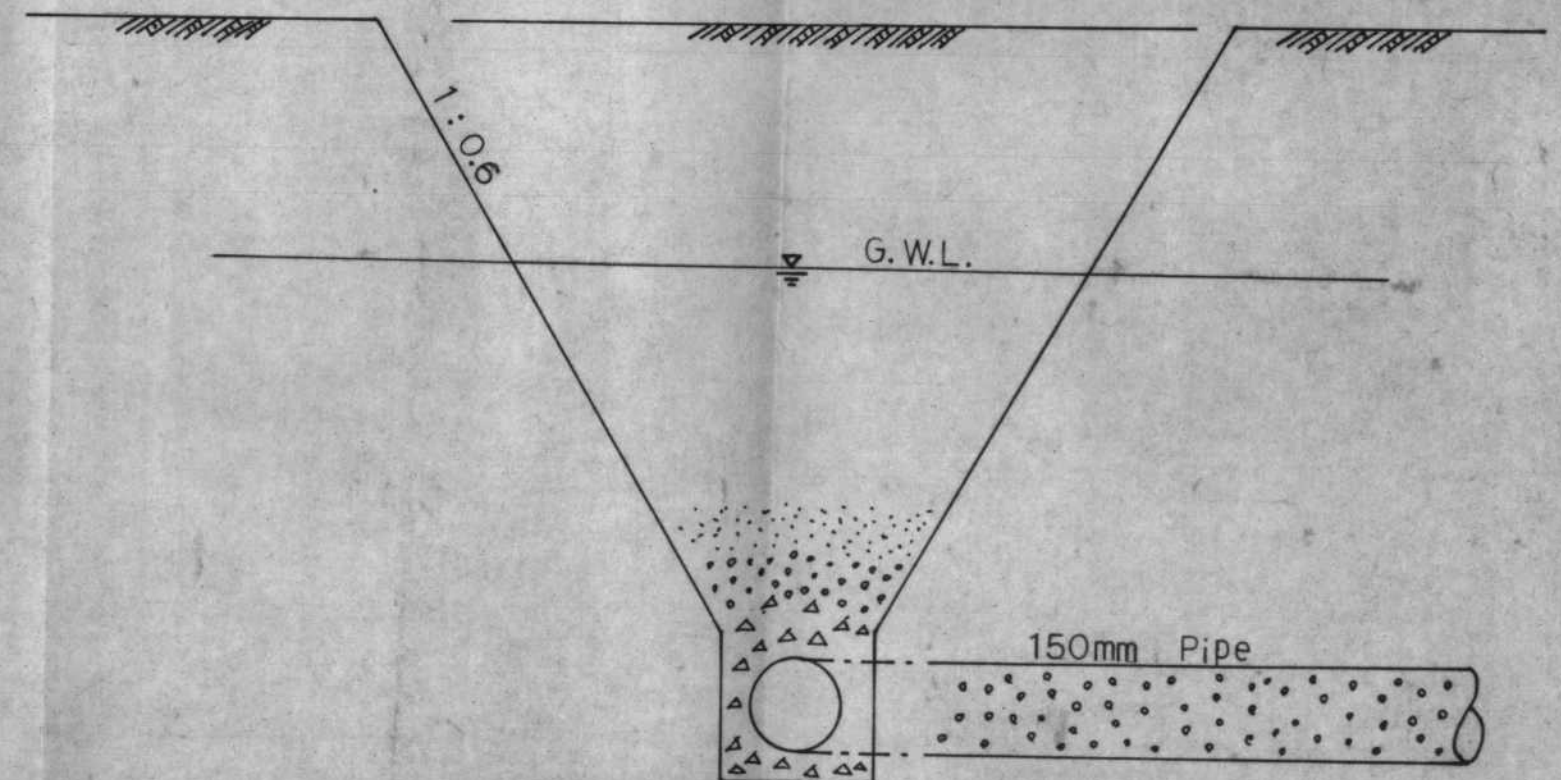
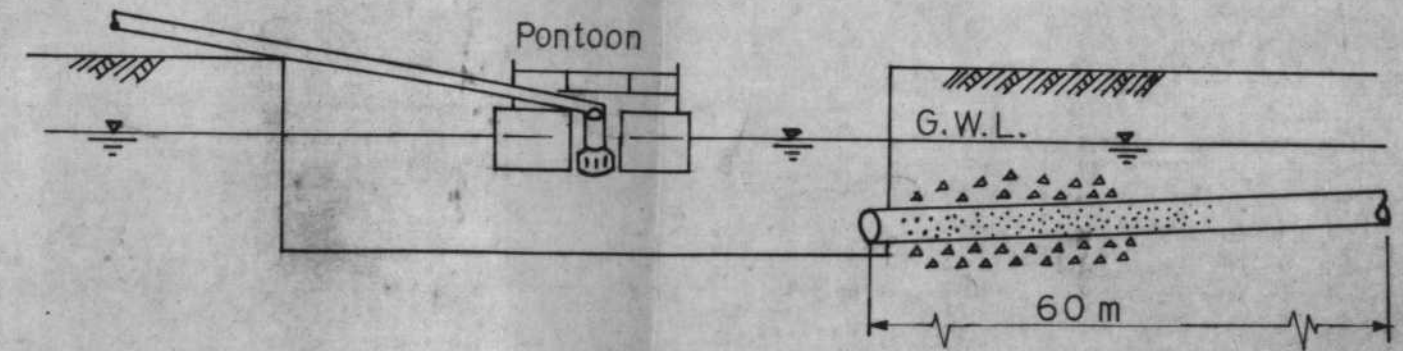
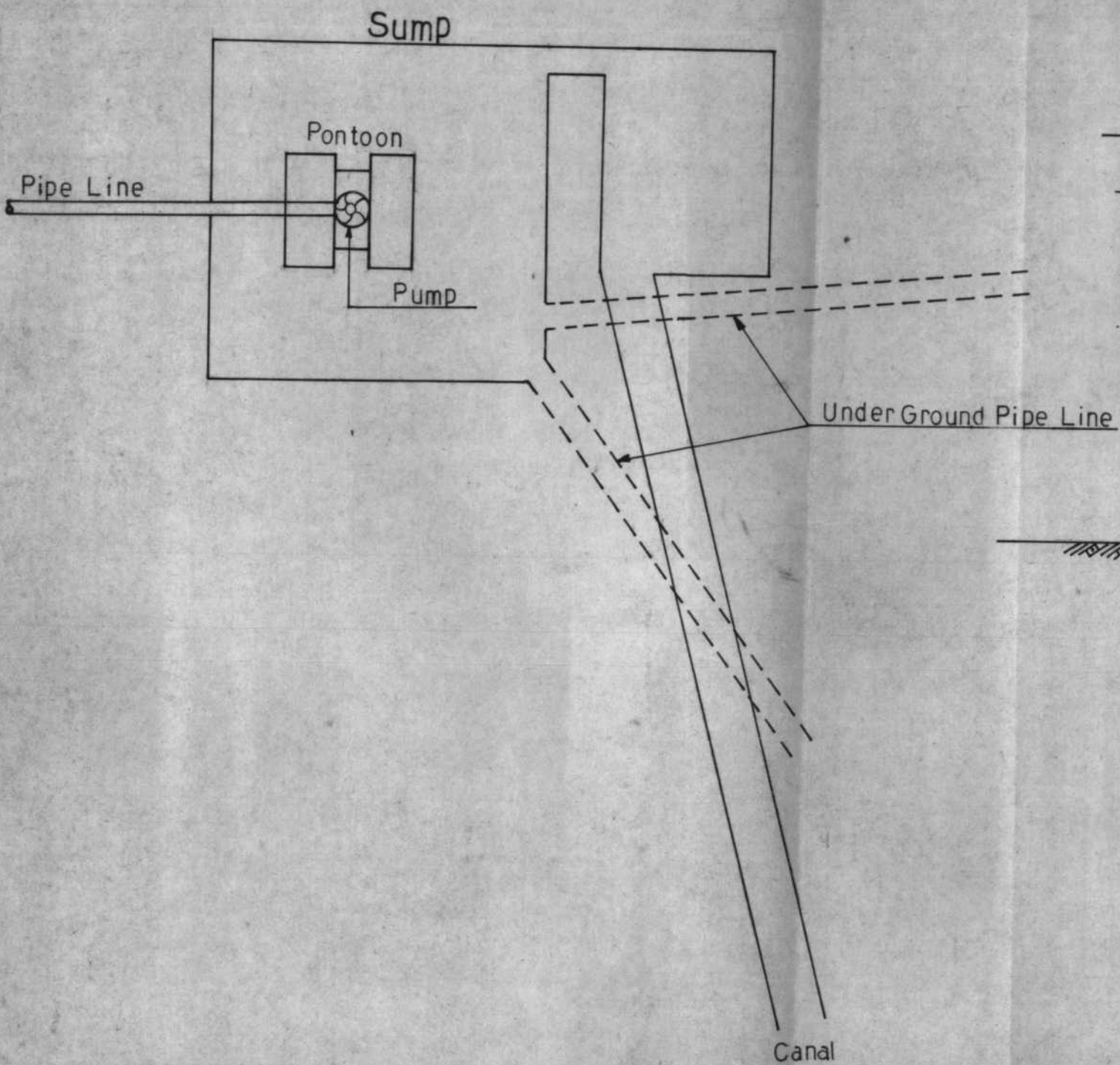
Office

Pump House
Domestic

Sikaputa

Nangombe River

FILTER DRAIN TECHNIQUE



ANNEX 1
INTERVIEW NOTES

1. Land:

Total Land in the scheme : . 61 ha
- Developed with lined canals : 11 ha
- Orchard : 3 ha
- Research : 4 ha
- Area under dryland farming
(which can be dev. for
irrigation) : 43 ha

2. Irrigation System Design:

The irrigation system has been designed to pump water from the draw-down area of the Lake on the mouth of the Nangombe river. There are 2 sets of engines which run the generators to drive the submersible pumps. The same system is also presently in use.

Technical details of the layout-

- a. Engines : 2 HR Lister engine
- b. Generators : 2 25 KW generators
- c. Pumps : 2 flight submersible pumps type 132151
- d. Pipeline : 2 galvanised steel pipes, 150 mm diameter.
The pipes connect the pumps and the 300mm pipeline. Each pipe is supplied with a non return valve and a gate valve. Total length of each pipe is 26 metre.
 - Joint piece in steel connecting the two 150 mm pipes to the 300 mm pipes.
 - 693 metre 300mm Turner asbestos pipes, Class A, working pressure: 30 metre.
 - 900 metre 375 mm Turner asbestos pipes Class A, working pressure: 30 metre.

e. Present water source:

A 10x10x2 m sump connected with an open canal to the river flow. It is also connected with underground perforated 120 m pipeline which is recharging the sump. In the present situation, 1000 m³ water per day can be easily available.

3. Staff Houses and Offices:

- 1 3T house
1 MCH 3o3 house
1 MD house
3 3o2 houses
3 4AA houses
2 3AA houses
5 LS 1 houses

One office building - 2 rooms for the scheme management
2 rooms ~~presently~~ used by SPCMU and LINTCO
1 part workshop and its store

One farmer's shade - 1 store room and
2
1 meeting hall
2

4. Workshop:

- a) Tractor - 1 John Deer 2030 with a plough and a trailer.
1 Universal, condition not good
- b) Tools - a gas welding set
a complete set of spanners
2 pipe wrench and other basic tools like hexo,
files etc.
- c) Underground fuel tank - capacity 10,500 litres good
condition.

5. Domestic Water Supply:

- a borehole
- a monopump ES 30
- a monostrum head
- a 2 cylinder lister engine
- 2 overhead tanks, each 10500 l capacity

The pump is set at 30 m down in the borehole with 50 mm column and 16 mm shaft. The yield is 2.4 l/sec at the overhead tank. Usually 1 hour 15 minutes pumping is required per day.

6. Windmill:

The windmill and the borehole are from the drought relief programme of the Southern Province. The borehole is 79 m deep with 5 l/sec yield at 45 m depth. Further test was not possible with the Dept. of Water Affairs drilling rig. A reservoir, 100m³ capacity has to be constructed by the Water Affairs Department.

ANNEX IITENTATIVE WORKPLAN WITH TECHNICAL DETAILS AND
COST FOR 2 MAIN PROGRAMMES!P.1 FARMERS' IRRIGATION:

Numbers of Irrigation Application required-

<u>Months</u>	<u>No. of applications</u>
April	2
May	3
June	4
July	5
August	5
September	5
October	6

Total: 30

One application = 13.5 hours

(3 Canals: 4.5 hours/canal/Application.)

Total number of hours = $30 \times 13.5 = 405$ hours.Cost: at the rate of K20.00/hour = ----- K 8,100.--Calculation of Water:Water requirement: Land 5.4 ha, $\frac{1}{2}$ (0.1 ha) lima for each farmer,With 60 mm irrigation $3,240 \text{ m}^3$ water is required.Pumping output : $64 \text{ l/sec} = 230.4 \text{ m}^3/\text{hour}$. $13.5 \times 230.4 = 3,110.4 \text{ m}^3$ per 13.5 hours application.

Water availability: The pump, because its connection with the river flow through a surface canal and its recharging system through underground perforated pipeline, will assure continuous pumping until September. On the other hand, 3240 m^3 water is required in 3 days pumping -

Monday - canal No. 1
 Tuesday- canal No. 2
 Wednesday-canal No.3

that is, about $1,000 \text{ m}^3$ water is required per day.

Usually, it needs comparatively, ^{less} hours water then the specified amount because most of the farmers use furrow irrigation system. From the last year experience it has showed that an average of 3.5 hours pumping per canal, per application is enough. However, to be on the safe side it has been worked on 4.5 hours application.

P.2 SUPPORTING UNIT (the Orchard) MANAGEMENT:

a. Irrigation:

Numbers of Irrigation Application required-

<u>Months</u>	<u>No. of Applications</u>
April	1
May	1
June	2
July	2
August	3
September	3
October	4
Total	16

One Application = 10 hours

10

Total no. of hours = $10 \times 16 = 160$ hours

7.5 litre diesel/hour = 1200 l diesel for 160 hours

Cost: at the rate of K15.00/hour = -----K 2,400.--

Calculation of water+

Water requirement: Land 3 ha, with 60 mm irrigation 1800 m³ water is required for each application.

Pumping output : 64 l/sec, that is, 230.4 m³/hour.

$10 \times 230.4 = 2304$ m³ per 10 hours application.

There is a portion of banana plantation next to the orchard and this amount of water is supposed to be enough for irrigation. The days of irrigation for the orchard and banana are Thursday and Friday.

b. Fertilizers:

V- Compound---

1 kg/tree*800 kg = 16 bags for 800 trees.

Ammonium Nitrate/Urea--

1 kg/tree in 3 applications = 800 kg
= 16 bags for 800 trees.

(application: 1/3 kg AN per tree in March

1/3 kg AN and 1 Kg V per tree in August

1/3 kg AN per tree in November.)

Cost: at the rate of K75.--/bag,

and cost of 32 bags----- K 2,400.--

c. Chemicals:

1 spray in November

1 spray in January

1 spray in March

1 spray in April

4 sprays in total.

cost: at the rate of K100/spray----- K 400.--

(cost include insecticides, petrol for spray
and dieldrin for ants control.)

d. Slashing:

1 slashing in November

1 slashing in December

1 slashing in January

1 slashing in February

1 slashing in March

1 slashing in April

6 slashing in total

Cost: at the rate of K90/slashing ----- K 540.--

It is suggested that the farmers involve themselves in such
kind of operations. They have to keep in mind that 50% of
their running cost of irrigation is coming from the orchard.

f. Labourers:

Casual worker when need arises.

Roughly K100 per month----- K 1,200.--

f. Transport:(for selling oranges).

3 trips to Maamba by tractor in April

3 trips to Maamba by tractor in May

3 " " " June

2 " " " July

2 " " " August

2 " " " September

2 " " " October

17 trips in total, that is 2000 km (approximately)

Cost: at the rate of K0.80/trip/Km = ----- K 1,600.00

Total cost for the orchard = K 8,540.--

ANNEX - IIICROP BUDGET

ON

 $\frac{1}{2}$ LIMA (o.1 ha) IRRIGATED FARMINGBANANA

Items	Total	Materials			Hired Labour		Family
	cost (k)	unit	unit cost	costs (k)	Man- days	Costs (k)	Labour Mandays
I. <u>VARIABLE COSTS</u>					1 MD	4.00	
A. OPERATION							
-Land preparation (ploughing)	20.00	-	-	-	5	20.00	15
-Planting	-	-	-	-	-	-	4
-Fertilizing ¹	-	-	-	-	-	-	1
-Weeding	-	-	-	-	-	-	5
-Irrigation	75.00	-	-	-	-	-	5
-Fertilizing ²	-	-	-	-	-	-	1
-Harvesting	-	-	-	-	-	-	5
Sub-total A	95.00				5	20.00	36
B. MATERIALS							
-Plant materials (suckers)	100.00	200	0.50	100.00			
-Fertilizer (basal)	32.00	20kg	1.60	32.00			
-Fertilizer (top)	57.00	36kg	1.60	57.00			
Sub-total B	189.00						
C. INTEREST							
D. TAXES							
TOTAL I	284.00						
II. <u>GROSS OUTPUT</u>							
-Yield (product)	3000kg						
-Farmgate price	1.00k/kg						
TOTAL II	3,000.00 kwacha						
III. <u>GROSS MARGIN</u>							
- per $\frac{1}{2}$ Lima (o.1ha)	- 2,716 K/ $\frac{1}{2}$ lima/year						

ONION

Items	Total costs (k)	unit	Materials		Hired Labour	Family Labour
			unit cost (k)	Man-days	costs (k)	
I. VARIABLE COSTS					1 MD	4.00
A. OPERATION						
-Land preparation (ploughing)						15
-Sowing						1
-Planting	20.00				5	10
-Fertilizing						2
-Weeding						10
-Irrigation	75.00					5
-Harvesting						10
Sub-total A	95.00					53
B. MATERIALS						
-Seeds	120.00	0.6kg	200.00	cost (u)	120.00	
-Fertilizer (basal)	160.00	100kg	1.60		160.00	
-Fertilizer (top)	60.00	38kg	1.60		60.00	
-Bags	280.00	400	0.70		280.00	
Sub-total B	620.00					
C. INTEREST						
D. TAXES						
	715.00					
II. GROSS OUTPUT						
-Yield (product)	4000kg					
-Farmgate price	1.00 k/kg					
TOTAL II	4000.00 kwacha					
III. GROSS MARGIN						
-Per $\frac{1}{2}$ Lima (0.1ha)	= 3285.00 K/ $\frac{1}{2}$ lima					

OKRA

Items	Total costs (k)	Materials		costs (k)	Hired Labour		Family Labour
		unit	unit costs		man-days	costs (k)	mandays
I. VARIABLE COSTS					1 MD	4.00	
A. OPERATION							
-Land preparation							10
..(ploughing)							5
-Planting							2
-Fertilizing							10
-Weeding							5
-Irrigation	75.00						15
-Harvesting							
Sub-Total A	75.00						47
B. MATERIALS							
-Seeds	60.00	3kg	20.00	60.00			
-Fertilizer (basal)	100.00	63kg	1.60	100.00			
-Fertilizer (top)	60.00	38kg	1.60	60.00			
Sub-total B	220.00						
C. INTEREST							
D. TAXES							
TOTAL I					295.00 kwacha		
II. GROSS OUTPUT							
- Yield (product)	1875 kg						
-Farmgate price	1.00 k/kg						
Total II	1875 kwacha						
III. GROSS MARGIN							
- Per $\frac{1}{2}$ Lima (0.1ha) = 1580.00 K/ $\frac{1}{2}$ Lima							

POTATO

Items	Total costs (k)	Materials			Hired Labour		Family Labour
		unit	Unit cost	Costs (k)	Man-days	Costs (k)	Mandays
I VARIABLE COSTS					1 MD	4.00	
A. OPERATION							
-Land Preparation (ploughing)							15
-Planting							5
-Fertilizing							1
-Weeding							5
-Cultivating							5
-Irrigation	75.00						5
-Harvesting							10
Sub-total A							46
B. MATERIALS							
-Seeds	561.00	187kg	3.00	561.00			
-Fertilizer (basal)	160.00	100kg	1.60	160.00			
-Fertilizer	60.00	38kg	1.60	60.00			
-Bags	175.00	250	0.70	175.00			
Sub-total B	956.00						
C. INTEREST							
D. TAXES							
TOTAL I	1031.00						

II GROSS OUTPUT

- Yield (product) 2500kg
- Farmgate price 1.00k/kg

III. GROSS MARGIN

- Per $\frac{1}{2}$ Lina (0.1ha) 1469.00 K/ $\frac{1}{2}$ Lina

GREEN MAIZE

Items	Total costs (k)	Materials		Hired Labour		Family Labour	
		Unit	Unit cost (k)	Costs (k)	Man-days	Costs (k)	Mandays
I. VARIABLE COSTS					1 MD	4.00	
A. OPERATION							
-Land Preparation (ploughing)							10
-Planting							5
-Fertilizing							2
-Weeding							10
-Irrigation	38.00						5
-Harvesting							10
Sub-total A	38.00						42
B. MATERIALS							
-Seeds	6.00	2kg	3.00	6.00			
-Fertilizer (basal)	32.00	20kg	1.60	32.00			
-Fertilizer (top)	32.00	20kg	1.60	32.00			
Sub-total B	70.00						
C. INTEREST							
D. TAXES							
TOTAL		108.00 kwacha					
II. GROSS OUTPUT							
-Yield(product) 4000 cobs							
-Farmgate price 0.5 k/cob							
TOTAL II		2000 kwacha					
III GROSS MARGIN							
- Per $\frac{1}{2}$ Lima (0.1 ha) 1892.00 K/ $\frac{1}{2}$ Lima.							

ERHARD.

BULEYA MALIMA IRRIGATION SCHEME
BUDGET PROPOSAL FOR 1987

Date: 24-7-1986.

The Director of Agriculture,
P.O. Box 50291,
Lusaka.

Dear Sir,

Reviving of the Buleya Malima Irrigation Scheme since 1985
had started on 2 basic objectives-

- rehabilitation of the schemes and
- self supporting of the scheme

It had been decided at the beginning that the Govt. will
provide funds to rehabilitate its infrastructure and support the
scheme until the end of 1986 after which the scheme should be able
to stand on its own feet. On the other hand, Gossner Service Team
will provide the personnel.

Now, I would happily say that rapid progress is almost
assuring the success of the Project. We are nearly to achieve our
goal. The Project has already a growing capital of K40,000.00 in
its Bank Account in this short period and expected to reach to
K50,000.00 at the end of the year. According to my future plan the
project should never use its accumulated capital but only the
capital investment income which is helping to grow its capital every
year.

If I draw your attention to the enclosed financial plan
(recurrent budget) of the year 1987 you will find that the scheme
will still be able to grow its capital by K25,750.00 every ^{year} after
supporting its recurrent expenditure if the existing management
continues. There will be no further unproductive investment to
Buleya Malima anymore by the Govt.

However, the fund which have been promised last year for 1986
budget of Buleya Malima have to be secured if we want to achieve
our goal. Only 7 thousand kwacha have so far been released. Please
see that the capital investment income in the enclosed financial
plan will be available only at the end of 1987. The programme has
to be prefinance from 1986 budget.

There will be no need to budget for Buleya Malima for 1987.
But the enclosed capital rehabilitation budget should be considered
seriously. This will give a permanent answer to the restoration of
irrigation as well as development of the plan.

Sincerely yours,

B. Hossain
B. Hossain
Technical Advisor GST

cc PAO Choma
cc CAO, Sinazongwe

Gossner
Mission

cc Liaison Of...

BULEYA MALIMA IRRIGI SCHEME.
CAPITAL ESTIMATE FOR 1987.

A. ELECTRIFICATION OF THE SCHEME:	K72,000.00
B. INSTALLATION OF A 2nd PUMPING STATION:	K70,000.00

Total:	K142,000.00
--------	-------------

A. ELECTRIFICATION OF THE SCHEME: The new 'Gwembe Valley Farm' in Sinazongwe has drawn its power line from Maamba Collieries to a point (pumping station) which is only 12 km away from the Buleya Malima Irrig. Scheme. One of the obligations of this new company, seems to be, supplying of electricity to its nearby community through its main powerline.

In this 12 Km distance, there are 5 Commercial Fishing Camps willing to electrify their stations. I strongly feel that B/Malima should join the group to make its number 6 and lead the programme.

Appart from the unique benefit of electrification, the entire diesel pumping sets at the scheme will become available to the Department for using it elsewhere. The set includes 3 Lister engine (4 cylinder), and 2 25KW Generators. The sets, in the present market cost around K100,000.00. The approximate cost of the electrification can be shown as follows:

1. 11 KV OHL 25mm² SSAC,
at the rate of K25,000/Km,
12X25,000-----K300,000
2. Transformer 100 KVA,
at K20,000 each,
6X20,000 -----K 120,000

Total:	K420,000
--------	----------

Cost per party: $\frac{K420,000}{12(6)} = K72,000.$

In reality the Department is spending nothing when it considers the value of the diesel pumping sets become available to it.

B. INSTALLATION OF A 2nd PUMPING STATION: The Lake had receded to its maximum level as a result of the past 3 years drought. We know and can assume the limitation of the draw-down area if the situation never becomes worse than this. This year better rain has improved the situation considerably although water is not yet in the main pumping station.

The only easy possible technical solution is installation of a 2nd pumping station 1000 m away from the existing station towards the lake. With the powerful submersible flyght pump covering head will

not be a problem at all. The approximate cost of the station will be as follows:

1. 40 cm diameter cement asbestos pipe
1000 m at K60.00 / meter ----- K60,000
2. 4m X 5m pump house, concrete floor
asbestos roof and cement block
perforated wall ----- K 3,000
3. A small pontoon^(float) for the pump and
the switch board ----- K 2,000
4. Labour, 500MD at K5/day ----- K 2,500
5. Miscellaneous ----- K 2,500

Total: K70,000

FINANCIAL PLAN FOR SELF-SUPPORTED
BULEYA MALIMA IRRIGATION SCHEME.
YEAR: 1987.

--: EXPENDITURE:--

1. Farmer's Irrigation -----	K 6,075.00
2. Supporting Unit (the Orchard): -----	K 8,860.00
3. Workshop: -----	K 1,200.00
4. Maintenance of Irrigation System: -----	K 1,000.00
5. Domestic Water: -----	K 1,200.00
6. Stationaries: 11 -----	K 500.00
7. Allowance/ Bonus: -----	K 1,000.00
8. Miscellaneous: -----	K 1,000.00

Total:	K20,835.00
	=====

--: INCOME:--

1. Investment income of K50,000.00 at 22% interest / annum -----	K 11,000.00
2. Farmer's water fee, 50% of the total cost. -----	K 3,037.50
3. Supporting Unit (the Orchard). -----	K 30,000.00
4. Workshop: -----	K 500.00
5. Domestic water fees, at the rate of K5.00 /house. -----	K 1,020.00

Total:	K45,557.50
	=====

CAPITAL INCREASE AT THE END OF 1987: $K45,557 - K20,835 = K24,722.00$

=====

TOTAL CAPITAL AT THE END OF 1987: $= K50,000 + K24,722 = K74,722.00$

=====

BULLYA DALINA IRRIGATION SCHEME

RECURRENT BUDGET FOR 1987

Yearly distribution of expenditure o for diff. components.

ITEMS	JAN	FEB	MAR	APRIL	MAY	JUN	JULY	AUG.	SEPT	OCT	NOV	DEC	TOTAL
1. Farmers' Irrigation	-	-	-	405	607.5	810	1012.5	1012.5	1012.5	1215	-	-	K6,075.-
2. The supporting Unit (The orchard)	290	190	457	957.5	767.5	955	759	1648.5	982.5	1170	457	190	K8,860.-
3. Workshop	100	100	100	100	100	100	100	100	100	100	100	100	K1,200.-
4. Maintenance of Irr. system			1000										K1,000.-
5. Domestic water	100	100	100	100	100	100	100	100	100	100	100	100	K1,200.-
6. Stationaries	500												K 500.-
7. Allowance/Bonus							500					500	K1,000.-
8. Miscellaneous			500						500				K1,000.-
TOTAL	990	390	2157	1562.5	1575	1965	2471.5	2862	2695	2585	657	890	K20,835.-

20.6. 1986.

The Director of Agriculture,
Mulungushi House,
P.O.Box 50291,
Lusaka.

Dear Sir,

Reference is made to my visit to the accounts section on 18.6.1986 and to the discussion with Mr. Chaanda, the senior account officer. He informed me that the Gwembe South Development Project has to refund the K37.0000---, which was donated to Buleya Malima during 1985. Of this amount K 15.000.-- was allocated for Siatwindi Irrigation and GSDP and K 22.000.-- was allocated to Buleya Malima Irrigation.

Now it seems that an error was made and that the money should have been allocated to Chiyabi irrigation.

It is very right that the K 15.000.--, allocated to Siatwindi and GSDP should be repaid from the GSDP vote.

But the K 22.000.--, which was spend by Buleya Malima should come from province resources, as Buleya Malima Irrigation has always been funded by the Province. The GSDP acts only as advisor and organiser of the farmers, but financially GSDP has no responsibilities.

I wish to request your consideration to rectify this error, as budgeted funds for the GSDP are all committed.

Looking forward to your advise on this matter, I remain

Yours faithfully,

S.C.Kristofe,
Liaison officer GM/GST.

c.c. The Prov. Agr, Officer
✓ Gossner Mission
Gossner Service Team,
GSDP Coordinator,
Senior acc.officer.
Buleya Malima adv.

Eingegangen

25. Sep. 1985

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

BULEYA MALIMA IRRIGATION SCHEME,

P.O. Box 15.
SINAZEZE.

10TH SEPTEMBER. 1985

The Zambia Committee,
Gossner Mission
Handjerystrasse 19/20
100 BERLIN 41

PROGRESS REPORT ON BULEYA MALIMA
IRRIGATION SCHEME UP TO AUGUST 1985

It was 1st January 1985 when I took up the responsibility for rehabilitation of the scheme. At that time, the orchard was almost finished, the financial support was not assured and the legal status was very ambiguous along with many other irregularities. Furthermore, the irrigation system had broken-down since the end of 1982 because of receding of the lake. A person who has physically visited the place with slightest idea in mind can only explain it nicely.

Continuous efforts and initiative of the passed few months have really achieved even many difficult things for the Buleya Malima Irrigation Scheme, which I hope will carry good sign for the future development of the scheme.

I. FINANCIAL ASSISTANCE:

1. Boreholes: A grant of K76,000 was achieved from the drought relief programme of the Southern Province against drilling of 3 boreholes at the scheme, One to be equipped with windmill while other 2 with separate pump and engines. The Gossner Mission has helped in importing the windmill using their forex. If the windmill performs well then it will carry a good example for cheapest source of energy along the lake shore.

Borehole with windmill will irrigate Orchard and newly established banana plantation while boreholes with engine will irrigate as subliminary irrigation for Farmers plots. The Dept. of Water Affairs soon coming to drill these boreholes.

2. Running Expenditure: A sum of K20,000 has been secured from the Director, Dept. of Agriculture from his special allocation. That was to assist rehabilitation of the scheme.
3. Grant: A grant of K3,350 has been received from the Gossner Service Team toward rehabilitation. That was to assist organisational set up of the scheme.

II THE IRRIGATION

A sump (well) has been made on the river bed out of GST grant which is still irrigating the orchard and banana plantation. About 500m³ of water is being pumped everyday from this sump. This can irrigate 5ha. This indicates high potentiality of underground water. Any device, one is already under consideration, to extract underground water from this river-bed may solve irrigation problem permanently in future.

A new technique of extracting underground water by draining into perforated pipes laid horizontally under the subsoil of riverbed and collecting water into a line sump is under consideration. The existing pumping unit will then pump from the sump. This is "Filter Drain" system and going to be the 1st example in Zambia. The work is going to start from the middle of this month and finish at the end of Oct. The technique is anticipated to support irrigation, for 20 ha, that is, extraction of about 2,000m³ of water per day.

III LEGAL SITUATION OR ORGANISATIONAL SET-UP OF THE SCHEME:

An effort had been taken towards the end of April by the Technical Advisory Committee of B/Malima to legally hand over the scheme to the District Council. But the decision of that joint meeting was not in favour of the Technical Committee's objectives. The Council was ~~not~~ only interested in taking up of the orchard to generate Council revenue. As a result the situation remained unchanged.

In July 4th, the Director, Dept. of Agriculture was requested to meet the Technical Committee at the scheme and give comment on a few changes.

He took his best effort to come on the day and held the crucial meeting at B/Malima with the Technical Advisory Committee. Many changes came out as a result of this meeting which will probably help the scheme over in future to stand on its own feet.

The scheme as a whole divided into 2 sections

SECTION 1: TRAINING? DEMONSTRATION AND RESEARCH STATION

This section includes-

- a) Land : 4ha
- b) 16 staff houses and
- c) The service unit.

The section is directly under Govt. control. The management of this section will be the responsibility of the Dept. of Agriculture.

SECTION 2: THE SETTLEMENT SECTION

This includes-

- a) The long awaiting controvertial Orchard
 - b) The newly established banana plantation
 - c) Land : 53 ha for farmers.
 - d) The canals and the Irrig. system (pump etc.)
 - e) A newly constructed selling shade at Batakana Junction.
- As support
ing unit
of the
settle-
ment

The section is under the management of a newly formed FARMER'S EXECUTIVE COMMITTEE. The whole set-up needs continuous training, guidance and supervision for quite sometimes to bring them in the line.

The supporting Unit: Orchard and banana plantation -

The orchard (960 citrus trees) was almost finished. No sale was anticipated in the year 1985. Intensive care and painstaking managemnt recovered the orchard unbelievably faster than expected. Already 18 tons of fruits have been sold from the same rotten orchard and K9,000.00 went, for the 1st time, in Buleya Malima Irrig. Farmers' Committee's Bank Account. Never before the orchard had more than K6,500.00 sales in a year. The oranges are now professionally packed in 10kg pockets before it is marketed.

A banana plantation has been established to increase supporting unit. On the other hand, banana is the most suitable crop of the valley if water is available in the dry season. It has also marketing advantage over most of the vegetable crops. Starting with the rainy season, The banana plantation is going to be extended in the farmers field.

Bank Account: The newly formed Farmer's Executive Committee has opened a Bank Account for the 1st time in Choma bank and K9,000 has been already credited from the long awaiting orchard sale in their account. Another sum of K8000=0000 came from sunflower sale (this crop was grown in February to raise working capital for the farmers). All together the Farmers Committee has about K10,000.00 in their new account.

Anticipated Support from the Govt. The Director, Dept. of Agriculture has promised to secure a final grant for the scheme, so that, the irrigation can be rehabilitated and the farmers can be SELF RELIANT with the help of the supporting unit (orchard and banana plantation). A budget for this has been prepared and submitted to the Department.

Training and Demonstration Unit: This is a new component going to take place in Buleya Malima for all the irrigation schemes. The farmers have never been trained in irrigation farming. Under this component the farmers of all the irrigation schemes will come and get short training in Buleya Malima. The proposal have been prepared and submitted to the Director of Agriculture to take action on it.

IV MARKETING

Marketing of ~~the~~ farm produce including the fruits from the orchard was ever a problem for the scheme.

A piece of land at Batoka Junction (on the line of railway) has been secured and a SELLING SHED (4mx7m) has been constructed. This is the nearest ideal place to dispose the farm produce quickly. The shade is almost ready.

V. PHISICAL IMPROVEMENT OF THE SCHEME:

Domestic Water- There was no domestic water for a long period, mainly because of high running expenditure. The system has now been changed and cost came down remarkably low.

With this present structure and cost the residents of B/Malima can easily run it. They are contributing Rs./house/month towards its running expenditure.

Service Unit: A new Hydraulic has been fixed (cost K2,000.00) to one of the Tractors to keep it functioning.

B. Hossain.

B. HOSSAIN
TECHNICAL ADVISOR

IX

SUGGESTED FUTURE PLAN
FOR
THE BULEYA MALIMA IRRIGATION SCHEME.

Presented in the Technical Advisory Committee
meeting on the 5th July, 1985 at the Scheme.
(Paper for discussion only)

B. Hossain
Technical Advisor

2

I

Name of the Scheme : BULEYA MALIMA SETTLEMENT IRRIG. SCHEME
 Total Land in the Scheme : 61 ha
 54 Farmers : 54 ha
 Orchard : 2.5 ha (960 citrus trees but, about 100 to be replaced)
 Banana : 0.1 ha
 Research Demonstration And Traing Unit : 4.0 ha
 Fellow : 0.4 ha
 Present Size of Irrig. land to each farmer : 1 lima (.25ha), that is total 13.5 ha is supposed to have been under irrigation.

Present situation of the remaining land : Dryland Farming.

RUNNING RECORDS OF THE PROJECT

Period	Financial	Management Personnel
1971-1977	Project Division	Project Division
1977-1980	Provincial Govt.L/stone	Dept of Agric.
1980-1984	Provincial Govt.L/stone	Dept of Agric. and Gossner Service Team.
1984-1985	Dept of Agric.	Gossner Service Team. + Dept. of Agric.

II

OBJECTIVES AND CONSTRAINTS

OBJECTIVES:

- 1 - To compensate the people for loss of land caused by the formation of Lake Kariba.
- 2 - To intensify the use of Limited Land under Irrig. farming.
- 3 - To improve the standard and quality of life for the homeless people.
- 4 - To ascertain the crop adaptability in the area through research trial and teach irrigation farming.

CONSTRAINTS:

- Independence war of Zimbabwe, until 1979.
- Receding of Lake, because of 3 years (1981-1984) continuous drought.
- Inefficient Management and No effort to bring the scheme on its own feet.

Objective.
5. Local status to be sorted out, to raise money from donors as a scheme.

III

IMPORTANCE OF THE PROJECT TO BE SELF RELIENT

- After 05 years of Govt. support the scheme must find ways and means to stand on its own feet.
- The Govt. fund, then could be diverted to develop another similar area else where in the country.

THE POSSIBLE WAYS AND MEANS TO SUPPORT THE SCHEME

- Financial resource:
- the orchard
 - the banana plantation
 - the existing infrastructures
 - the anticipated nursery and pawpaw and other plantation.

Expected Revenues:-

- | | |
|---|----------------------------|
| - the orchard, after rehabilitation | - K30,000 per annum |
| - the banana plantation, after further expansion. | - K10,000 per annum |
| - others (nursery, pineapple etc) | - <u>K 5,000</u> per annum |
| | K45,000 per annum |
| - water charges 10 % of the sale, approx. K200.00 each. | - K10,800 per annum |

(Water charges will depend on the basis of pumping system, Central pumping system or independent pumping system.)

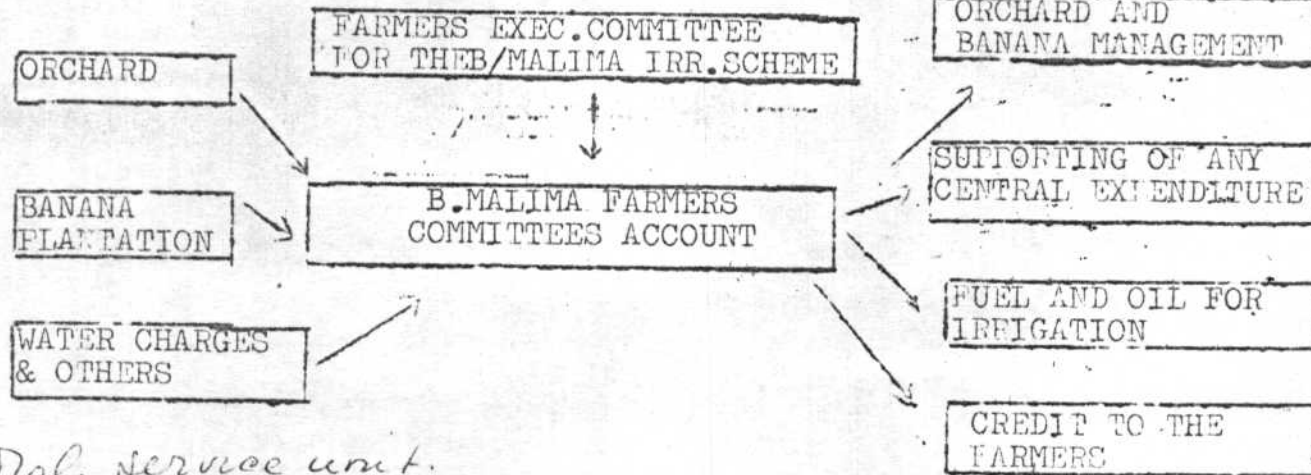
IV

SUGGESTED STRUCTURE FOR SELF RELIANCE

REVENUES

CONTROLLED BY

EXPENDITURE



B. Mal. service unit.

Note: Every programme will have independent record for its expenditure and income.

Newly modified Farmers executive committee is in the enclosed paper.

Necessity of foreign exchange in the scheme

PRESENT IDEAS TO REVIVE IRRIGATION

K 76,000.- has been secured from Drought Relief Programme of the Southern Province to have 3 BOREHOLES. The suppliers have already been paid. Everything is waiting for the Dept. of Water Affairs to drill the boreholes.

2 BOREHOLES : TO REVIVE IRRIGATION FOR THE FARMERS

-High potentiality of underground water is anticipated, but, if necessary, the irrigation area could be cut by 50%.

1 BOREHOLE : TO THE ORCHARD, BANANA PLANTATION AND THE TRAINING AND DEMONSTRATION UNIT.

-To be equipped with windmill.

This idea is to keep the scheme running. In future, the boreholes could remain as standby solution if the LAKE RETURNS and/or KFW's rehabilitation programme takes place.

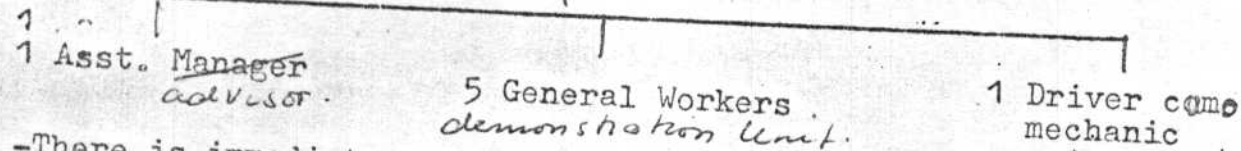
Request:

Through the Chairman, the Director of Agriculture is requested to pressurise the Director of Water Affairs to drill these boreholes immediately. We have paid them in January, this year.

DEPARTMENTAL SUPPORT

1. Financial : At least up to the end of 1986, running expenditure is required.
2. Extension Staff: Regular services to the Farmers.

advisor
Scheme Manager



-There is immediate need for a Scheme Manager. Mr. Nduyi could urgently be accommodated elsewhere vacating the house for the scheme manager. The PAO is requested to look into this matter.

-The General Workers could eventually be working in the Training and Demonstration Unit. *Should be under research and not GR2 workers*

Driver/Mechanic will look after the tractor and the pumping unit.

(The GSDP Mechanic could be regularise in the recurrent and put into B/malima since the project is going to end after 1987. He is aware of the machinery in B/malima.)

27TH JUNE, 1985

Sukle Kwa/ve
20.7.85 (c)

SELECTION OF OFFICE BEARERS FOR THE B/MALIMA FARMERS' COMMITTEE.

THE ATTENDANCE OF THE MEETING:

The following people attended the meeting of selecting new committee members for B/malima Irrigation Scheme farmers committee which took place on Thursday, June 27th 1985 at the scheme:-

1. The Honourable Chief Sinazongwe
2. Mr. M.C. Muntanga (the Ward Chairman)
3. Mr. Mwananyina (The A/Chief Admin. Officer, Sinazongwe)
4. Mr. B. Hossain (Technical Advisor B/malima Irrigation Scheme)
5. Mr. L. Sianyane (B/malima Farmers' Committee Chairman)
6. Mr. S. Kachama (A/A) B/malima Agric. Camp)
7. Mr. K. Nduyi (Farm Machinery Advisory Officer) B/malima
8. The Village Headman Muntuwamasiku
9. " " Siamufunde
10. " " Sikaputa
11. " " Siamunyembe
12. Mr. A. Kandandu
13. Mr. S. Simutelo
14. " H. Simambinjo
15. " T. Kaluwe
16. " A. Bulongo
17. " D. Siamuchimba
18. " S. Chibbabu
19. " T. Siamasamu
20. " J. Mwiinga
21. " S. Sikaputa
22. " H. Simaziki
23. " B. S. Siamasamu
24. " A. Siamukamba
25. " S. Munekacheke
26. " S. B. Siabbubi
27. " A. Kasiyana
28. " F. Sikazikufwa
29. " G. Mweembe
30. " C. Siachinyama
31. " T. Siamufune
32. " D. Syampwampwa
33. " S. Simalyampondo
34. " S. Sikaputa
35. " R. Sibali
36. " P. Simasikili
37. " D. Sikaputa
38. " D. B. Mazuba
39. " J. Longwani

NEW COMMITTEE MEMBERS FOR THE B/malima FARMERS COMMITTEE.

1. Mr. Laneck Sianyane (committee chairman)
2. Mr. Stephen Chibbabu (vice chairman)
3. Mr. Boston Siamasamu (Committee Secretary)

4. Mr. Simon B. Siabbubi (Vice committee Secretary)
5. Mr. Robert Sibali (" Treasurer)
6. Mr. Kachechani Kandandu (vice committee treasurer)
7. The Village Headman Muntuwamasiku committee member.
8. " " " Siamufunde " "
9. " " " Sikaputa " "
10. " " " Siamunyembe " "

Apart from the executive committee members, two Honerary members have been permanently appointed:-

1. The Hon. Chief Sinazongwe.
2. The Chief Administrative Officer, Sinazongwe.

The above ten committee members were chosen by the farmers themselves through voting which was witnessed by the Hon. Chief Sinazongwe and the Acting Chief Administrative Officer for Sinazongwe Sub-District Mr. Mwananyina.

The Hon/Chief Sinazongwe opened the meeting by singing the National Anthem and told the farmers the purpose of the meeting - that was to dissolve the old committee for farmers at the B/malima Irrigation Scheme and select new members again. He thanked the old members of the committee for the work they did for the scheme despite the water problem, the scheme had faced for almost one year. The meeting was opened at 09.30 hrs by the chief.

The selection of committee members was conducted by the A/Chief Administrative Officer, Mr. Mwananyina as a returning of icer.

CLOSING SPEECH BY THE HON. CHIEF SINAZONGWE.

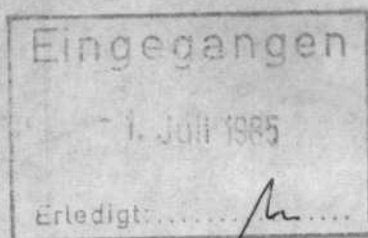
The Hon. Chief Sinazongwe welcomed the newly selected members of the B/malima Irrigation Scheme Farmers Committee and he told them to work hard so that they improve the scheme. The Hon. Chief told the farmers that:-

If he will find any farmers who is given a plot at the scheme and he does not want to make use of that plot, that farmer will be sent out of the scheme and then give the plot to another farmer who can use the plot effectively.

The Chief thanked the farmers for turning up for the important meeting, and wished them a good journey back to their homes.

The chairman declared the meeting closed by singing the National Anthem at 13.00 hours.

S. Kachama
for/ SECRETARY



BULEYA MALIMA IRRIGATION SCHEME,
P. O. BOX 15,
SINZEZE.

17TH JUNE, 1985

Mr. E. Mische,
Secretary, Zambia Committee,
Gossner Mission
Handjerystrasse 19/20
1000 BERLIN 41

Dear Erhard,

I am pleased for the letter you sent by Dr. Runge. I will take the necessary steps according to your instruction, but, at the moment I am too busy to take care for it. Dr. Runge has visited the scheme, and hope he will brief his feeling once he is in Berlin.

2. Future Planning of the Scheme: I have convinced the Director of Agriculture, to come and visit B/malima. He will be here on the 4th July and spend a night while he will hold a meeting with the Technical Advisory Committee of B/malima. He promised me to do everything towards the self reliance of the scheme. This is his first time to be in the GSDP project area. Let's hope for the best.

3. Improvement of Marketing Situation: Just last week, I managed to secure a plot at Batoka junction from the Choma District Council to build a 4mx7m selling shade. The oranges are now on sale. You will be happy to hear that it is now professionally packed and soon going to be marketed at the new shade in Batoka. The construction of the building is starting from this week. The building will be with possible minimum cost. The roof tin sheets and some other materials have been arranged from the PAO's office with free of charge. It has been verbally agreed with the Director that he will assist to start accumulating orchard revenue in the Farmers Committee account. The next meeting on the 4th July is intended to give me all the guide lines I need.

4. The enclosed progress report may give you some extra additional information.

We are all fine. Greetings to everybody. Looking forward to hearing from you.

Sincerely Yours,

B. Hossain
B. HOSSAIN

TECHNICAL ADVISOR

**BULEYA MALIMA IRRIGATION SCHEME,
P.O. BOX 15,
SINAZEZE.**

16TH MAY, 1985

**PROGRESS REPORT FOR THE B MALIMA IRRIGATION SETTLEMENT
SCHEME, JANUARY, 1985 TO APRIL, 1985.**

INTRODUCTION

The Bmalima Irrigation Scheme with the highest potentialities among all the other irrigation schemes was almost collapsed towards the end of 1984. Receding of the Lake besides other reasons broke down irrigation system completely.

At the beginning of the year, the Gossner Service Team seconded a Team member as a Technical Advisor of the scheme in order to revive the scheme.

2. BOREHOLE PROGRAMME

A grant of K76,000.00 from the Drought Relief programme of Southern Province has been allocated to the scheme toward construction of 3 boreholes. 2 boreholes will be supplying water to the settlers plots (by cutting down their farm size) to keep irrigation running while one will be equipped with a windmill to irrigate the orchard and the newly established banana plantation. The windmill is already in. In anytime the Dept. of Water Affairs will come and drill the boreholes. The following payments have already been made:-

<u>Company paid for</u>	<u>Items</u>	<u>Amount</u>
1. Dept. of W/Affairs	Drilling	K 18,000.00
"	Pump house	K 5,000.00
"	Reservoir	K 6,000.00
2. AFE, Choma	2" G.I pipe(216m)	K 7,650.00
"	Submerssible pump(2)	K 16,201.24
3. Gossner Service Team	Windmill	K 8,080.00
	<u>Total</u>	<u>K 60,931.24</u>

There is a payment voucher for " cement asbestos pipe (600m) payable to T.A.P. is pending in the PS's office Livingstone.

3. IRRIGATION

The settlers having no irrigation but looking forward to the boreholes instalation. A portion of their land have been brought under sunflower production, the fund of which will be utilized to start a farmers credit union.

Maximum effort with existing resources have been put to recover the orchard. A well is dug on the Nangombe riverbed which is economically irrigating the orchard and looking forward to having the borehole drilled as soon as possible. The management practices have been improved and intensified to recover the orchard to its maximum.

A banana plantation next to the orchard have been established to extend the supporting unit for the settlement farmers together with the orchard. This will also assist the farmers in supplying improved varieties of banana suckers.

4. FUND

B/malima have ^{been} scraped out from the yellow book in the year 1985. The Director, Dept of Agriculture, with his best effort has confirmed to allocate K20,000.00 for B/malima from the National Irrigation Development Programme.

5. GRANT

A grant of K3,350.00 have been recently received from the Gossner Service Team towards rehabilitation and management of of the orchard and banana plantation. This emergency grant has saved the critical situation of the orchard.

A pump (medium size) has also been donated by the Gossner Service Team which could be used in case of emergency.

6. THE GENERAL WORKERS

The four (4) general workers and a coxwain have been regularised in the recurrent expenditure who will, in future, help in the anticipated irrigation training and demonstration unit. The unit will be gradually be developed from now.

7. THE STAFF HOUSES

The previous manager's house in the scheme has been renovated by the Gossner Service Team and the Technical Advisor has recently moved into it.

8. DOMESTIC WATER:

The Gossner Service Team has borrowed a small Lister engine which is pumping domestic water from the existing borehole. With the help of a newly adopted management system the residents and the neighbouring villagers are contributing regularly towards the running expenditure of the pump.

9. LEGAL SITUATION

The scheme has been re-surveyed and an up to date map has been sketched but it is not yet finally drawn because of lack of necessary papers in the planning section of the P.A.O.'s office, Choma.

An effort had been taken by the Technical Advisory Committee for B/malima Irrigation Scheme to legally handed over the scheme to the District Council, so that, it facilitate the scheme to stand on its own feet.

But the decision in that joint meeting was not in favour of the Technical Advisory Committee's objectives as a result the situation remained unchanged. But it became more clear that the Chief is still the leagal owner of the Land and the Dept. of Agriculture is responsible for the infrastruture made in the scheme. Any status or leagal change has to be with the joint effort of both the Chief and the Dept. of Agriculture.

(signed)
B.HOSSAIN
TECHNICAL ADVISOR
B/MALIMA IRRIG. SCHEME

- cc The Director,
Dept. of Agriculture,
Lusaka.
- cc The Prov. Agric. Officer,
Choma.
- cc The Hon.Chief Sinazongwe,
- cc The Co-ordinator,
IRDP,
Sinazeze.
- cc The Co-ordinator,
GSDP,
Sinazeze.

IRDP GWEMBE VALLEY - DISTRICT DEVELOPMENT PROGRAMME

17TH JUNE 1985

THE DIRECTOR
DEPARTMENT OF AGRICULTURE
P.O. BOX 50 29 1
LUSAKA

SUBJECT: YOUR VISIT TO GWEMBE SOUTH (BULEYA MALIMA) 5TH JULY 85

DEAR SIR,

IN THE ABSENCE OF THE ADMINISTRATOR/COORDINATOR OF THE GWEMBE SOUTH DEVELOPMENT PROJECT, WHO IS ON LEAVE, I WOULD LIKE TO TAKE THE OPPORTUNITY TO ASK YOU, WHETHER IT MIGHT BE POSSIBLE FOR YOU TO HAVE A LOOK AT ONE OR THE OTHER OF THE PROJECTS OF THE GWEMBE SOUTH DEVELOPMENT PROJECT IN THE AFTERNOON OF THE 5TH JULY 85.

I AM AWARE OF COURSE, THAT YOUR MEETING WITH THE TECHNICAL ADVISORY COMMITTEE OF THE BULEYA MALIMA SCHEME IS OF OUTMOST IMPORTANCE FOR THE FUTURE DEVELOPMENT OF THIS SETTLEMENT PROJECT. AND THAT IT HAS TOP PRIORITY.

BUT MAYBE, YOU STILL COULD MANAGE TO SPARE A LITTLE WHILE TO HAVE A LOOK AT WELL RUNNING NKANDABWE IRRIGATION SCHEME AND MEET THE STAFF OF THE GWEMBE SOUTH DEVELOPMENT PROJECT.

YOURS SINCERELY

Klaus A. Chaper

KLAUS A. CHAPER

COORDINATOR IRDP
GWEMBE VALLEY

CC.: P.O. CHOMA
HON. CHIEF SINAZONGWE
A/CHD, SINAZONGWE
PROJECT SECRETARY GOOP
MR. GASEM, FAO, NIRS
B. MOSSAIN, TECHNICAL ADVISOR BM
LIAISON OFFICE GOSSNER MISSION, LUSAKA

*This letter was written after my commenead
of which you got copies.*

BULEYA MALIMA IRRIGATION SCHEME,
P.O. Box 15,
SINAZEZE.

25TH APRIL, 1985

The Team Leader,
Gossner Service Team,
P.O.Box 4,
Sinazeze.

REQUEST FOR A GRANT TOWARDS REHABILITATION
OF BULEYA MALIMA IRRIGATION SCHEME.

I would like to draw your kind attention towards the rehabilitation of the Buleya Malima Irrigation Scheme. The existing citrus orchard of 960 trees is basically the supporting unit for the settlement farmers. Although, as it is the case now, we cannot make use of its production for development of the scheme, we are taking every effort to change the system. And I am very much optimistic that soon we will come out with a proper solution for it and make full use of its production for the settlement farmers.

The orchard, for many reasons, had never been in its full production. Besides, ~~in~~ last years, irrigation broke down completely and made the orchard worse affected portion of the scheme. Almost all the trees dried up leaving some of them completely dead. Intensive care and professional management is essential to revive the orchard. Until recently a few trees were in production and the sale of the fruits has been utilized in the recovering of the orchard. Two thirds of the orchard has already been taken a reasonable shape while the remaining 1/3 still to be taken care. But there are no more funds available from the orchard until at least for the next 3 months. Recovering of the remaining 1/3 and management of the whole orchard requires considerable fund for the rest of the year.

For many reasons we want to avoid investing Govt. fund in the orchard. This will help us in the future planning of the scheme, specially to bring the scheme on its own feet. To get support of the orchard for the development of the schemes (the farmers) we have to make use of the orchard's production, and for that we should avoid investing Govt. fund for its recovery. The banana plantation is being established towards the same objectives.

Therefore, I request the Team/Mission to provide a minimum fund as a GRANT to recover the orchard and management of banana plantation. This will be a great help for the scheme in future development. The budget proposal is enclosed for your consideration.

B. Hossain.

B. HOSSAIN

TECHNICAL ADVISOR

B/MALIMA IRRIGATION SCHEME

cc The Director, Dept. of Agric.
cc The P.A.O.
cc The Coordinator, GSDP
cc The Hon. Chief, Sinazongwe.

BH/msc

BUDGET PROPOSALS

1. LABOUR:

- a) 250 MD (manday) @ K2.50 pruning, slashing, irrigating etc. in the orchard and banana plantation. K 625.00
- b) 150 MD @ K2.50 for digging a canal from the flow of Nangombe river to the existing well. K 375.00

2. FERTILIZERS:

- a) 20 bags comp. V @ K25.00 K 500.00
- b) 20 bags Amm.Nitrate @ K25.00 K 500.00

3. Diesel and lubricants (until the windmill is ready).

- a) 4 drums of diesel K 850.00
- b) 50 litres of oil K 500.00

TOTAL -

K3,350.00

12th April, 1985.

The Director of Agriculture,
Mulungushi House,
LUSAKA.

FUNDS FOR BULEYA MALIMA IRRIGATION SCHEME

Please refer to your minute No. DAH/103/34/11 dated March 6, 1985.

A provision of K200,000 has been made in the Estimate of Expenditure for 1985 under Head 089/02/502/013: Irrigation Development Programme. According to the Approved Capital Work Program (Minister's Brief) for 1985 - Buleya Malima Irrigation Scheme has been allocated K20,000.

You may wish to know that this office has arranged the release of K20,000 to Buleya Scheme being part of Capital funding for the month of February, 1985. These funds have been warranted to the Provincial Accounting Officer, Choma.



J. K. PHIRI
for/PERMANENT SECRETARY,
MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT.

c. c. The Permanent Secretary,
Southern Province,
LIVINGSTONE.

c. c. Gossner Service Team, ✓
P.O. Box 50162,
LUSAKA.

c. c. Provincial Accounting Officer,
CHOMA.

c. c. MAWD/71/39/57

29/4/85
Revised 

12th February, 1985

The Permanent Secretary
Ministry of Agriculture
and Water Development
LUSAKA

Attention: Mr. F.M. Mbewe

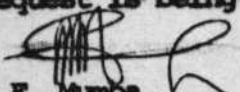
BULEYA MALIMA IRRIGATION SCHEME: FUNDS FOR 1985

The above project which is funded under head 98/01, Southern Province has not received any funds in the 1984 budget (page 342 in the Yellow book).

In view of the fact that Irrigation Development Gwembe general is due for revamping from 1985 on wards and that Gossner Mission is ready to revamp the Buleya Malima Irrigation Scheme during the same time, it is suggested that you provide K20,000 for this project in 1985.

Because the project is in Southern Province and Southern Province is the Area Development Project which in 1985 is 3.3 million, I suggest that the Southern Province area project allocates K20,000 to the Buleya Malima Irrigation Scheme. This calls for a slight variation in their operations for 1985 and does not involve any variation of funds.

It is important that Irrigation be strengthened especially in Southern Province. It is for this reason, therefore, that this request is being made at this time.


N.E. Mumba
DIRECTOR OF AGRICULTURE

c.c. The Permanent Secretary
Southern Province
LIVINGSTONE

c.c. Gossner Service Team ✓
P O Box 50162
LUSAKA

c.c. The Provincial Agricultural Officer
CHOMA

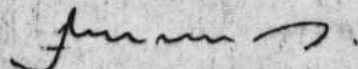
21st February, 1985

The Director of Agriculture,
Mulungushi House,
LUSAKA.

I wish to refer to your minute DAH/103/34/11 dated 12th February, 1985 in respect to release of funds for Buleya Malima Irrigation Scheme.

You are aware, that once a project has been omitted from the budgetary process, there is no way I can provide funds after the documents (Yellow Book) has been published. It is therefore not possible for me as you suggest to provide K20,000 for Buleya Malima Irrigation Project in 1985, because such funds do not exist.

On the other hand, the Southern Province Area Development Project has got to construct one programme which is agreed upon prior to budgeting time. This programme is monitored by both the Supervision and Evaluation Committee of GRZ, chaired by the Permanent Secretary of the Province and the World Bank Supervision Mission which comes to Zambia from time to time to ensure that a work programme is followed. It is therefore not possible either for the Southern Province Area Development Project to release funds to Buleya Malima Irrigation Project which project is not in their programme in the first place.



F.M. Mbeve

ACTING PERMANENT SECRETARY
MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

- c.c. Permanent Secretary,
Southern Province,
LIVINGSTONE
- ✓ c.c. Gossner Service Team,
P.O. Box 50162,
LUSAKA.
- c.c. The Provincial Agricultural Officer,
CHOMA.

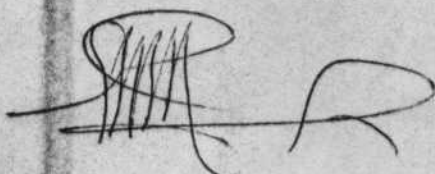
6th March, 1985

The Acting Permanent Secretary
Ministry of Agriculture
and Water Development
LUSAKA

FUNDS FOR BULEYA MALIMA IRRIGATION SCHEME

Thank you for your letter MWD/102/61/4 dated 21st February, 1985.

Arising from your reply, this Department has decided to allocate K20,000 to Buleya Malima from project 502/013. This project has K200,000 in 1985 budget. This will ensure that the programme will not be disrupted.



N.E. Mumba
DIRECTOR OF AGRICULTURE

- c.c. The Permanent Secretary
Southern Province
LIVINGSTONE
- ✓ c.c. Gossner Service Team
P O Box 50162
LUSAKA
- c.c. The Provincial Agricultural Officer
CHOMA

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

20.2.1985.

Mr. Norbert Steinmüller,
Breitenau 12,
8802 Obernzern
W-Germany.

Dear Norbert,

Enclosed you will find a visumapplicationform and a study permit application form. Please fill them in as correctly as possible and send them back, together with two passfotos as soon as you can.

An application for a visum takes at least 6-8 weeks and for a studypermit it takes almost half a year, so the sooner I have them, the sooner I can start the whole procedure.

My address is the one at the right corner on the letter head. Please confirm as soon as possible that you are coming.

With friendly greetings,

Sietske Krisifoe,
Liaison officer
Lusaka.

c.c. Gossner Service Team,
Sinazeze

Gossner Mission,
W.Berlin.

GM

Gossner Service Team
P.O.Box 4
Sinazeze
Zambia

8.2.1985

Mr. Norbert Steinmüller
Breitenau 12
8802 Obernzenn
West Germany

Dear Norbert Steinmüller,

This morning we discussed your letter in our Team meeting and I would like to answer quickly. In principal we agree that you come to our project for a period of 6 - 12 months starting September/October this year. Our idea is that you live and do your field study at Buleya Malima (about 20 km from the Gossner Camp). At Buleya Malima our project has an irrigation scheme. Officer for this scheme is since 1st January 1985 Mr. Hossain, a member of the Gossner Service Team. He welcomes you to Buleya Malima. He will also write to you to give you more information about the scheme there. I only want to mention some technical points, which you should consider.

In Buleya Malima you will get accommodation. You should bring your own sleeping bag/sheets/blanket. Also a mosquito net is advisable. You will also have to do your own cooking. Probably you can employ someone to do the cooking for you (on fire). You should also bring your own pots, plates etc. or buy them here in Zambia (you can always sell them afterwards again). I am sure Mr. Hossain and other Team members can help you sometimes to do shopping as you can't buy much food locally. Concerning transport you will have to make your own arrangements. Maybe you can buy a bicycle or a motorbike here (you can also sell it very easily again). It will be difficult if you always rely on lifts with staff members, you should be able to move independently. I am sure it will be helpful if you find a young man who can help you as an interpreter. We could assist you to find someone. Maybe it can be the same who cooks for you.

Last year we had an agricultural student from Stuttgart here for 8 months. He is surely willing to give you more hints from his own experience. He worked very independently and moved together with a young Tonga on the bicycle to different areas. His address: Hans-Jörg Lutzeyer, Genkerstr. 35, 7030 Böblingen. (07031 - 271816). This is the address of his parents through which you can contact him.

Sietske Krijsfoe will send you a visa application and also the necessary papers to apply for a study permit. Don't forget the vaccinations.

I hope this gives you an impression about the conditions under which you would live and work here. Please let us know whether you decide definitely to come here.

With many greetings from the whole Gossner Service Team

c.c. Erhard Mische, Berlin *W.R. - v. U.*
c.c. Sietske Krijsfoe, Frankfurt
Team Secretary

BULEYA MALIMA IRRIGATION SCHEME,
P.O. BOX 15,
SINAZEZE.

24th February, 1983

The Coordinator,
Box 3,
Sinazeze.

MONTHLY REPORT FOR THE MONTH OF FEB. 1983.

1. ADMINISTRATION:

- (a) Staff movements: One staff known by the name Miss.G.Lubilo from training (Kanchomba) has joined the station.
- (b) Housing: no progress.
- (c) Transport: Honda GRZ 96N is at rest-no battery. The tractor is in good condition.

2. Climatic Conditions: The weather has been very identical due to hot days and nights throughout the month.

Rainfall Data

Previous: 138.5mm Additional: 130.5mm Total: 269.00mm

3. Scheme machinery: The lister engine for the scheme is in good condition.

4. Government plots:(i) pineapples: harvested and sold.
(ii) oranges: the five lines of washington navel are being sold.
(iii) tangerines: not yet ready for sales but all the trees are teeming with fruits. spraying continued.
(iv) lemons and grapefruits: as reported above.

5. Reservior: Is in good condition.

6. Canals: Well and good.

7. Orchard sales: This month.

Type of fruits	Kg	K	N
Oranges	2,260	997	00
Pineapples	186	83	70
Lemons	400	160	00
TOTAL	2,846	1,240	70

8. Field operations: by farmers- Nil

9. Monthly recorded sales of produce by farmers: Nil

9. Meetings: One staff meeting took place on 24.01.83.

Agenda: (i) orchard sales. (ii) good working relationship
with our sister departments.
(iii) new approach of work for the office.
attendance 9 staff. Remarks: fruitful

Farmers meeting: On 20.02.83

Agenda: (i) Allocation of plots. (ii) water fees.
(iii) Main canal to be cemented. (iv) General view
points of the scheme.

Attendance= 19 farmers

Remarks: good

Visitors: Mr. B.C.M. Hantuba, Choma.
Mr. B. Hosain, Choma.

Miscellaneous: Nil

(signed)
P.M. Siyumbwa
SCHEME MANAGER.

FUTURE ROLE OF GOSSNER MISSION TO
BULEYA MALIMA IRRIGATION SCHEME

Since the FAO has ~~done~~ stepped in Buleya Malima to earn quick reputation, it has become necessary for Gossner Mission to clarify its future roles in Buleya Malima Irrigation Scheme. While Erhard Mische is still here it is important to get a clear cut decision with the Ministry and the FAO team.

PRESENT SITUATION OF THE BULEYA MALIMA IRRIGATION SCHEME:

In a way, the Gossner Mission has achieved its objectives in Buleya Malima. The Scheme has been rehabilitated and the legal situation is clarified as the major task of the agreement. Furthermore, the unit of 54 farmers including the orchard has been given a self-supporting model. The scheme has started running on its own financial resources under the new Management System beginning from 1987. The scheme has been officially handed over to the farmers through a Technical Advisory Committee meeting held on the 14th November, 1986. A self-supported management package has been provided with it.

The farmers have the following financial resources to support themselves--

- investment income of K50,000	=== K 10,000 / year
- sale of fruits from the orchard	====K 30,000 / year
- farmers contribution to irrig. water	=== K 5,000 / year
- others	=== K 5,000 / year

Total: K 50,000 / year

The present running cost of the scheme with 54 farmers and the orchard is roughly K30,000 / year which means K20,000 surplus every year. In case of 1987, some of the items have been prefinanced, and therefore, the capital of the farmers' committee is expected to reach nearly K95,000 at the end of the year.

If the 2 future programmes, electrification and 2nd pumping station, are carried out in this year then the technical problems will be minimised.

The Dept. of Agriculture has seconded a Scheme Manager who is under training as future successor. If the farmers are motivated and organized and the electrification programme is carried out then there is no reason why the scheme will not succeed with all these potential resources in it.

PROPOSAL NO. 1

Let Gossner Mission carry out rehabilitation work gradually for the remaining 40 ha providing its necessary funds.

Position of FAO: The FAO team should move away and find another accommodation elsewhere because we need more staff houses for our own staffs or they can build their own houses either in Chyiabi or in Buleya Malima because the houses at BM meant for its own management.

Gossner Mission Assistance:

- Personnel-
- i. a Civil Engineer on short term contract ;
 - ii. a volunteer to assist in all activities ;
 - iii. an Agriculturist for crop planning and organising.

Funds: in 1987-

- Electrification programme with joint effort of neighbouring fishing camps-----	K360,000
- Second Pumping station by extending existing pipe line -----	K150,000
Total :	K510,000

in 1988-

- Physical development of 20 ha (lining canals labeling etc.)-----	K50,000
- rehabilitation of 5800 M ³ reservoir-----	K40,000
- fencing of 20 ha -----	K20,000
- rehabilitation and expansion of 1 house -----	K50,000
Total:	K160,000

in 1989-

- physical improvement of other 20 ha -----	K50,000
Sub total:	K720,000
- 10% contingencies -----	K 70,000
=====	
Grand total:	K790,000
	=====

PROPOSAL NO. 2

Let FAO carry out the rehabilitation of the other 40 ha and Gossner Mission continue to assist in the present 20 ha to make it successful. A written working ~~of~~ relationship and future guideline for both the team has to be worked out.

PROPOSAL NO. 3.

Let FAO carry out the programme of electrification, 2nd pumping station and physical improvement of land and Gossner Mission take responsibility of organising and resettling of farmers. On the other hand FAO should look into marketing problem and solve it for the benefit of all the irrigation schemes in the valley.

PROPOSAL NO. 4

Let FAO give us money required to carry out all these programmes and we do the job with our personnel as necessary. Or, Govt. arrange to secure fund for necessary rehabilitation and Gossner Mission provides necessary personnel to carry out the programme.

PROPOSAL NO. 5

Let Gossner Mission pull out from Buleya Malima giving entire responsibility to FAO including the unit of 20 ha.

Handing over period: In this case, it is better to hand over the responsibility as early as possible before any complication comes in. GM has done its part and achieved its desired credit and it is sensible to leave at this point. A period of 2 to 3 months is required for smooth transfer.

Gossner Mission properties in BM:

- one 2-cylinder Lister engine being used as domestic water water pumping.
- one set of pump with monostrum head.
- one no. Quetch Pump donated to the Farmers' Committee .
- few tools.

It is necessary to decide whether to take these items back or to leave it as it is.

Hossain' future role in this case:

1. moving to the camp, Nkandabwe as soon as handing over is finished. Let FAO solve all the incoming future problems.
2. in 1987, the remaining $\frac{1}{2}$ of the year should be concentrated on solving technical and organizational problem in Nkandabwe Irrigation Scheme.
3. in 1988, prepare a work plan for improvement of dry-land farming in the area through input supply and improving extension services.
4. Since the valley is proceeding towards desertification a programme of reafforestation (tree plantation) can be seriously considered.
5. if GTZ is delayed to step in Siatwinda after Ingo had left periodic assistance can be extended to the scheme.
6. a low profile will be maintained with the Nkandabwe irrigation so that they learn how to do right things by themselves.

(B. Hossain, 1983)

MALIMA FARMER'S TRAINING CENTRE:
STAFF AND FARMERS PROGRAMME FOR 1982:

NO:	D A T E:	TITLE OF THE COURSE:	DEPARTMENT:	AREA:
1/82	8- 12th March	Depot Supervisors	S.P.C.M.U.	GWEMBE DISTRICT
2/82	4- 8th April	Staff Conference	Agric	" " STAFF
3/82	11-16th April	Party leaders' course	PARTY	" "
4/82	18-23rd April	Secretaries and Chairmen	AGRIC (R.I.S)	" "
5/82	25-30th April	Maize, G/nut and S/flower Prod.	AGRIC	GWEMBE SOUTH-CHIABI
6/82	2 - 7th May	Fruit and Vegetable Production.	"	" " MALIMA
7/82	9 - 14th May	" " "	"	" " B/MALIMA
8/82	17 - 21st May	Secretaries and Chairman	S.P.C.M.U	GWEMBE DISTRICT
9/82	25- 28th May	Fruit and Vegetable Production	AGRIC	GWEMBE SOUTH-S/ZEZE NKANDABWE.
10/82	30th May - 4th June	Cattle Management	AGRIC	GWEMBE SOUTH- MALIMA
11/82	7th - 11th June	Society board members	S.P.C.M.U	GWEMBE DISTRICT.
12/82	13th- 18th June	Cattle management	AGRIC.	GWEMBE SOUTH-B/MALIMA
13/82	21st - 25th June	Society board members	S.P.C.M.U	GWEMBE DISTRICT.
14/82	27th June - 2nd July	Cattle management	AGRIC.	GWEMBE SOUTH-MWEEZYA
15/82	11th - 16th July	Cattle management	AGRIC.	" " -MWANANJOKE
16/82	19- 23rd July	Other co-operators	S.P.C.M.U	GWEMBE DISTRICT.
17/82	25th - 30th July	Cattle management	AGRIC.	GWEMBE SOUTH-S/ZEZE NKANDABWE.
18/82	2nd July - 6th July	Party leaders course	PARTY	CHIEF MWEEMBE
19/82	11th July- 16th July	" " "	"	CHIEF SINAZONGWE.

NO:	D A T E	TITLE OF THE COURSE	DEPARTMENT	AREA.
20/82	18th - 23rd July	Maize, S/beans, G/nut Production	AGRIC	GWEMBE SOUTH - MALIMA.
21/82	25th - 30th July	" " " "	"	" " - MWANANJOKE.
22/82	2nd - 6th AUGUST.	WOMEN'S Course	"	" " - GOSSINER.
23/82	8th - 13th AUGUST.	Maize, G/Nut, S/beans Production	"	" " - MWEZYA.
24/82	15th - 20th AUGUST	" " " "	"	" " - SINAZEZE, NKANDABBWE.
25/82	22nd - 27th AUGUST	" " " "	"	" " - BULEYA MALIMA.
26/82	29th August - 3rd Sept	" " " "	"	" " - CHIABI
27/82	5th Sept - 10th Sept	School Production Unit course XXXX EDUC		" " CHIEF SINAZONGWE.
28/82	12th " - 17th Sept	Maize, G/Nut, S/flower Prod.	AGRIC	" " MWANANJOKE.
29/82	20th " - 24th "	Women Co-operators	S.P.C.MU.	GWEMBE DISTRICT.
30/82	26th " - 1st Oct	Maize, S/flower, S/beans Prod.	AGRIC.	GWEMBE SOUTH - MWEZYA.
31/82	3rd - 8th Oct	" " " "	"	" " - MALIMA
32/82	10th - 15th Oct	Cotton Production	AGRIC	GWEMBE SOUTH - ALL AREAS.
33/82	17th - 22nd Oct	Women's course	AGRIC	" " - GOSSINER
34/82	26th - 29th Oct.	Staff Conference	AGRIC	GWEMBE DISTRICT.

N.B: Programme on mobile courses for chief Mweemba, Gwembe North and Central still to ^{be} drawn.

2,879/MAWD/PAO/101/2/9

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT

DEPARTMENT OF AGRICULTURE?

P.O. BOX 42,
CHOMA.

1st October, 1988.

The Team Leader,
The Gwembe South Development Project,
P.O. Box 3,
SINAZEZE!

Dear Sir,

BULEYA MALIMA IRRIGATION SETTLEMENT

The Buleya Malima Irrigation Scheme has suffered considerably over the past years from lack of close supervision technical advice and management mainly because of the recent liberation war in Zimbabwe which consequently engulfed the full stretch of the Gwembe Valley. Fortunately the war has now ended. The Party and its Government is now ready to revive vigorously the economic development of Buleya Malima Irrigation Project.

In order to achieve the objective, I am happy to appoint you as the Government's Caretaker of the Scheme. I have no doubt you will accept the responsibility willingly since the project is situated in the area where you are already managing similar projects.

The project, as you are aware, is fully developed already and requires limited capital and recurrent funds and equipment. All that it needs badly is technical and managerial uplifting. The Provincial Horticultural Officer, based at Choma will continue to supplement technical assistance as necessary.

If you have accepted the offer your responsibilities at the scheme will be as follows:-

- a) Full technical control and management of the Scheme.
- b) Reorganisation, planning, implementation and future expansion of the Scheme in liason with the Provincial Land Use Planning Officer, the Provincial Horticultural Officer and the District Agricultural Officer of the Gwembe District.
- e) Recruitment, Selection, Control and Supervision of new and old settlers in consultation with the local District Agricultural Officer.

- d) Training of Setters and extension staff at the Scheme in all technical aspects of the Scheme in conjunction with the Provincial Extension Training Officer and the Provincial Horticultural Officer.
- e) All Extension Staff based at the Scheme shall be responsible to you technically and to the District Agricultural Officer administratively.
- f) Annual budgeting and expenditure of the Scheme funds etc. shall be carried out in consultation and agreement with the Provincial Agricultural Officer.
- g) The routine organisation and administration of the Scheme shall be your responsibility.
- h) A Settlement advisory Committee shall be formed at the Scheme as soon as possible to monitor the development and welfare of the project. The membership may consist of representatives from the Gwembe South Development Projects; The District Secretary's Office at Sinazongwe; the District Agricultural Officer; the local Councillor; the Zambia Horticulture Company; the Provincial Agricultural Office, Chief Sinazongwe and the Chairman or Secretary of the Settler's (farmers) Committee.

For clarification sake, I should put on record the following points for future guidance:-

- a) The G.R.Z. Citrus and banana Orchard shall remain the property of the Government. All the revenue collected from sale of produce shall be credited to the Government Revenue Account. Funds shall be provided annually for the maintenance and any necessary improvement. The management of the orchard however shall fall under your responsibility.
- b) All the fixed and movable assets-buildings, houses pumps etc. shall remain the sole property of the Government unless otherwise under special approved arrangement.
- c) Control of Capital funds shall remain the responsibility of the Provincial Agricultural Officer. The routine or day to-day utilisation of the funds in the teams' responsibility.
- d) It has been proposed that a horticultural training Centre should be established at the scheme in future which should be run side by side with the settlement. My Department is currently carrying out feasibility studies to this effect. You are kindly invited to assist in carrying out a similar study in order that the proposed training centre may become a reality in future.

- e) The Settlement Advisory Committee should consider the creation of a revolving fund for the scheme or creating a means by which the Settlers (farmers) in the scheme should contribute to the running costs of the scheme. The Government has no desire to continue supporting the settlement indefinitely particularly once the scheme has become fully established.

Yours sincerely,

Joel Chivwema
PROVINCIAL AGRICULTURAL OFFICER
/SOUTHERN PROVINCE/

- c.c. Permanent Secretary,
Office of the Prime Minister,
Southern Province,
P.O. Box 60298,
LIVINGSTONE
- c.c. Director of Agriculture,
LUSAKA.
- c.c. District Secretary, Sinazongwe.
- c.c. District Governor,
GWEMBE DISTRICT!
- c.c. District Agricultural Officer,
GWEMBE!
- c.c. Provincial Horticultural Officer, Choma.
- c.c. Provincial Planning Officer, Choma.
- c.c. Provincial Extension Training Officer, Choma.
- c.c. The Scheme Manager, Buleya Malima Irrigation Scheme,
SINAZEZE.

GWEMBE SOUTH DEVELOPMENT PROJECT

Re: Organisation and reconstruction of Buleya Malima Irrigation scheme phase I - R

1. Introduction.

The Buleya Malima Irrigation Scheme has been initiated by the Project Division of the Ministry of Rural Development at the beginning of 1970.

The reasons for establishing the scheme were to compensate the people for the loss of gardens (land) caused by the formation of Lake Kariba, and also to raise their standard of living.

The objectives of the scheme were:-

- a- To compensate the people for loss of land caused by the formation of the Kariba lake.
- b- To provide a reliable source of more nutritious food to the people living in the Gwembe Valley.
- c- To intensify the use of the land so that larger populations can be carried than hitherto.
- d- To provide the local population with means for reaching a higher standard of living.
- e- To ascertain which crops are best suited to the area, both from climatic, economic, and social standpoints.

To reach these objectives the Buleya Malima Irrigation Scheme was planned into three distinct phases of development.

Phase I - will be a trial site of 26.8ha (67acres) and will last for a period of one or two years. Work here will be confined to trials collecting of data on various crops planted at different times under different methods of irrigation. After the period data collection the site will be continued as research site.

Phase II- Will involve the expansion of the trial site to include an additional area of 80ha (200 acres) on this extension cultivators (farmers) from the area will be settled on irrigation plots, and trained in the techniques of irrigation of a range of crops.

Phase III- Will involve the development of a much larger area (up to 5,600ha = 14,000 acres) with the use of information collected during Phase I and II.

Phase I and II were carried out during 1970 and 1977. In this period trial work has been done in close co-operation with the research branch. Mochipapa Regional Research Station. In 1973 Phase II was started, which included a Settlement Project of 54ha. and a group of 12 farmers were taken in and trained. By the middle of 1977 the Projects Division withdrew from the Buleya Malima Irrigation Project. The Project was then handed over to the care of the department of Agriculture, Choma. By the request of the P.A.O. occasional assistance on the mechanical side was given by the Gwembe South Development Project (GSDP). In May, 1979 during a work seminar between the GSDP and GRZ officials of the Ministry of Water Development it was suggested and agreed that the Buleya Malima Irrigation Scheme should come under the management of the GSDP, since the GSDP is already running two other irrigation schemes (Siatwinda and Nkandabbwe) for the Government.

The Co-operation between the Department of Agriculture and the Gwembe South Development Project is outlined in the letter of the P.A.O. of 1st October, 1980 (2,879/MAWD/PAO/101/2/9).

At present the scheme is on collapsing point due to a complex of problems facing the scheme. The main ones are the irrigation system is not able to provide enough irrigation water and the cultivated area per farmer is at present too large.

A close co-operation with the office of the P.A.O. through his Provincial Planning Officer Mr. T. Beaumont new plans have been made to improve the scheme.

For this a reorganisation and reconstruction phase has been developed for a period of 5 years. The plans for Phase I-R have been discussed with the farmers and they have accepted these (farmers meeting 7.10.1980)

2. Re-Organisation Proposal

Since the Settlement irrigation scheme was introduced it has ^{led} tremendous problems, mainly with water, which has the farmers to concentrate on rainfed crops such as maize and cotton.

Initially the main crops envisaged at scheme were maize, sunflower, cotton and beans. The size of plot per farmer proposed was 1-heactare. At present the total irrigated area with rainfed crops is 40.4 ha.

The Government has spent vast quantities of money on Buleya Malima Irrigation Scheme and has had hardly no return. But in order that the scheme can come into production again, some large re-organisation is required at present water is unable to enter the irrigation plots and no farmer could ever irrigate more than 0.25ha.

The proposal for Phase I-R is to reconstruct the water system to 13ha. of the scheme and to give the present 53 farmers each a plot of 0.25ha of irrigation. Once water is ensured to enter the fields, the farmers have no excuse not to irrigate. Farmers not using their 0.25ha. will have the plots reduced or be evicted. Farmers wanting larger irrigation plots will have to wait until further areas of the scheme are reconstructed (Phase II-R, etc) Initially, the present 53 farmers will retain 1 ha. of land on the scheme composed of 0.25ha. irrigatable land and 0.75ha. of rainfed land.

On the 0.25ha. the farmers should be taught how to grow crops under irrigation and how to manage this later on a larger area. For this it is strongly felt that the crops to be introduced should be rice, beans(sugar) wheat, soyabeans, and a minimum of vegetables for local use.

A possible crop-plan :-

-0.10ha. rice, to be grown in the wet season (oct-april)

-0.10ha. beans, to be grown the same season

-0.05ha. various vegetables (green maize, okra)

From May till September rice can be followed up by Soya beans and the beans by wheat, the vegetables can be potatoes, onions, beetroots etc.

As the experiences at Siatwiinda and Nkandabbwe irrigation schemes are indicating that farmers in general have difficulty to handle plots bigger than 0.25ha. considerations should be made to increase the number of farmers, when the second phase of the re-construction is implemented. But still room should be left for the strong and advanced ones to develop themselves to reach the 1ha. plot size (maximal)

The main objective of the scheme is to supply a more nutritious food to the people.

3. Technical proposal

The reason for the water problem is very complex. The diesel engines have continuously given trouble. This problem was foreseen by the initial team and is written in the project document.

Quote "During 1972 some difficulties were experienced as both of the diesel engines overheated in the hot months. (October, November, December), after having worked for 5-6 hours. According to specialists from the supplier (AFE) the reason is the high temperature occurring in the area. As the working time of the pump is planned to be 18 hours, these difficulties most certainly will be bigger in the future and measures must be taken to gain a durable solution."

Until now a solution has not been found. But with a reduction in the theoretical irrigated area the operation hours will be greatly reduced. Also the practise of supplying electricity to the management will be stopped as the management is ineffective and shall be withdrawn. The pumps will only be initially required to irrigate 13ha plus government orchard. If a second phase of reconstruction is envisaged, provision should be made to reconstruct the engine house to provide a cooler house for the engines.

The farmers complain that they cannot get water into their fields. This is a complex problem caused by:-

- a) The main canal is unlined, no schedule is followed, so the main canals dryout allowing unacceptable seepage losses. The lining of the main canals was also discussed in the initial project document.

Quote. "During the past it has been discussed intensively if lining of the main canal and even the irrigation ditches was required. Experience from the Pilot Scheme in the past indicates that erosion will occur if not the greatest attendance is put into control of the velocity of the water as well as maintenance of the canals. However, a lining of the canals will be very costly and thus it has been decided not to line the canals at this stage. If great inconvenience will arise, funds must be made available to line the canals at a later stage."

Thus to overcome this problem, the main canal to the proposed 13ha. will be lined.

- b) Once water reaches the lateral canal, it cannot be siphoned out because the lateral canal is lower than the field. Again quoting the document; "Lateral canals are designed to be approximately 50cms above the land surface.

The lateral cans have been surveyed and out of a total of 1315m of lateral canal in the 13ha, only 440m is about 10cm above ground surface, the rest is below the surrounding area. Thus it is impossible to actually siphon out of most of the lateral canals. The reason is probably a combination of bad initial construction and bad maintenance. Facts supporting bad construction are that the main canal and chipoletti weir in the lateral are below ground level.

The solution to this problem is to completely re-construct the lateral canals to at least 20cm above ground level and to raise the main canal by lining.

- c) Another problem has been the continuous failure of the night storage reservoir. This is caused because the sides were constructed with a slope of less than 1:1 with a depth of 3m. Also villagers and goats have made bad tracks collecting water from the reservoir. The reservoir was never lined with rubber sheets as proposed by the project document.

To help reduce the risk of failure, the security fence must be well maintained with a lock on the gate. A standpipe and drinking trough must be installed outside the security fence to stop erosion of the wall.

4. The Estimated Costs.

The main part of the costs are needed to put the irrigation system into order. The breakdown of the costs are as follows:-

a) Main Canal concrete lining

Sand and stone will be collected locally and 2 bricklayers with labour to mix concrete will be used.

- 500 pockets cement	K 3,000.--
- 6 labour for sand/stone collection	300.--
- 10 labour on concrete lining	800.--
- 10 wheel barrows	650.--
- 2 trowels	50.--
- 2 steelfloats	50.--
- 6 shovels	110.--
- 10 steel formers	<u>200.--</u>

K 5,160.--

b) Lateral Reconstruction:

Labour will be used to build and reconstruct the laterals.

- 30 labour	K 1,500.--
- 15 shovels	270.--
- 15 picks	120.--
Buckets	<u>110.--</u>

K 2,000.--

c) Transport:

Fuel and Oil	K 2,000.--
-repair of water bousers	<u>200.--</u>

K 2,200.--

d) Syphon Pipes for irrigation:

-to start with 1000m	K 3,000.--
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e) Water Supply system for the villages:

K 1,000.--

Total

K13,360.--

5. Re-organisation and Re-Construction Phase:

In order to get the Buleya Malima Irrigation Scheme into order and production the following phase plan is recommended for the future.

Year	Phase	Cost	Area	Work
1980	I - R	K13, 360.--	13Ha	Reconstruction for irrigation.
1981	II- R	K10,000 .--	6ha	Oxen Training Scheme pasture development of legumes and grass.
1982	III- R	K10, 000.--	11ha	Reconstruction for irrigation (mainly land levelling)
1984	IV -R	K15, 000.--	16ha	Reconstruction and canal lining.
1985	V - R	K15,000 .--	17ha	Reconstruction levelling and lining.

It is recommended that if funds are made available by the Ministry of Lands and Water Development that Phase I-R should be done this year 1980. The concentration of the 53 farmers into this area of 13 ha will enable the reconstruction work to take place in the future, easier.

The time of each phase can be considered as the developments : progress.

Nkandabbwe, 10th October, 1980

I.J.KRISIFOE

AGRICULTURAL OFFICER GSDP.

GWEMBE SOUTH DEVELOPMENT PROJECT

THE RECORD OF THE STAFF MEETING HELD WITH THE P.A.O. ON
THE FUTURE OF BULEYA MALIMA IRRIGATION SCHEME HELD ON THE
4TH OCTOBER, 1979.

PRESENT: Mr.G.S.Nakasamu(chairman) Mr.G.K.Madyenkuku(secretary)
Mr.H.M.Fischer, Mr.A.Nsemani, Mr.I.J.Krisifoe, Mrs.S.
Krisifoe, Miss. E.Haesler. Mr.M.K.Malyenkuku, Mr.P.Miyanda,
Mr.Malekani, Mr.D.Msiska, Mr.J.Chivwema(P.A.O.) Mr.T.D.
Beaumont(District Planning Officer) Mr. Chiyanka(F.T.C.)

Mr. Krisifoe outlined the subject by reading through the paper he had prepared in connection with the future of the scheme. Everybody had a copy of this paper. After the reading of the paper some points were raised for discussion and consideration.

Page 4 of the paper prepared by Mr.Krisifoe.

A. On the Organisation side.

- 1) The proposed future management set up accepted.
- 2) Abolishing the Managers title was discussed and finally accepted that it has to be abolished instead the supervising staff shall be trained A.A.' (2) One senior one Junior, they shall be called supervisors to the farmers. The senior being responsible to make monthly reports etc as required.
- 3) The farmers committee discussed and finally accepted to be the direct managing body on the farmers by the help of the supervisors and at times by the project staff of G.S.D.P.

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7. Water Fees. The question introducing water fees to the farmers was discussed. The following recommendations made.
 - (a) Agreed that water fee system be introduced to the scheme.
 - (b) That the amount of money to be charged has to be locked into by the management.
 - (c) That the money be used to buy diesel to run the engines.
8. (a) Orchard- After some discussion, it was found necessary that the orchard be left in the hands of the management and that a citrus nursery be developed at the scheme.
 - (b) Funds from the sells of fruit and planting trees from the nursery- It was after some consideration concluded that some of the money obtained from the sell of fruits and trees be used to buy diesel at the scheme.
 - (c) On Technical side:-
 - 1) Channels It was agreed that the lining of channels as to be done anytime the money is made available. It was further agreed that sub channels have to be attended to also as it may be deemed necessary.
 - 2) Levelling of some fields:- considered and found necessary that they have to be levelled when funds are made available.
 - 3) Syforms - getting water from the channels should not be by cutting the channels, but syforms should be used. After some consideration it was recommended that the tubes should be made available by the management then farmers buy, the system of letting the farmers to buy the tubes is good because they will take care of them as their properties.

Engines:- It was after some consideration recommended and agreed upon that one engine complete with generator should be on a stand by all the time to replace those at work in case of a sudden break down. It was also suggested that electric supply to the domestic houses be suspended until such time when the financial situation improves, as running the engine to generate electricity costs money. (no actual conclusion was passed).

B 1) Transport: Transport for the staff was considered, suggestions were made whether to make available a honda on loan to the supervisor or a G.R.Z. honda. Also to consider making available one or two bicycles which the Assistants can buy. It was finally decided that both points are to be looked into by the office of the P.A.O.

2) Transport for marketing produce. This was suggested to be a joint venture with other irrigation schemes, therefore the truck could be used by both or all the irrigation schemes if it is made available. Some suggestions were made as to find sources of income possibly contacting eeo urgents. (possibly 5 tone lorry). To be looked into by the Project management (GSDP).

3) Tractor. The need for a tractor to plough for the irrigation farmers and the out side farmers was stressed. This brought a very hot debate, After which it was concluded that although a tractor is already bought in the name of B/Malima, it will be stationed in Choma where the P.A.O. thinks that it will be fully used. But it will be brought to B/Malima at times to plough the Government plot and etc. The feelings of the P.A.O. was that people have to use hand or ox ploughing in the valley.

4) Two wheel tractor unity:- After some discussion it was agreed that if funds are available this can be bought and tried at Syatwiinda not B/Malima.

C Labour Force:- It was suggested that the labour force should be reduced as follows:-

- a) 1 mechanical service man
- 2 enginemen
- 4 labourers for the orchard

the rest to be laid off. After some discussion it was concluded that the P.A.O.'s Office will look into the normal procedure of laying them off.

- b) That 1 bricklayer and 14 men shall be employed when funds are available for lining the channels.

- c) That the office workers shall not be needed as all the office work will be done here at the project.

D Farm Plan:- It was suggested that the question of plot sizes should be reviewed in order that families be given plots that they can manage well starting from 0.2ha. per family. After some discussions it was agreed that the management look into it.

E Miscellaneous:- It was reported that there are at B/Malima some implements which are lying there un used. After some discussion it was, concluded that a list of these be made, so that it can be possible to single out what belongs to the department and what is not for the department. There after we can decide what can be used on the scheme as may be found fit.

F Village Water Supply:- It was suggested that the villagers living around there be provided with drinking water, what is happening now is that they go into the reservoir from their domestic water

(3)

After some discussion it was concluded that two should be considered when funds are made available.

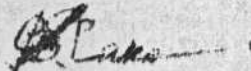
- (1) Supplying them through the irrigation system by making a tank and a tap available to the drawing points.
- (2) Looking into the possibility of supplying them with water from the schemes domestic water supply borehole.

Plan of action

To be finalized by the P.A.O.'s office:-

- (a) drawing a constitutional hand over.
- (b) making finance available.
- (c) safety of the team members who will be working at the scheme.
- (d) looking into the availability of the urgently required generator and etc.
- (e) looking into the possibility of a workable water fee table.
- (f) possible procedure of labour reduction.

Having no more to discuss the chairman thanked all those present for their contributions and extended great thanks to the P.A.O. for sparing his time with the project and Malima staff in search from bettering man's affairs. The P.A.O. thanked the team and all for the meeting well conducted.


CHAIRMAN

4. Reasons to continue the Scheme.

There are certainly reasons to continue the Buleya Malima Irrigation Scheme and to improve it to the benefit of the people and the area as whole.

The reasons used by the establishers of the Project, mentioned at the beginning are certainly still valid.

More reasons are that:

- 1)- taken into account the re-settlement history of the people of the Gwembe Valley as whole it is the task of the Gouvernement to assist the people to re-build new homes and to start a new life.
- 2)- there has been too much invested by the GRZ already and promises made to the people of better facilities, if they would give up their fields for the establishment of the irrigation scheme.
- 3)- from the regional point of development of the area, the development of the Scheme is of great importance. the direct and indirect impacts of development can have an enormous effect on the people to develop themselves.
- 4)- a more secure and regular agricultural production. the average rainfall of the area is about 700-800 mm. per rainy season and is unevenly distributed, most of the rain is fallen between January and February and sometimes there are dry spells of 10-14 days in between.
- 5)- a good regular income for the farmer can be made.
- 6)- improvement of standard of living of the people, economically and socially.

5. Proposed Improvements.

In order to improve the Scheme the following consideration should be taken into account.

A. On the organisational side:

1. The management of the Scheme should be run by
 - the agricultural staff assigned to the Scheme,
 - the Farmers Executive Committee and
 - the advising agricultural and technical staff of the Gwembe South Dev. Project.

a very close co-operation of these three parties involved is essential and the duties must be clearly defined.
2. The present set-up of a manager of the Scheme should be abolished. Instead of this 2-Agricultural assistants (one senior and one junior or a Crop Demonstrator) should be stationed to the Scheme.
3. Out of the farmers in the Scheme a Farmers Executive Committee should be formed.

4. For allocation of plots to farmers a Selection Committee consisting of members of the management will decide. Plots available are made known to everybody and application forms will be issued.
5. A Contract is signed by the farmer ones allocated a plot. In this contract the binding rules are laid down.
6. Engine attendants, two engine attendants should be employed, for the operating and maintenance of the engines.
7. Water-fees will be collected by the office of the GSDP. At present no water-fees are paid, but the farmers seem to be willing to pay the water charges. The water charges which have been determined should be revived and executed.
8. The revenue from the orchard will also be collected by the office of the GSDP.

B. On the Technical side:

1. Channels - the main channel must be lined up as the distance to the farrest fields is about 2000m. and water is lost by seepage into the ground. the sub-channels should be repaired and some to be reconstructed.
2. Levelling. some of the gardens are to re-levelled.
3. The drainage system must be constructed as this is very important for an irrigation scheme.
4. Syphons - to get the water from the sub-channels into the gardens must only be done by syphons, the practice of cutting into the sub-channels should be stopped.

C. Agricultural Services:

1. The agricultural staff should be provided with transport, Honda Motor-bike CT-90 to be recommended.
2. For marketing purposes a joint transport system should be considered for all the Irrigation Schemes of the area. A one 5-ton truck could be owned by the Project or VSP (=Valley Selfhelp Promotion Fund), which can be hired to the Schemes ~~xx~~ and to others in the area who are in need of transport.
3. Tractor unit for ploughing. There is a demand for the services of a tractor unit by the farmers of the irrigation as well as other farmers in the Malima area. This tractor unit can be stationed on the Scheme and can be hired to farmers within the range of 10-15 km., and in this radius it covers almost the Malima area. This unit can be of grate help, deep ploughing can be done and the declining situation of plough-oxen can be helped.
4. Two wheeled tractor unit. This unit can be on trial bases. Trials should be made with this unit in order to gain the information whether this unit is favourable to be used by small growers - irrigation and non-irrigation growers.

D. The Orchard. - The orchard should remain the under the care of the Scheme, the area around should be used for training and research purposes. A nursery programme on fruit-trees like, orange trees, pineapples, bananas, etc. can be established.

E. The labour force: - The present labour force should be laid off. For the future work to be done is needed:

- 4-labourers should be employed for the orchard and research area, they will be engaged for a period of 2-years and after that the situation has to be reviewed.
- 1-bricklayer and 14 general workers are needed for one season/year.

F. The Farm-plan: - The plot-size of 1 ha. per farmer seems to be big, and adjustments should be made according to the abilities of the farmers.

- the proposed farm-plan for 1 ha.:
- 0.2 ha. - for fruit trees, farmers should be supplied with orange-trees
 - 0.4 ha. - for wheat and green-maize, the wheat can be planted during April-August and this can be followed by green-maize.
 - 0.4 ha. - for vegetables, soya beans and sugar beans can be followed from March till Oktober and can be followed by soya-beans or sugar-beans.
- The crops can be rotated in these two plots of 0.8.ha., accordingly.

G. Miscellenious: - There is a quite big complex of buildings at the Scheme. These buildings can be used for an Irrigation Training Centre. Further considerations should be made of what can be done with these buildings.

Material, Equipment.

6. The Financial implications:

A rough estimate is made of the costs involved, if the Gwembe South Development Project is going to take over the management of the Buleya Malima Irrigation Scheme.

The total costs estimated to improve the Scheme are K86,000.--

The current costs are (item 7+8) -K13,000.--

The immediate capital investments needed are - K38,000.--

The agricultural services which are of big importance for the development of the area are costing K35,000.--

ESTIMATED FINANCIAL IMPLICATIONS.

1. Irrigation equipment	K. 15,000.--
2. Land preparation	7,500.--
3. Fencing	3,000.--
4. Village Water Supply	1,000.--
5. Transport (Extension Staff)	2,500.--
6. Agricultural Services:	
a) Transport - Truck	10,000.--
b) Tractor Unit	22,000.--
c) 2-Wheeled Tractor Unit	4,000.--
7. Salaries	11,000.--
8. Maintenance	10,000.--

TOTAL

K. 86,000.--1. Irrigation Equipment:

- Pipes ,mainly syfoning pipes	K 5,000.--
- Lining of main laterals	- 10,000.--
- On the engines - nil.	
- On the reservior - nil.	

2. Land preparation:

- Land levelling, sub-channels and drainage	K. 6,000.--
- Road system in the scheme	1,500.--

3. Fencing:

- Fencing material, barbered-wire, nails etc.	K. 3,000.--
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4. Village Water Supply:

- Material for a water-tank, pipes, valves, etc.	K. 1,000.--
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5. Transport:

- Two bikes, Honda CT.90- for the Agric.Staff	K. 2,500.--
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6. Agricultural Services:

- One 5-ton truck for marketing purposes - which can be shared by the other irrigation schemes, Nkandabwe and Siatwinda.	K. 10,000.--
- One tractor unit (tractor + impliments)	K. 22,000.--
- One 2-wheeled tractor unit (tractor + impliments)	K. 4,000.--

7. Salaries:

- Two engine attendants (permanent)	K. 1,200.--
- Four labourers (casual for about 2-years)	- 1,800.--
- Fifteen labourers, one bricklayer included (casual, for one season)	- 8,000.--

8. Maintenance:

Bericht über das "Bulea Malima Irrigation Scheme".

Geschichte.

Vor 1956, das heißt bevor der Kariba-Staudamm gebaut wurde, war der Landstrich, wo heute die verschiedenen Dörfer von Malima liegen, unbewohntes Buschland. Damals hatten die River-Tongas (im Gegen-satz zu den Plateau-Tongas) ihre Dörfer in unmittelbarer Nähe des Zambezi Flusses, wo es fruchtbares Schwemmland gab. 1955 entschied die damalige Föderationsregierung, daß der Zambezi aufgestaut und ein großes Wasserkraftwerk gebaut werden soll. Der Plan sah vor, daß die am Zambezi lebenden Tongas auf das Plateau umgesiedelt werden, wo es noch dünn besiedelte, relativ fruchtbare Gebiete gab. Dieser Plan forderte jedoch so heftigen Widerstand der Betroffenen heraus, daß er nicht durchgeführt werden konnte. Als Ersatzlösung mußten neue Siedlungsgebiete im Tal gesucht werden. Große Verwirrung entstand, als 1956 die Regierung bekanntgab, daß der Damm erhöht würde, um noch mehr Wasser aufstauen zu können. Jetzt mußten noch mehr Menschen umgesiedelt und bereits erschlossene Gebiete mußten wieder aufgegeben werden.

Die Umsiedlung, die dann in den Jahren 1956 bis 1957 stattfand, brachte allgemein eine Verschlechterung der Lebensbedingungen für die Menschen mit sich. Es verbreiteten sich Hungersnöte und Krankheiten. In der Gegend von Bulea Malima trat sehr häufig Bilhärziose und Malaria auf. Erst nach und nach gelang, diese Krankheiten einzudämmen und die Schwierigkeiten in den Griff zu bekommen. Als Beitrag zur Verbesserung der Lebensbedingungen hat die zambianische Regierung das Bewässerungsprojekt in Bulea Malima geplant. Mit der Ausführung wurde allerdings erst 1971 begonnen.

Zielsetzung.

Den Menschen in Bulea Malima soll die Möglichkeit geboten werden, erstens hochwertige Nahrungsmittel für den eigenen Bedarf zu produzieren, zweitens sogenannte "cash crops" anzubauen, um die laufenden Kosten der Bewässerungslandwirtschaft (Pumpen, Düngemittel, Schädlingsbekämpfungsmittel u.s.w.) bestreiten zu können. Und es soll der Lebensstandart erhöht werden.

Erste Pläne für das Projekt bestanden schon in der Zeit vor der Unabhängigkeit (1964). Nach 1964 wurden diese vom "Provincial Agrikultural Office" (PAO) übernommen und weiterentwickelt. Zunächst waren 64 acre bewässertes Land für Forschungszwecke vorgesehen. Es sollte herausgefunden werden, welche Pflanzen angebaut werden können und auf welche Art dies am besten zu geschehen hat. Als nächster Schritt war vorgesehen, daß das Projekt um 164 acre erweitert und dieses Land an einheimische Farmer verteilt wird. Jeder Farmer erhält 2,5 acre, mit Obst und Gemüse die er privat bewirtschaftet. Allerdings muß er folgende Bedingungen erfüllen: 1 acre mit Nahrungsmitteln für den eigenen Bedarf; 1 acre mit Nutzpflanzen für den Verkauf; und 1/2 acre mit Obst und Gemüse für den eigenen Bedarf. Die Farmer werden von einem "agricultural assistant" beraten. Außerdem wird ihnen zur Auflage gemacht, vor der Übergabe des "plots" einen Einführungs-kurs in die neue Methode der Bewässerungslandwirtschaft mitzumachen.

Von den Einnahmen aus dem Verkauf der Ernte müssen Betriebskosten und eine Beteiligung an den Erststellungs-Kosten in Raten bezahlt werden. Trotz diesen hohen jährlich zu zahlenden Beträgen, wird den Farmern ein jährliches Einkommen von 1000 K (ca. 4000 DM) versprochen. Das ist sehr viel, wenn man bedenkt, daß das durchschnittliche Einkommen seither 134 K pro Jahr betrug.

Die zweite Phase des Projekts hätte bis Ende 1973 abgeschlossen sein sollen. Langfristig ist vorgesehen, bis 1984 ein Gebiet von 14000 acre zu bewässern.

Durchführung.

Begonnen wurde mit der Errichtung eines 64 acre großen Bewässerungssystems für Forschungszwecke im Jahre 1971. Alle Finanzmittel wurden von der zambianischen Regierung zur Verfügung gestellt. Zum jetzigen Zeitpunkt sind die Forschungsarbeiten soweit fortgeschritten, daß mit der praktischen Anwendung begonnen werden kann. Aus der Vielzahl von Nutzpflanzen, die angebaut werden können, haben sich die Folgenden als besonders günstig für die spätere Anwendung herausgestellt:

- a) Nahrungsmittel für den eigenen Bedarf
- 1) Mais, das wichtigste Nahrungsmittel in Zambia,
- 2) Reis.

Es gibt allerdings unterschiedliche Auffassungen über den Nutzen des Reisanbaus. Einerseits ist Reis ein sehr hochwertiges Nahrungsmittel. Andererseits ist er bei den Tongoas noch nicht bekannt und stößt zunächst einmal auf Ablehnung.

- b) Für den Verkauf

- 1) Baumwolle
- 2) Sonnenblumen.

Diese Pflanze gedeiht sehr gut und läßt sich mit gutem Gewinn verkaufen (sie wird innerhalb des Landes weiterverarbeitet). Es muß jedoch intensiv Schädlingsbekämpfung betrieben werden.

- c) Obst und Gemüse für den eigenen Bedarf.

Mangos, papayas, Bananen, Kohl, Bohnen, Tomaten und Zwiebeln sind besonders geeignet. Es lohnt sich kaum, Obst und Gemüse zum Verkauf auf den städtischen Märkten anzubauen, weil es staatlich angeordnete Festpreise gibt und die Transportkosten bis zu nächsten Stadt sehr hoch sind.

Die zweite Phase des Projekts, nämlich das Bewässerungssystem von 160 acre ist noch nicht fertiggestellt. Bis jetzt sind nur zehn "plots" an einheimische Farmer übergeben worden. Es gab Schwierigkeiten mit der Beschaffung von Bulldozern und auch mit dem Damm des Wasserreservoirs, der sich als zu schwach herausstellte.

Arbeiten, wie Kanäle graben, Wehre zementieren u.s.w. werden von Leuten aus den umliegenden Dörfern ausgeführt. Sie werden von der Regierung bezahlt. Auch die laufenden Ausbesserungsarbeiten sollen später von einer speziellen Arbeitsgruppe übernommen werden, also nicht von den Farmern selbst.

Stellenwert des Projekts innerhalb der landwirtschaftlichen Entwicklung in Malima Area.

Meiner Meinung nach stellt das Projekt einen Versuch dar, an dem ausprobiert werden soll, wie vielleicht in Zukunft die Einkommenslage der Dorfbewohner erheblich verbessert werden

kann. Wenn die Berechnungen stimmen, und wenn sich die Pläne voll verwirklichen lassen, so würde diese neue Methode den Bauern eine Einkommenssteigerung um ca. 700 % bringen. Allerdings wird dann von den Leuten gefordert, daß sie ihren bisherigen Lebensstil vollständig ändern. Sie müßten nämlich das ganze Jahr über auf den Feldern arbeiten und nicht wie seither nur während der Regenzeit. Vor allem erfordert die Bewässerungslandwirtschaft regelmäßige Arbeit nach einem Zeitplan. Außerdem müssen die Leute lernen, mit einer großen Menge Geld umzugehen, denn es sind hohe Betriebs- und Investitionskosten zu leisten.

Diese Umstellung des Lebens- und Arbeitsstils kann sicher von einigen Menschen vollzogen werden. Ich glaube aber nicht, daß alle Bewohner eines Dorfes zu diesem Zeitpunkt dazu in der Lage sind.

Wenn dieses Projekt die einzige Anstrengung zur landwirtschaftlichen Entwicklung in Malima wäre, würde ich das für sehr schlecht halten, denn das würde bewirken, daß sich mit der Zeit eine kleine Gruppe gut verdienender, kommerzieller Farmer bildet, während der große Teil der Bevölkerung weiterhin die alten Methoden der Subsistenz-Wirtschaft betreibt. Es müssen vielmehr gleichzeitig Anstrengungen zur Verbesserung der traditionellen Anbaumethoden unternommen werden.

Und dies geschieht auch in Malima. Agricultural assistants gehen zu den Bauern und beraten sie. Z.B. wird nun auch ohne Bewässerung Baumwolle angebaut. Außerdem werden Kurse vom "farmer training center" angeboten. Dort wird außer Ackerbau auch Viehzucht, Hühnerhaltung, Hauswerk u.s.w. gelehrt.

Ich halte es für überaus wichtig, daß Entwicklungshilfe an vorhandene Arbeitsweisen anknüpft. In diesem Fall heißt das, daß das traditionelle "dry-farming" weiterentwickelt und verbessert werden sollte. Darauf sollte meiner Meinung nach der Schwerpunkt aller Anstrengungen in Malima gelegt werden. Wenn diese Entwicklung auf natürliche Grenzen stößt, das heißt, wenn eine Weiterentwicklung der alten Verfahren nicht mehr möglich ist, wird ganz von selber ein Übergang zu anderen Methoden stattfinden.

Es ist daher durchaus berechtigt, daß jetzt schon neue Methoden ausprobiert werden, die dann in späteren Jahren vielleicht übernommen werden können.

Ich halte es aber nicht für gerechtfertigt, daß einige wenige, besonders clevere Leute intensiv gefördert werden, während für den Rest nichts getan wird. Wenn neue Methoden eingeführt werden, so sollten letzten Endes alle etwas davon haben.

Was halten die unmittelbar betroffenen Personen von dem Projekt ?

Schon allein aus sprachlichen Schwierigkeiten war es nicht leicht für mich, dieser Frage nachzugehen, ich konnte mich nur mit zwei Männern unterhalten, die ein wenig Englisch konnten. Beiden wurde schon ihr Stück Land zugeteilt. Die Reaktionen auf meine Frage waren sehr unterschiedlich. Der eine, ein sehr selbstbewußter und selbständiger Mensch war überaus optimistisch. Er sah jetzt die große Chance, zu Geld zu kommen. Er hat vor, eine Zeit lang hart auf seinem "plot" zu arbeiten. Nebenher will er, wie seither, auch schon Backsteine herstellen und verkaufen (diese Arbeit machen zum großen Teil seine Frauen). Er glaubt schließlich, nach ein paar Jahren soviel Geld erwirtschaftet zu haben, daß er sich ein Auto kaufen kann. Wenn dieses Ziel erreicht sei, meinte er, dann könne er sein Ziegelgeschäft groß aufziehen.

Der andere Mann, den ich befragte, war sehr viel vorsichtiger. Er meinte zwar auch, daß das Projekt eine gute Sache sei, hatte aber keine großen Pläne für die Zukunft. Ich hatte den Eindruck, daß er noch sehr unsicher war und noch garnicht so richtig wußte, wie das eigentlich mal laufen soll. Diese Unsicherheit fiel mir auch bei den anderen Farmern auf. Denn obwohl in einem meeting den Farmern gesagt wurde (vom Manager), daß sie nun mit der Arbeit auf ihren plots beginnen sollten, war zwei Monate später noch kaum etwas geschehen. Es gibt einige Gründe hierfür. Erstens werden immer wieder neue, zum Teil widersprüchliche Anweisungen von "oben" (PAO) gegeben. Z.B. wurde kurz bevor wir kamen empfohlen, jetzt mit dem Anbau von Sonnenblumen zu beginnen. Wenig später wurde gesagt: "Sonnenblumen jetzt noch nicht anpflanzen." Zweitens sind es technische Mängel, die den Betrieb des Bewässerungssystems stören bzw. unmöglich machen. Zum Beispiel ist nun schon zum dritten Mal der Damm des Wasserreservoirs gebrochen. Drittens mangelt es an der Verständigung zwischen den Planern und Technikern einerseits und den Farmern andererseits. Denn trotz Dammbruch hätte weiterhin bewässert werden können. Die Farmer und auch ihr landwirtschaftlicher Berater wußten das nicht. Sie waren vielmehr der Meinung, daß sie nun warten müßten, bis der Damm wieder aufgebaut ist. Sicher sind das nicht die einzigen Gründe für die allgemeine Zurückhaltung. Die Leute sollen ihre altbewährte Methode aufgeben. Dabei müssen sie das Risiko eingehen, daß die neue Methode nicht klappt und sie dann ohne Nahrung dastehen. Deshalb ist der Anfang besonders schwierig. Wenn da etwas schiefgeht, wird das Vertrauen in die neue Methode kaum noch aufzubringen sein.

Änderung der gesellschaftlichen Strukturen durch das Projekt.

Das Projekt brachte mit sich, daß Menschen, die nicht zur Dorfgemeinschaft gehören (Manager, Vorarbeiter, Techniker...) in die Gegend kamen. Sie bilden eine Gemeinschaft für sich. Daß sie sozial höhergestellt sind als die Dorfbewohner, sieht man schon daran, daß sie Steinhäuser bewohnen. Viele Männer aus den umliegenden Dörfern fanden auf dem Projekt Arbeit, was dazu führte, daß auch sie sozial bessergestellt sind als andere Dorfbewohner. Sie können sich z.B. Vieh, Kleidung oder ein Fahrrad kaufen. Es ist anzunehmen, daß die Arbeiter nun auch andere Interessen als die Nichtarbeiter der Dorfgemeinschaft haben. Man wird vermuten, daß es zu Spannungen zwischen den sozialen Schichten kommen könnte. Ich habe der gleichen nicht beobachtet. Man muß bedenken, daß die traditionelle Bindung an die Familie noch sehr stark ist und Gegensätze kompensiert. (Wenn ein Mensch in Schwierigkeiten ist, geht er zu einem Verwandten und bittet ihn um Unterstützung. Und wenn der Verwandte kann, wird er ihm helfen). Es ist allerdings die Frage, wie lange sich die Tradition angesichts der sich verändernden Umwelt halten kann. Mit der Entstehung sozialer Schichten kommt es auch zu Veränderungen in den zwischenmenschlichen Beziehungen. Während früher im Dorf der "headman" und der Ältestenrat große Autorität besaßen, kommt nun beim Arbeiter noch die Autorität seines Vorgesetzten hinzu. Wenn headman und Projektleiter nicht zusammenarbeiten wollen, entstehen für den Arbeiter Konflikte.

Diese kurze Darstellung ist sehr grob und kann natürlich nicht alle Aspekte des Falles "Bulca Malima Irrigation Scheme" abhandeln. Ich glaube jedoch, daß sie eine Ahnung davon vermittelt, wie vielschichtig die Probleme, die beim Aufbau eines Entwicklungsprojektes entstehen, sein können.

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13th June, 1988.

NKANDABBWE IRRIGATION: MRS! G. HERLITZ

1. INTRODUCTION:

In September 1987 it was realized by the GSDP that Nkandabbwe Irrigation needs support to rehabilitate the scheme. In September/October 1987 the scheme lost a lot of their crops due to the receding of the coal-lake level and insufficient pump-availability.

2. Work done

As a first step a survey was done to investigate the possibilities of:

-lowering the main canal,

-building a higher dam,

-heightening the old dam,

-All these alternatives turned out to be not feasible and it was decided to apply for funds to buy two Diesel pumps as a short term solution to secure the water supply during the dry season. Another application was prepared to EEC for electrification of the scheme and electric pump. This application can only proceed when the unpredictable rising and falling of the lake level was surveyed.

3. Achievements made:

The Dutch Embassy and a German pastor group donated altogether K 169,576.00. Two Diesel pumps were bought, a pump-house was built at the coal-lake. The farmers repaired the main canal, the fence, the weir at the dam. As soon as the first pump arrived in late February they started to prepare their fields for the vegetable season. A pump attendant was trained at the GRZ workshop, a second person is to be trained.

4. Constraints

The problems which still need to be solved are:-

-the unpredictable falling of the coal-lake level has to be investigated.

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An application was made to GTZ to assist Nkandabbwe with a geological survey.

- the main canal shows two parts which have to be leveled.

The adviser for Siatwiinda Irrigation will be approached to assist with the solving of this problem.

- due to heavy rainfall and the unawareness of the people involved the erosion of the road leading to Nkandabbwe Irrigation is seriously damaged. Some of the erosion gullies have reached a state that they endanger the complete break-off of the road. Lusume Services were asked to assist with a survey and cost estimation to repair this road. Their conclusion at a first sight was that the road will not last one heavy rainfall and needs to be repaired at least at the worst parts during this dry season. If this is not done, Nkandabbwe Irrigation will be cut off as well as the concrete block makers.

The cost for the repair of the road according to a rough estimation will be K 120,000.--. It is planned to apply to Gossner Mission for special funds to get the repair done.

Lusume Services could supervise the repair and suggested an integration of a workshop held in Nkandabbwe to teach the local people to prevent erosion in time while they will be involved in repairing the road.

5. Plan for next year.

The main problem of a reliable water source for Nkandabbwe Irrigation has been solved for the moment by purchasing the two Diesel Pumps. The further repairs of the canals can be left to the FEC and the farmers who are aware of the importance of the problem.

Nkandabbwe still needs assistance for the survey of the coal-lake,

for the leveling of the main canal,
the repair of the road.

The survey of the coal-lake lies beyond the capability of the GSDP staff, therefore, we have to wait until GTZ can assist Nkandabbwe. The leveling of the main canal can be done with the help of the adviser for Siatwiinda and the farmers.

The repair of the road, once the funds can be secured, could be done by employing 8 general workers, the supervision of the conservation engineers of Lusame Services, and the daily help and supervision of the GSDP Volunteer.

6. Conclusion

Nkandabbwe Irrigation is more and more trained to be aware of their problems and get the GSDP staff informed about it. Still they need somebody they can approach to assist them in know-how to complete the repair of their Irrigation system. If it is continuing that Nkandabbwe's FEC will manage their water distribution and only need to call upon an expert occasionally, this help could be provided by the adviser for Siatwiinda Irrigation.

/smh.....

Gwembe South Development Project,
P.O. Box 3,
SINAZEZE.

3rd June, 1988.

PROGRESS REPORT: WATER PROGRAMME:

INTRODUCTION:

This water Dev. Programme started in 1975 up to date. It has helped alot of people in Gwembe South it is not anew thing in Gwembe to hear that there is no enough water every dry season. The reason why this shortage of water comes every year. It is becouse rain in Gwembe does not fall like in other places pla do, there is very little time for rain to fall. So this problem is becoming a permanent problem in Gwembe Valley,

To over come abit of this problem W.D.P. is working hard to drill bore-holes and wells in the vällages, this W.D. Programme covers the whole Gwembe South from Chiyabi to Kafwambila in to supply good water. The wells are dug by the community W.D.P. goes in far making concrete rings.

OBJECTIVES:

- a) To maintain and repair wells and bora-holes in the area.
- b) To establish more wells and bore-holes in the Villages.
- c) To provide reliable transport for the W.D.P.
- d) To provide time for mobile courses in the vällages.
- e) To provide adaizzer.
- f) To provide concrete ring forms.

2. WORK-DONE:

Things done after work-shop Evaluation:-

- a) Honda was provided to W.D.P.
- b) New spares for drilling rig were ordered and drilling rigs was fitted with new parts and it is working now.
- c) One new bore-hole was drilled at Thommazine fisshing camp.
- d) 8 Bore-holes were repaired.

- e) 14 Wells were cleaned and repaired.
- f. 6 new wells were dug and fitted with concrete rings.
- g) Sikaneka bore-holes was fixed an engine, Tank and pipes were layed down to the clinic and to the staff houses. So I concled to say that water system at Sikaneka is still carried on.
- h) Camp maintanance was done to the houses where problems were reported.
- j) Water system in camp is okey.
- j) GRZ. Ablution block 3 were cleaned.
- K) All villagers havd their an taps outside the fence.

N.B. The camp is very okey now, because there is no more movements of to and fro for the villagers to look for water in the camp.

3. ACHIEVEMENTS MADE:

Achievements made during the period as above:

4. CONSTRAINTS:

No Materials for bore-holes and WELLS.

- a) Shaft roads for repairs 10 mm round bars.
- b) 1.5 pipes.
- c) ~~Cask~~ Casing pipes 6" diameter.
- d) Concrete rings forms.
- e) Tool box for spanners.
- f) GRZ ablution block 8 is not working because of spares which are not yet ordered.

5. PLAN FOR NEXT YEAR:

- a) To carryout inspections of wells and bore-hole.
- b) To repair, dipening, cleanning and maintanance.
- c) To do some mobile courses in the villages.
- d) To in them how they can keep their community wells clean and bore-holes.
- e) All activities which are done by the community should be handled properly to to go ahead.. with their activities nicely.

ALLAN S. SYABUNKULULU.
W.D. ASSISTANT.

Nkandabwe Agric. Camp,
Nkandabwe Irr. Scheme,
4/2/1988.

IRRIGATION PROGRESS REPORT FOR JANUARY, 1988.

Work done: (Farmers Activities):

Farmers are busy working on dry
land fields. ^{There has been} little business ^{on the farm} & going on ^{irrigation}.

PLANTING: The only business done by a few farmers
were planting of fruit trees. So far
4 coconut seedlings (young plants) were
transplanted during the month of January.

Ploughing: 3 farmers have ploughed
their plots i.e. 3 ha. ($2 \frac{1}{2}$ Lines) in
preparation ~~readiness~~ for vegetable growing.

Achievements:

3 meetings with the ^{Farmers Executive Committee} ~~Farmers~~ were held.
The D.A.O. visited the scheme during the
month on 14/1/1988 when he was visiting dry land farms.

CONSTRAINTS: Lack of plain wire (fencing
material). This has delayed farmers in
completing the fence business.

THE
- PROPOSALS HOW TO SOLVE PROBLEM;

Ba Gudrin will use GST money to buy plain wire in order to finish off the Fencing ~~business~~ business. Farmers will get the material on loan and pay back later. This was agreed by the Farmers Executive Committee (F.E.C.)

- PLAN FOR NEXT MONTH (FEB.):

Continue with Fencing business and ~~ploughing~~ continue with land preparations.

P.Y. Pl.

A.H.

Scheme Advisor

Progress Report for the month of January 1988

Name of Programme: Training at the Irrigation Schemes

Name of Officer in Charge: Mrs. G. Herlitz

Date of Report: 1-31st of January, 1988

Work done:FEC+Training:

Nkandabwe Irrigation: A plot-holders contract is worked out, translated in Tonga and will be presented to the farmers on a General Meeting on Feb. 6th, 1988.

Buleya Malima Irrigation: The FEC came only two times for training and were introduced to their organisational set up and to the duties of the Canal Committees.

Siatwinda Irrigation: The FEC is working on the by-laws for their future co-operative. Part I, Name and Purpose, and Part II, Membership are worked out now.

Literacy Training:

Nkandabwe Irrigation: Still only a few farmers come, but it is improving.

Buleya Malima: has no training yet since the FEC is not ready to initiate the training.

Siatwinda: The training is not improving.

Achievements:

A real achievement is that Nkandabwe Irrigation has worked out their plot-holder contract now. For Siatwinda it is a big achievement that the FEC is working very hard on their by-laws.

Constraints:FEC-Training:

Buleya Malima: The problem which was brought to the attention of the management of Buleya Malima and to Lintco already many times is as follows: Lintco is occupying a room which is suppose to be the office room for the FEC. Though asked many times to move out, nothing has been done and the FEC training takes place under a shed with only 4 chairs for 12 people.

Proposals how to solve constraints:

The Co-ordinator of GSDP is asked to write a letter to Lintco to move out of the FEC room in Buleya Malima.

Plan for next month:

Continue according to the curricula and schedule.

To Write

Mr Mulemwa
to take action

G. Herlitz

Progress Report for the month of January 1988

Name of Programme: Rehabilitation of Nkandabwe Irrigation

Name of Officer in Charge: Mrs. G. Herlitz

Date of Report: 1-31st of January 1988

Work done:

A donation of K 77.576,-- from the Dutch Government was given to Gossner Mission for Nkandabwe Irrigation to rehabilitate their irrigation system.

Some congregations in Germany (the pastor group who~~se~~ visited GSDP last year) donated DM 18.000,-- (approx. 74.000,-- Kwacha) to the Gossner Mission for Nkandabwe Irrigation.

Achievements:

With the money from the Dutch Government a Kirloskar pump TAF II was bought from Zatco for K 38.738,-- and this pump ~~is~~ will be brought to Nkandabwe next week.

Constraints:

A second pump set cannot be bought in Zambia as well as the pushing pipes for the Kirloskar.

Proposals how to solve constraints:

The German donation will be used to order a second pump set and the pushing pipes for the two pumps. The Dutch donation money will be used for the repair of the canal system.

Plan for next month:

A concrete slap will be build for a proper setting of the pump at the coal-lake. The second pump and the push-pipes will be ordered. The repair of the main canal will start.

G. Herlitz

Herrn

Pfarrer Christoph Berthold
Auf dem Tummelplatz 4
5840 Schwerte-Villigst

28.1.1988

Lieber Herr Berthold!

Aufgrund unseres Telefonates letzte Woche möchte ich Ihnen folgendes mitteilen:

Es stimmt, daß Sie durch Ihren großen Einsatz die Kosten für die dringend benötigte Dieselpumpe für das Bewässerungsprojekt in Nkandabwe im Gwembetal bereits zusammenhaben. Das ist sehr erfreulich. Wir sind gerade dabei, die Frage der Elektrifizierung dieses Projektes noch einmal durchzudenken, denn die Kosten von über 300.000 DM sind doch beträchtlich für eine kleine Gruppe von Bauern. Dieses Vorhaben wird in jedem Fall noch einige Zeit warten müssen. Umso dringlicher sind neben der Anschaffung der Pumpe andere Sofortmaßnahmen. Ich habe Frau Herlitz gebeten, diese einmal vorläufig zusammenzustellen.

Bis die jetzt gleich nötigen technischen Erfordernisse eintreffen, möchte ich Ihnen den offiziellen Antrag von Herrn Halupepe, dem Koordinator des gesamten Gwembe-South-Development-Projekt weitergeben für ein Erwachsenenbildungsprogramm für die Vertreter der in Komitees organisierten Bauern.

Die Angaben über die Durchführung des Programmes können Sie aus dem Antrag ersehen. Die Kosten sind 26.840 Kwacha, was bei einem gegenwärtigen Umtauschkurs von 1:4 einem Betrag von 6710,- DM entspricht. Dieses Programm muß sofort in Angriff genommen werden, sodaß Frau Herlitz vor ihrer Rückreise im September nach möglichst viel dafür organisieren kann. Wir würden uns freuen, wenn Sie entweder durch die Beteiligung von Gemeinden oder auch der Westfälischen Kirche uns bei der Finanzierung dieses Vorhabens helfen könnten.

Haben sie vielen Dank für alle bisherige Mühe, die Sie sich für Nkandabwe gemacht haben. Mit guten Wünschen für Ihre Arbeit und einem freundlichen Gruß bin ich

Ihr

(Dieter Hecker)
Direktor

Anlage: Antrag von Herrn Halupepe, Projekt-Koordinator GSDP, Zambia

Kanchindu, 28. 3. 1983

To all members of Nkandabbwe Credit Union

Dear Members of Nkandabbwe Credit Union,

hereby I wish to inform you that a meeting for all members of Nkandabbwe Credit Union will be held on the 16th April 1983 at the office of Nkandabbwe Irrigation Scheme, starting at 8 hours.

All members of Nkandabbwe Credit Union are requested to come, as we shall discuss the future of this society. Since I am working with cooperatives in the Gwembe South Development Project (GSDP) I tried to arrange for meetings with this Credit Union but this failed most of the times due to members not attending to the meetings.

This meeting is the last chance for Nkandabbwe Credit Union to get my attention. If it fails again I am not prepared to go on working with this society. Members who are still interested may then join Sinazeze Credit Union.

If you are still interested in your society you should show this this not only in the meeting on the 16th April but also in the following ones.

I hope very much to see you on the 16th April at the Irrigation Office,

ours faithfully

(Ingrid Fuchs, GSDP
cooperative extension Officer)

cc. Nkandabbwe Credit Union members
GSDP staff
DICO
CUSA Regional Office

Minutes of the sub-committee held on 10th Feb. 83 at
Hkanda-bwe Camp.

Attendances: S. Moale, H. Fuchs, A. Sprang (secretary) P. Wendt

Apologies: Mr. Mutinta.

The task of the sub-committee was to find out development to make sure that the Irrigations will have sufficient water through out the year, even when the rain is poor like this year.

- 1.) It was stated that we have the possibility of extending the existing piping system in the way, that a new pump station will ensure a water supply over the year. Also the power of the diesel engine had to increase. Some data were listed down with the sense to send them to A.F.E. for consideration on the needed equipment.

It was expressed that any development in the way it was discussed will increase the costs and hinder the efficiency of the irrigations.

- 2.) Therefore a second idea was discussed. The proposal of drilling boreholes just at the existing pumping stations. The advantages will be, that the piping had not to be extended, the lake level is not anymore important because the depth of the hole will be all ways under level. The only expenditure would be the drilling and the machinery for Siatwinda. In Salima the right pumps are already there.

This proposals were made for consideration of an expert and later on for pricing by A.F.E.

Secretary

Chairman

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GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

7.3.1987.

Gossner Mission,
Erhard Mische,
Handjerystrasse 19.29,
1000 Berlin 41,
West-Germany.

Dear Erhard,

Enclosed you find a first draft of proposals for small scale activities support programme, drawn-up during the last teammeeting on the fifth of March, which will be discussed during the meeting of the sub-committee GRZ/GST on the 16th March 1987. We all had some difficulties with the term "managing director", but we thought advisor for the first phase not strong enough. As soon as possible we should try to change this.

At the end of the proposal you can get an impression, what type of person to run such a programme is necessary. If you can agree with this first draft, which has to be discussed with the GSB, you may be able to look out for such a person already, or make it known to certain organisations, what type of person we are looking for.

Greetings,

Sietske
Sietske.

PROPOSALS FOR SMALL-SCALE ACTIVITIES SUPPORT PROGRAMME WITHIN G.S.D.P.

1. History of proposed programme

1.1 Over the past fifteen years the GST and GSDP have recognized the need for skilled builders and building supplies to be available in Gwembe South.

1.2 For a number of years the Gwembe South Builders Cooperative addressed this need in the area, but the management of such an institution must now be recognized as too complex for the members.

1.3 In response to the need for skilled labour and materials and the concern for the individuals who have been linked with the Gwembe South Builders Cooperative, a new programme will be introduced.

1.4 The presence in the area of persons who are skilled and semi-skilled but with low education standings suggests the need for an apprenticeship type of 'on-the-job' training programme.

2. Three Phase Programme

2.1 It is proposed that the new programme be initiated in three phases over three years:

2.1.1. Phase I - Experimental Phase

2.1.2. Phase II - Preparation Phase

2.1.3. Phase III - Implementation Phase or Dissolution

3. Goals of the Small-Scale Activities Support Programme

3.1 To encourage and support persons to work with skills to use these within Gwembe South

3.2 To provide opportunity for skilled persons to generate their own income from their skills

3.3 To establish self-sustaining independent businesses and small industries within the area

3.4 To provide training and resources for individuals and groups which qualify to enter the support programme

3.5 To manufacture locally made products and materials to be sold locally

3.6 To promote circulation of money within the area.

3.7 To establish a self-sustaining institution for the training and support of small businesses and industries in the area

3.8 To introduce a support programme for small-scale activities in three phases over a three year period.

4. Phase I - Experimental Phase

4.1 Objectives:

4. Phase I - Experimental Phase

4.1 Objectives:

4.1.1 to initiate a new programme under Mr. Walter Heinelt of the Gossner Service Team for people who have been linked with Gwembe South Builders Cooperative.

4.1.2 to receive written applications from individuals or groups who have been linked with GSB who want to start small-scale businesses or industries in the Silazongwe area.

4.1.3 under the terms of a contract agreement to develop and implement a training programme for each skilled person or group with the objective of each becoming a self-sufficient small-scale business.

4.1.4 to provide support such as transport, capital, tools and facilities under the terms of a contract agreement for each small-scale activity accepted into the programme.

4.1.5 to investigate possible organizational structures for such a support programme enabling it to be self-sustaining e.g. cooperative, non-profit society.

4.1.6 to evaluate the process and results of the first participants within the programme and to modify the programme where needed.

4.1.7 to assess the location and nature of a central facility.

4.1.8 to prepare a budget for phase II based on the experiences of Phase one.

4.1.9 to establish an advisory board for the screening of applicants.

4.1.10 to find a name for the programme.

4.2 Time period: Phase I would begin in March 1987 at the disbanding of Gwembe South Builders and would continue until December 1987 when Mr. Heinelt concludes his contract with G.S.T.

4.3 Initial Structure: At the beginning the structure would be quite loose providing room for experimentation. Funding would come from Gossner Mission and be administered by the Gossner Service Team. The managing director would be a member of the Gossner Service Team. An advisory board would initially be responsible for the screening of applicants along with the managing director. The programme would come under the umbrella of the Gwembe South Development Project and therefore would be responsible to that body for reports and direction.

4.4. Advisory Board: Initially the function of the advisory board would be to screen applicants who wish to enter the programme. Membership should include the GSDP Coordinator, the GST chairperson, the GST managing-director of the programme and other persons who may be co-opted onto the board due to the specific nature of the applicants under review.

4.5 Application Procedure:

4.5.1 Written applications are presented by interested candidates to the managing director.

4.5.2 An assessment form will be completed by the GST advisor to the programme

4.5.3 A financial report will be prepared on the economic viability of the proposed business

4.5.4 The advisory board will accept or reject the applicant based on the assessment form, the financial report and an interview session with the applicant

4.5.5 A contract will be prepared between the GST and the accepted applicant and then signed by both parties

4.5.6 As much as possible each applicant will be encouraged to include a school-leaver as an apprentice in the new business activity

4.6 Assessment Form: The following form is suggested to be used for the initial assessment of the viability of the applicant and to identify the specific level at which training must begin. The form must then be used every six months as an evaluation of each activity. Evidence of progress is necessary every six months or the participant will be asked to leave the programme

4.6.1 The assessment form will evaluate the applicants according to their ability in various skills and according to their resources, potential and attitudes. The assessment will indicate the applicant to be very poor, poor, fair, good or excellent under each item

- (a) Mathematical ability:
 - addition and subtraction
 - multiplication and division
 - writing numbers
 - counting money
 - making measurements
- (b) Literacy:
 - spoken English
 - reading ability
 - writing ability
- (c) Skilled Ability:
 - quality of workmanship
 - handling and use of tools
 - care of tools
 - use of raw materials
 - previous experience
- (d) Business Potential:
 - available market for product
 - availability of materials and supplies
 - tools
 - capital
 - experience in business
 - location of business
 - facilities, building
- (e) Attitudes:
 - willingness to learn
 - ability to work with others
 - personal initiative
 - trust within the group/group loyalty
- (f) Assistance needed from the programme: (indicate specific details)
 - money
 - facilities
 - tools
 - transport
 - materials
- (g) Repayment plan: (indicate viability of repayment through the income generated by the small-scale activity.

5. Phase II - Preparation Phase

5.1 Objectives:

5.1.1 to introduce a new GST member as managing director. During this time he would visit similar projects in North Western and Eastern Provinces

5.1.2 to confirm and consolidate the programme plans and procedures based on data gathered in Phase I

5.1.3 to continue the programme using a flexible approach and structure allowing for refinements and modifications

5.1.4 to define the role, responsibilities and membership of the advisory board

5.1.5 By the end of Phase II specific decisions regarding organizational structure, building facilities and financial base should be established

5.1.6 by the end of Phase II a constitution should be written and the new institution registered legally OR the decision should be made for the programme to be discontinued

5.1.7 to investigate other areas of Gwembe South where there is need for support for all-scale activities and to extend the programme into these areas

5.2 Time Period: Phase II would preferably begin during the overlap period before Mr. Heinelt leaves and after the new GST member arrives. It would continue for two years into the three year contract of the new team member.

6. Phase II - Implementation Phase OR suspension of the programme

6.1 Objectives: To implement the programme which has a definite constitution, structure and procedure. And to engage a Zambian counterpart for the GST member with a view to total Zambianization of a self-sustaining support programme.

6.2 Time period: The final year of the GST team members' contract should see the programme operating in a clearly defined way. Preparation should be made well in advance for the employment of another GST advisor to the programme. That advisor should be accompanied by a Zambian counterpart from the beginning of his contract.

7. Qualifications for GST member to replace Mr. Heinelt as managing director of proposed support programme for small-scale activities:

7.1 wide range of practical skills e.g. joinery, bricklaying

7.2 business and management skills for small business e.g. costing, bookkeeping

7.3 a trainer able to develop adult education programmes for individuals and groups specific to each participant in the programme

7.4 ability to prepare written evaluation of the financial, material and human (manpower) potential of small-scale activities

7.5 good communication skills working with people in groups and one-to-one, particularly working with people with low education and poor English. He must be fluent in English and willing to learn ciTonga

7.6 ability to do and teach basic calculations required for specific skills e.g. joinery, concrete block production

7.7 be an independant creative person capable of initiating a new programme

7.8 educational requirement: techniker (German standard); with practical skills experience and training and a meister (teacher or trainer).

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Dryland
Farming

GSDFP-DRYLAND FARMING PROGRAMME

Mweemba Area

Time-Table for May and June 1983

date	time	place	subject
6.5.	8.00	Kanyemba, Siabaswi, Sinakoba, Sulwegonde, Sinakumbi, Sinakodobbo, Mweela, Mueckwa	Information to headmen and teachers about the Dryland Farming Programme-time-table
9.5.	8.30	Mueckwa	interploughing, Croprotation
11.5.	8.30	Mweela	" "
13.5.	8.30	Sinakodobbo	" "
16.5.	8.30	Sinakoba	" "
18.5.	8.30	Sulwegonde	" "
20.5.	8.00	Sinakumbi	" "
23.5.	9.00	Siabaswi	" "
27.5.	9.00	Kanyemba	" "
6.6.	6.00	Kafwambila, Siampondo, Nyanzovu, Syawaza, Nyanga, Dengeza, Muuka, Mweemba	Information to ward-chairman, headmen, teachers about the Dryland Farming Programme- time-table
10.6.	9.00	Mweemba	Winter Ploughing, Crop Rotation
13.6.	8.30	Muuka	" " " "
15.6.	8.00	Dengeza	" " " "
17.6.	8.00	Nyanga	" " " "
21.6.	7.00	Syawaza +	" " " "
22.6.		Nyanzovu +	" " " "
23.6.		Siampondo +	" " " "
24.6.		Kafwambila +	" " " "

Please let me know one week in advance if you want to join,
except + (= not possible!).

Kanchindu, 23.4.1983

Hans Fuchs, GSDFP officer i/c Dryland Farming

cc: Sen. Chief Mweemba, Kanchindu
ADAO Sinazongwe, Sinazeze
GSDFP Co-ordinator and Staff, Mkandabbwe
SAA Mr. L. Mumbula, Kanchindu
AA Mr. D. Mutinta, Syatwiinda
CD Mr. Munsaka, Sulwegonde
CD Mr. Mkachibovu, Maamba

curriculum for the

GSDP - DRYLAND FARMING PROGRAMME

(in Sen. Chief Mweemba's Area)

month	agricultural staff	GSDP-officer
July-Aug.	Farm-Preparation: - fields - equipments, spareparts - seeds, fertilizer - plant-protective agents	Soil-Conservation: Wind - Erosion
Sept.-Oct.	L I M A	Tillage (in general) Manure
Nov.-Dec.	Sowing Planting Fertilization (basal)	Nutrition of Plants
Jan.-Febr.	Fertilization (top dressing) Weeding Dusting	Soil-Conservation: Water - Erosion
March - April	Harvesting Drying Storage	Tillage (specially) - Ploughing - Winter Ploughing
May-June	Crop Rotation	Animal Husbandry

Zambia

DRYLAND FARMING

Workplan for the next five years

Proposal of the GSDP-officer i/c

Senior Chief Mweemba Area and Chief Sinazongwe Area

In the GSDP are two agriculturalists each one responsible for one Chief's area. There are also some agricultural advisors (AA) in each Chief's area.

The GSDP agriculturalist (officer) responsible for the area should go with the AA responsible for certain villages to one of these villages to teach about LIMA-Programme, animal husbandry, erosion control, fruit trees, vegetable gardens, hand-pump gardens ect. In the village he can see the special problems of this particular place and advise the villagers on the building of simple wells, pit latrines, grain stores, dams ect. on self help basis.

The officer and one AA should go to 3 different villages every week. After 8 weeks time they do the follow-up together or alone or with other officers of the GSDP depending on special problems of this village or time or transport ect.

This follow-up should be done every 8 weeks all together 6 times. That means the village will be looked after for one year or one full DRYLAND FARMING SEASON. In this way the officer can manage to care for 24 villages every year.

In Senior Chief Mweemba's area are 80 villages with an average population of 300 people or 42 families (excluding Maamba township) +)

In Chief Sinazongwe's area are 90 villages with an average population of 320 people or 45 families. +)

So it will take about 4 years to reach all villages. Beginning in 1984 (1982 and 83 we are still doing the GSDP-LIMA-Programme) this Dryland Farming Programme will run until 1987.

*) Since I do not have the new census, I took this figures out of the "REPORT ON THE DEVELOPMENT POSSIBILITIES OF GWEMBE SOUTH REGION (ZAMBIA) part C" - Helth. The increase of the population the number of families I calculated with 2,8 % (figur out of the same report).

Chief Sinazongwe's area:

1971: 22 000 inhabitants in 90 villages = Ø 240 inhabitants or 34 families per village
1981: 29 000 inhabitants in 90 villages = Ø 320 inhabitants or 45 families per village

Senior Chief Mweemba's area (excluding Maamba township):

1971: 17 850 inh. in 80 villages = Ø 225 inh. or 31 families/village
1981: 23 500 " " 80 " = Ø 295 " " 41 " / "

Some arguments for the Dryland Farming Programme compared to the GSDP-LIMA-Programme:

Learning by doing
Learning in the own village
Learning on the own field *(both men)*
We will reach all the farmers ~~and the~~ women
We will see all the special problems of each village
All GSDP-officers can come in with their programmes:
 food and nutrition, community dev., night school,
 water dev., black smith, health, work with youth ect.

There will be no seminar costs
 no feeding costs of seminar participants
 no subsistence allowances
 no transport costs - farmers to the FTC
 - lecturers to mobile co
 courses

The only costs we shall have are the km-allowances for the members of the GST and costs for education aids.

Example for one chief's area:

the responsible officer goes with AA ... to village No.

1. week:	A	1
	B	2
	C	3
2. week:	A	4
	B	5
	C	6
3. week:	A	7
	B	8
	C	9
4. week:	A	10
	B	11
	C	12
5. week:	A	13
	B	14
	C	15
6. week:	A	16
	B	17
	C	18
7. week:	A	19
	B	20
	C	21
8. week:	A	22
	B	23
	C	24
9. week:	A	1
	B	2
	C	3

or the officer or the AA goes alone according to arrangements to do the follow-up.

17. April 1982

Hans Fuchs
Hans Fuchs
GSDP-officer i/c Dryland Farming

GWEMBE SOUTH DEVELOPMENT PROJECT

Dryland Farming Programme 1982 for Senior Chief Mweemba's Area

I would like to inform you about the GSDP-Dryland Farming Programme. This programme was agreed upon by Senior Chief Mweemba, the DAO Gwembe, the DES Sinazongwe and the ADAO Sinazongwe.

The GSDP agriculturalist Mr. Hans Fuchs (Gossner Service Team-Kanchindu) shall go with one AA responsible for certain villages to one of his villages to teach about Lima-Programme, animal husbandry, erosion control, fruit trees, vegetable gardens, handpump gardens ect. for one day.

After 8 weeks they will come to the same village to continue the teaching. This will be done every 8 weeks for the period of one year. The AA should write a report about each teaching day to his officer in charge. The GSDP officer will write reports according to the GSDP regulations.

The first villages:

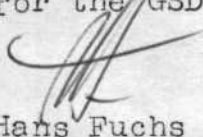
AA Mr. Mumbula	- Kanyemba	- Siabaswi
AA Mr. Mutinta	- Simankawa	- Mweemba
AA Mr. Munsaka	- Sinakoba	- Sulwegonde
AA Mr. Sdachibovu	- Mwela	- Siankodobbo

Time Table for 1982

Kanyemba:	14.7.82 -	20.10.82	- 15.12.82
Siabaswi:	11.8.82 -	17.11.82	- 19. 1.83
Simankawa:	21.7.82 -	27.10.82	- 22.12.82
Mweemba:	18.8.82 -	24.11.82	- 26. 1.83
Sinakoba:	28.7.82 -	3.11.82	- 5. 1.83
Sulwegonde:	25.8.82 -	1.12.82	- 2. 2.83
Mwela:	4.8.82 -	10.11.82	- 12. 1.83
Siankodobbo:	1.9.82 -	8.12.82	- 9.2. 83

In January, 1983 we should sit together and talk about continuation and perhaps extension of the programme.

Kanchindu, 10.7.82
for the GSDP



Hans Fuchs
GSDP Officer i/c Dryland Farming

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Seeds
Programme

Finanzen

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

13.06.1988.

STATEMENT ABOUT SPENDITURE ON SEEDPROGRAMME IN GWEMBE DISTRICT
BY NON-GOVERNMENT ORGANISATIONS (during the 1987-1988 season).
SPONSORED BY EEC, (coordinated by Gossner Mission, Lusaka Office)

Received from EEC to start the programme	K 100,000.--
1. Paid for Gwembe North to Z/seed	K 48,445.-- (1)
2. Paid for Gwembe Central to Z/Co	- 36,440.-- (2)
	- 364.40
3. Paid for Gwembe South to Z/seed	- 51,442.-- (3)
" " " " to Z/Co	- 29,000.-- (4)
" " " " to Z/Co	- 7,764.-- (5)
" " " " to Z/seed	- 16,800.-- (6)
" " " " to Z/seed	- 357.90 (7)
" " " " to GTZ Kabompo	
for Bambara nuts	- 1,032.-- (8)
4. G/nuts invoice no. 223	- 14,400.-- (9)
G/nuts invoice no. 237	- 14,400.-- (10)
Total spend on seeds	K 220,445.30
5. Overhead costs:	
Gwembe Central transport	- 700.-- (11)
Gwembe South (see statement)	- 9,957.40 (12)
6. Vegetable seeds for irrigation	
season 1988	- 9,364.50
Total spenditure for seedprogramme '87/'88	- 240,467.20
Still to be claimed from EEC	K 140,467.20

7. Zamseed delivered on 48,445.-- (1)	7,600.-- (1a)
	4,600.-- (1b)
	20,739.-- (1c)
	<u>15,501.90 (1d)</u>
	48,440.90
Balance left on no.1	4.10
Zamseed delivered on 51.442.-- (3)	34,317.-- (3a)
	<u>15,900.-- (3b)</u>
	50,217.--
Balance left on no.3	1,225.--
Total outstanding on 30.4.'88	
	1,225.-- + 4.10 = 1,229.10
Bought vegetable seeds inv.23416	<u>1,587.00</u>
Extra paid	357.90 (see no. 7)

8. Returns from sales so far:

Gwembe North: statement not yet received

Gwembe Central: K 11,000.-- (30.04.1988)

Gwembe South: K 30,165.-- (31.01.1988)

9. Outstanding with Zatco - Monze:

Paid but not delivered K 27,724.-- (14)Total outstanding for next season K 27,724.--Reasons why seeds were paid and not delivered:

- Zatco - Monze promised to get the seeds from other resources but deposit had to be made.

10. Revolving fund:

All three area's would like to use returns from sales, which are coming in gradually, as a revolving fund to purchase seeds for the next planting season, since orders have to be placed to Zamseed before end of June and funds have to be deposited there. This has to be coordinated again by Gossner Mission Liaison Office Lusaka.

11. Organisations involved in distribution of seeds:

Gwembe North : Zambezi Valley Agricultural Mission

Gwembe Central: Roman Catholic Mission - Fumbo

Gwembe Central Selfhelp Project (Gossner Mission - UCZ)

Gwembe South : Gossner Mission through Gwembe South Development Project.

Reported by:

S.C. Krisifoe

Gossner Mission Representative

REPORT FORMAT ON GSDP
BOX 3,
SINAZEZE

DATE: 30/01/88

1. NAME OF PROGRAMME SEED PROGRAMME
2. NAME OF OFFICER INCHARGE Mr. Jameson B. Syangandu
3. DATE OF REPORT 04-02-88
4. WORK DONE Budget preparation for Vegetable seeds for Irrigation Scheme was done at Syafwinda. Mage co-op I collected the sum of K2,894.50
Sinanyola I collected the sum of K4,632.00
Sikeneka I collected the sum of K2,719.50
B/malinc. I collected the sum of K 800.00
TOTAL 8,046.00

5. ACHIEVEMENTS MADE

6. CONSTRAINTS Nkandabbe Seed programme store room
it was observed that one day the door was found
open in the morning by the watchman, it was
reported to me. When I checked the seeds I found
that 20 pkts of mmr400 and 12 pkts of mm500 was
stolen by somebody not known.
On the new groundnuts seeds the business is
going on slowly people complain to say the
price is high

/2.....

7. PROPOSALS HOW TO SOLVE CONTRAINTS At nkandabho seed

a programme store room is to change the rock
and put new one (may be some body is
having another key around the camp or in
the camp here.)

8. PLAN FOR NEXT MONTH Collecting money from all
places and depts.

9. SIGNATURE OF REPORTING OFFICER (KG ka)

10x

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT
GWEMBE SOUTH DEVELOPMENT PROJECT



Final Report
SEED PROGRAMME
1985 - 1986 - 1987

by.

Ursula Gröhn-Wittern
SEED PROGRAMME CO - ORDINATOR
GOSSNER SERVICE TEAM

DECEMBER, 1987

1. INTRODUCTION

The following report covers three growing seasons namely the 1985/86, 1986/87, and 1987/88 season. It gives information on the activities carried out under this programme and what efforts were made to meet the overall objective of the programme : to overcome the general shortage of seed in the project area.

2. GSDP SEED PROGRAMME

The seed programme of the Gwembe South Development Project (see App. 5+6) was initiated in 1984 as a result of the following observations:

- local farmers had no easy access to appropriate maize, sorghum, groundnuts and other seeds and therefore could not follow the recommendations given by the extension service.
- that the supply of seeds through SPCMU (Southern Province Central Marketing Union) was unreliable and usually came too late for early planting
- that the size of the bags of seeds sold at the depots was too large for the local farmers' need.

Further, a programme like this was proposed by Thayer Scudder in his 1982 evaluation of the project and in CUSO's 1984 report. It was also obvious that Siatwiinda Irrigation Scheme offered a good potential for seed multiplication especially of rice seed.

As a result one expatriate was send out by Gossner Mission, West Germany to join the staff of the Gwembe South Development Project and to find out on what scale a see programme could be carried out that would solve the above mentioned problems in such a way that the programme could as soon as possible be independent of expatriate staff.

It was agreed that the programme should have three components:

1. Seed distribution: Seeds of appropriate varieties of maize, sorghum, millet a.s.o will be distributed and sold through local agents in about 20 village in the project area of Gwembe South. This will be done by involving existing selfhelp organizations and local churches.
2. Seed multiplication: Siatwiinda Irrigation Scheme farmers will be encouraged to grow rice seed for ZAMSEED and the possibilities for local production of other seeds will be investigated.

3. Education: Farmers, extension staff and organizations will be educated on the advantages of the use of proper seed the characteristics of different varieties and related matters.

The funding of this programme is entirely by Gossner Mission contributions (see appendix 1) and will continue after the expatriate has left provided the programme is still operational.

Scudder, Colson, Scudder : An Evaluation of the Gwembe South Development Project 1982, (page 26)

CUSO-Zambia : Gwembe South Rural Development Programme -
A Project Proposal 1984 (page 17)

/3.... cont....d

3. SEED DISTRIBUTION

3.1 Characteristics of the Varieties distributed

Introduction: Under the agricultural and climatic conditions of Gwembe Valley there are some special characteristics which appropriate varieties should have. In order to minimize the risk of a total crop failure a farmer should grow a crop

- that is drought tolerant
- short maturing
- tolerant to poor management practices
- stores well

The seed programme tried to supply the farmers with varieties that are produced in Zambia and which meet these requirements as closely as possible.

Generally, there is a tendency among farmers to favour maize to sorghum and millet, Hybrid maize to open pollinating maize, groundnuts to Bambara nut and cowpea. Those farmers might be lucky in a good year but on the average a farmer planting adapted crops will be safer. Under Valley conditions the main aim can not be a high yield by chance but priority must be given to achieve a secure yield even under poor conditions because the overall objective must be to provide enough food for the family.

It is not realistic to compare a small scale farmer's yield with that of a commercial mechanized farmer on the plateau. It is to be hoped that this is made clear especially to extension workers who very often are not trained in advising subsistence farm families. The following varieties were distributed by the programme :

UGANDI and WCC - 75 Pearl millet

sowing: Nov. to mid Dec. or as per local practice (dry planting)
before the rains

spacing: 2 rows per metre

weeding: keep clean by hand or oxen

yield: 800 - 2000 kg / ha 2 - 5 bags per Lima

Ugandi is a bristled variety, WCC - 75 is not bristled. Some reports say that birds do not attack Ugandi as much as unbristled varieties because they try to avoid the bristles.

Sorghum - ZSV 1

Zambian Sorghum Variety 1 is a white seeded hybrid which is relatively drought tolerant. It is good for food and feed and needs about 115 125 days to maturity but under drought conditions will mature even faster. It does not store well and is susceptible to birds. Grain yields are 3 to 6 tonnes depending on management.

Sorghum - Red Framida

Red Framida is a brown seeded variety most suitable for brewing. It is not very drought resistant and tends to need longer to mature under dry conditions. Normally it needs about 100 -110 days. It is susceptible to leaf blight but resistant to striga. Yields are between 2.5 and 4 tonnes.

Natal Common

This variety is a small seeded groundnut suitable for dry areas (110 - 120 days to maturity). It should be planted mid. Nov. to early Dec. Ridging should be done on compact soils to ensure that the pegs can penetrate the soil. Yields are between 1.0 and 1.5 tonnes.

Bambara Groundnuts

There are no varieties only local types. They should be planted with the first rains (vegetation period 140 - 160 days) and ridging will help the pegs to penetrate the soil specially on hard soils. Bambara nuts are very successful in intercropping with maize, sorghum or millet and give the highest yield of all legumes. They are very tolerant to acidic soils and do not need liming to reduce pops.

The seedrate is 25-35 kg per lima and yields are 0.7 - 0.8 tonnes/ha in pure stands without fertilizer and 12 - 14 tonnes of shelled nuts when intercropped with basal dressing (50 kg x compound per lima).

Cowpea

This traditional crop is very tolerant to drought and fairly tolerant to soil acidity. Cowpea have a very high protein content and a good amount of calcium and iron.

The leaves and the green pods are eaten as relish.

Cowpea matures in 110 - 130 days and should be planted with the first good rains in November. Planting distance is 100 x 10 cm and the seedrate 5 kg per lima.

About 360kg can be harvested from a Lima.

Seeds will germinate even after 3 - 4 years.

Maize varieties

MMV 400

This is a very early maturing open pollinated variety - 90 to 100 days which has been found highly suitable for planting in the low rainfall areas including the Zambezi and Luangwa Valleys.

Characteristics

- the variety is short with good drought tolerance.
- the kernels are white and hard
- MMV 400 has moderate resistance to root lodging and cob rot whilst it is susceptible to blight and streak virus.
- the variety has fair resistance stalk breakage and rust.

Recommendations

- the variety is recommended for use in low level cash input farming situations.
- because it is a small variety, it can tolerate plant populations of more than 50,000 per hectare especially if the conditions are suitable.

MMV 504:

This is a medium to early three way cross hybrid about 5 to 8 days earlier than MM 502. It is suitable for both small and commercial farmers in dry areas and also in normal growing areas where late planting occurs. In dry areas the density should not be exceed 42,000 plants/ha, while under normal conditions it should be at least 50,000 plants/ha. The average yield capacity is about 6.5t/ha or 18 x 90 kg bags/lima. MM 504 is moderately susceptible to steak and cob rot.

R 201

R 201 is a three way cross white dent hybrid which matures in about 142 days and is closely similar to the three-way hybrid MM 504 in several of its attributes.

Characteristics

- the variety carries single cobs but has high shelling percentage of about 90%.
- R 201 is tolerant to heat stress.
- during pollen to silk synchronization, this variety stretches out to about 18 days pollen shed period. This way, it would stabilize yields well in the event of tolerable drought at flowering time.
- at a yield level of up to five tonnes, it is a low but highly consistent yielder.
- the plants are short.
- It is susceptible to leaf blight and cob diseases in wet seasons.

Recommendations

- a plant population of 50,000 per hectare and above is recommended especially under conditions of low stress.
- because of its moderate resistance to leaf blight and cob diseases, it is not recommended in areas of high rainfall.
- standard management practices for maize production.
- a first choice variety in the low rainfall areas (Zone 1) or in other drought prone areas.

(an extract of an article from the Marketing Dept. of Zamseed July, 1987)

(see appendix No. 2)

Zamseed suggests the following distribution :

Zone 1 : is the high rainfall area (over 1000 mm) including N, NW, C'Belt, Luapula and parts of Central Province.

MM 752, MM 606, MMV 600

Zone 2 : is the intermediate rainfall area (between 1,000 and 800 mm) including most of Eastern, Central, Luapula, Lusaka, and Western Provinces. The northern part of the Zone is similar to Zone 1 and the southern part similar to Zone 3.

MM 752, MM 601, MM 604, MM 606

Zone 3 : is the low rainfall, drought prone Zambezi and Luangwa Valley plus parts of Western Province.

MM 504, MMV 400

3.2 Involvement of local Organizations in the Programme

As can be seen on table 1 three organizations took over more and more selling places each year. It is hoped that Maaze Co-op. and VSP can carry out the programme after the expatriate advisor has left. This would be a chance for the programme to continue and is in line with Gossner Mission policy of zambianization.

procedure (see appendix 5 + 6)

Gossner Mission holds a wholesale licence from ZAMSEED and buys seeds which are then given to VSP and Maaze Coop on credit. These two organizations do the packing, selling and distribution on their own. The same applies to Maamba Catholic Church selling through her own agents.

/7... cont...d

Table 1 : list of villages where seeds were sold and the organization responsible from 1985 to 1987

SP = Seed programme
VSP= Valley Selfhelp Promotion Society
MC = Maaze Consumers Cooperative
M = Maamba Catholic Chruch

	<u>1985/86</u>	<u>1986/87</u>	<u>1987/88</u>
Nkandabbwe	VSP	VSP	VSP
Siameja	SP	VSP	VSP
Dengeza	SP	VSP	VSP
Nyanga	SP	VSP	VSP
Kafwambila	VSP	VSP	VSP
Siampondo	-	VSP	VSP
Siabaswi	SP	MC	MC
Muuka	SP	MC	MC
Sinakoba	SP	SP/M	MC
Siatwiinda	SP	SP	SP
Sikaneka	SP	SP	SP
B/malima	SP	SP	SP
Sinanjola	SP	SP	SP
Sinazongwe	SP	SP	SP
Chiyabi	SP	SP	SP
Nambisya	SP	SP	SP
Maamba	M	M	M
Sinakumbi	SP	M	M
Sulwegonde	SP	M	M
<u>Gwembe Central</u>			
Munyumbwe	SP	-	-
Lukonde sch.	SP	-	-
Syamuyala sch.	SP	-	-

Since there has been a great demand for seeds in Gwembe Central but the project can not serve that area, Monze Diocese received seeds worth K 4800.00 from the project for distribution in Gwembe Central in 1986/87. In 1987/88 no such arrangement was made but funds for Monze were secured out of EEC famine relief programme. The lot of groundnut the programme received in 1986 was ordered together with Monze Diocese. This co-operation has been most fruitful.

In future it will be important that local organizations place their orders of seeds through Gossner Mission in time so that arrangements can be made every year.

3.3 The packing of seeds

For the small scale farmers it is not possible and not necessary to buy large quantities of seeds. He might just need 2 to 6 kg of maize or one kgi of sorghum.

Such small packages are not available through SPCMU which supplies 50kg bags and sometimes 10kg pockets.

The Seed Programme offered the farmer the opportunities to buy 2kg packs of maize, one kg packets of sorghum, groundnut, Bambaranut and $\frac{1}{2}$ kg packets of pearlmillet.

Table 2: price list for 1985 to 1987

Variety		1985/86	1986/87	1987/88
MMV 400	2 kg	K 3.50	K 6.00	K 9.50
	10 kg	K17.50	K29.10	K47.50
MM 504	2 kg	-	K 6.50	K 7.50
	10 kg	-	K32.50	-
CG 4141	2.5 kg	K 5.50	-	-
Red Framida	1 kg	K 1.50	K 1.70	K 1.70
ZSVI	1 kg	K 1.50	-	-
Pearlmillet	1 kg	K 1.50	-	-
	$\frac{1}{2}$ kg	-	K 1.00	K 1.00
Groundnut	1 kg	K 3.80	K10.50 $\emptyset$	K 5.00 $\emptyset$
Cowpea	1 kg	-	K 4.50	K 3.00 $\emptyset$
Bambara nut	1 kg	-	K 3.50	K 4.00

$\emptyset$ price subsidized by the programme

The packing was done by hired labour and part of the success of the programme was definitely due to this extra service.

It must be noted though that according to the law the repacking of seed (certified seed) is not legal since the originally sealed ZAMSEED bag provides the buyer with the guarantee that the seed is pure, tested and will germinate well. If the buyer then has got any complaint he can turn to ZAMSEED. This is not so if the seed was handled by a third party and packed.

Presently, we can speak of an emergency situation in the Gwembe Valley which justifies any action which fights hunger. When ZAMSEED and SPCMU will one day supply the area with small pockets in appropriate numbers this problem will be solved.

3.4 Seeds distributed

1985/1986 : 750 kg CG 4141
4120 kg MMV 400
750 kg ZSV 1 and Red Framida
360 kg pearlmillet
180 kg groundnut (Natal Common)

remarks : After the introduction of the new MMV 400 variety the ~~people~~ previous year farmers generally accepted it well though they were still asking for their "Zimbabwe seeds" CG 4141 which was still available out of last years crop and would not be available again. The pearlmillet was of an unknown variety and bought from a farmer near Livingstone. Its seed were considerably larger than the local types. This was done because there was no pearlmillet seed available on the seed market.

The groundnuts were given by Mount Makulu Research Station out of their trials.

1986/87 : 9110 kg MMV 400
5420 kg MM 504
200 kg cowpea
300 kg Red Framida
70 kg Ugandi (pearlmillet)
240 kg Bambaranut
3000 kg Natal Common
160 kg rice Kalembwe
1480 kg potato

remarks : In the 1986/87 season Maaze Coop served Siabaswi and Muuka and VSP served Nkandabbwe, Siampondo, Kafwambila, Siameja, Nyanga and Dengeza. It was an important step that these organizations took over responsibility.

The groundnut seed was ordered from South Africa together with the Monze Diocese at very high costs. Because of the importance of this crop the Seed Programme subsidized the price by $\frac{1}{3}$ of the original cost. But since this season was a very dry one, farmers hesitated to buy groundnut seed. At the end of the season the seed was collected again and treated with insecticide and stored for the coming season.

For various reasons farmers did not buy the cowpea in any depot. Two reasons were that many did not know what they were and that the rains were bad which is very unfortunate because this crop would have given them something even under these unfavourable conditions. Farmers should be encouraged to grow this very drought resistant crop by the extension workers.

40kg of the Ugandi pearlmillet was produced by farmers around Kanchindu who had been growing the variety out of seed received in 1984. The other 30kg came from Mount Makulu.

The Bambaranuts were bought from the GTZ project in Kabompo since it was not possible to buy this crop in bulk.

The seed potato were intended for Siatwiinda Irrigation farmers who were given the seed on credit basis. The crop did very well. The rice seed bought for Siatwiinda was not planted. This is very unfortunate after the good start they had made before.

1987/88 : 7000 kg MMV 400
1650 kg MM 504
5450 kg R 201
1760 kg Natal Common
464 kg Bambara nut
60 kg cowpea
120 kg Ugandi and W cc 75 pearlmillet

remarks: Zambia's seed growing season 86/87 was a bad one so the country had to import seed from Zimbabwe. This is the reason for the appearance for R 201. It is similar to MM 504.

The Natal Common and cowpea were out of the unsold seed from the previous year. A test for germination was done at Mount Makulu and showed that the seed was still good.

The Bambaranut came from Kabompo again and were very much in demand.

3.5 Vegetable seeds for Irrigation Schemes

The Seed Programme sold seeds at Siatwiinda, Buleya Malima and Nkandabbwe Irrigation Schemes, Maaze Consumers Coop and Kanchindu clinic.

Siatwiinda Irrigation : Seed were sold by the Seed Programme Assistant to the farmers of the scheme and to local farmers for their river gardens. The seeds were sold by the spoon.

There is a great demand from outside people too. Some even come from Maamba because it is the only place where vegetable seeds can be bought. It must be said though that there is a considerable waste of vegetable seed through wasteful horticultural practices in the nurseries and during transplanting.

The programme coordinator tried to encourage farmers to grow a number of new crops by supplying the seeds in order to diversify the cropping pattern which at present consists mainly of tomato, onion and cabbage.

The introduction of Irish potatoe was a big success for the farmers while other new vegetables were tried out rather reluctantly. Carrots was the only other crop that was picked up and hopefully will be grown on a larger scale in the coming seasons.

While leek, eggplant and green pepper would also do well farmers do not accept these readily. This educational challenge must be taken up year after year because a wider variety of crops will minimize marketing and rotational problems.

Nkandabbwe Irrigation : The programme co-ordinator encouraged the farmers through the extension officer to submit their seed requirements but they never did. Instead one of the farmers started selling seeds on his own.

Buleya Malima Irrigation : The scheme received vegetable seeds which were sold by the AA of the scheme. Demand was considerably smaller than at Siatwiinda.

Kanchindu clinic and Maaze Coop : Vegetable seeds in small packs were sold at both places.

4. SEED MULTIPLICATION

4.1. Seed Production in Zambia

Good seed from which to grow a crop is one of the most important prerequisites for a satisfactory yield for all farmers everywhere. Besides sound agricultural practices, good soil, fertilizer and favourable weather conditions it is an essential input.

No seed - no harvest

Nowadays many thousands of different varieties exist and it is the task of the research stations of any country to find the ones most suitable for that country and its growing conditions.

The production of good seed must have high priority. Only very strict regulations and laws can ensure that the buyer of seeds receives seed of the crop and variety he actually wanted, that this seed germinates well and does not carry seed born diseases. The production of seed is therefore controlled by the Agricultural Act chapter 352 of the Laws of Zambia.

Anyone producing, processing or selling seeds must do so in accordance with the law. Only ZAMSEED Company Ltd. is authorized to sell seed through its stockists and unions. It is therefore no possible for someone else to grow a crop for example maize and then sell it as seed of a certain variety himself.

In principle every farmer can become a seed grower provided he meets the requirements concerning isolation, crop rotation, crop management, crop inspections a.s.o.

For the small scale farmer due to his limited size of land only selfpollinating crops are suitable because for crosspollinating crops like maize he hardly can meet the isolation requirements (1000 m for maize). At the same time the production of hybrids is a rather complicated one.

Unfortunately, the market for selfpollinating seedcrops is not as large, because many farmers retain seed from their harvest for a number of years. However, small farmers have a chance in growing soyabeans, cowpea, groundnut, rice and wheat.

4.2. Rice Seed Production at Siatwiinda Irrigation Scheme

In the 1985/86 season two farmers at Siatwiinda Irrigation Scheme produced government tested seed for ZAMSEED.

There can be no doubt about the large potential for rice growing at Siatwiinda which is clearly demonstrated in the trials carried out there.

Also the isolation of the Scheme and the climate of the Valley would make it an ideal place for seed production. At present there is a great demand for rice seed in the country which cannot be satisfied for various reasons.

In order to become a seed grower a farmer has to become a member of the Zambian Seed Producers Association (ZSPA). Siatwiinda Irrigation became a member in 1985. ZSPA allocates the hectareage a farmer is allowed to produce of a certain seed crop. At the same time the farmer has to register as a seed grower and sign a contract with ZAMSEED (see Appendix 3 * 4)

In the Siatwiinda case it was agreed to produce government tested seed because the quantity was very small and this did not justify several trips from Lusaka and Mochipapa for inspections which are required for the production of 'certified seed.'

Two inspections were carried out by the Zamseed Production Officer and the Seed Inspector from Mochipapa. After harvest a sample was drawn by the seed inspector and sent to the seed laboratory for testing. The seed lot met the requirements of the seed act (99.3 % purity, 83 % germination) and were bought by ZAMSEED!

Problems :

The production of rice at Siatwiinda and that of seed especially faces several problems.

1. insecurity of water supply
2. not all farmers grow it
3. price structure

1. The 85/86 season was the first season in which the irrigation was in operation after a standstill of 2 years. Farmers were sceptical whether there would be sufficient water! Though about 30 farmers started a nursery only 2 farmers transplanted their rice. Most other farmers claimed that they had been too busy with dryland farming at the same time. This was very unfortunate because the season proved to be a very good one for rice.

2. All through the history of the scheme not all of the farmers have been involved in rice production. Technically it is a problem to provide the whole scheme with water when only a few farmers are producing (see also Siatwiinda Report).

3. Rice, whether for consumption or for seed is a scarce commodity in Zambia, For a farmer at Siatwiinda to become interested in the production of seeds he has to be offered a higher price than the one he could get on the market for consumption. Locally, there is a great demand for it. At present this is not the case. Since there is no marketing problem for rice at Siatwiinda Farmers can not be encouraged to grow seed rice because they can get more money for rice for consumption.

The general shortage in rice seed can only be overcome if ZAMSEED can offer an attractive price to the growers.

4.3. Pearl Millet Production

Pearl (or Bulrush) millet is a major crop in the project area. Unfortunately, there is up to this date no improved variety released in the country though several promising ones have been tested at Mount Makulu for years (Ugandi and WCC - 75) Traditional varieties have smaller grains, mature later and unevenly and have very long stalks, however the store better than the new ones. The improved varieties mature earlier, are short and yield higher. It must be assumed that the crop is not considered to be of great economic importance for seed producers and the country as a whole and that therefore these varieties have not been released yet. The two pearlmillet varieties distributed by the programme were obtained from Mount Makulu. Both did very well and were liked by the farmers. Since the demand for pearlmillet seed could not be met by Mount Makulu nor ZAMSEED some farmers were given seed of Ugandi in the 86/87 season under the condition that they return part of their crop for distribution in the following year. Though the season was a very bad one for all Gwembe farmers 4 out of 10 growers brought back 45 kg and expressed interest to do the same again. The programme co-ordinator had the impression that these farmers understood the idea of this part of the programme and saw the sense in it and were therefore very willing to co-operate.

This of course is no seed multiplication in the true sense but it is a way to overcome a shortage in the supply for a small area. It can not be a longterm solution because if one multiplies out of a ~~ple~~ relatively small portion of a population one does not include the full genetic potential but unvoluntarily selects and eventually after some generations comes up with a different product than the original.

Since pearlmillet is a crosspollinating crop and isolation requirements can not always be met by local farmers (200 m) mixing of genetic material of local and improved varieties will occur. To avoid this at least the local " seed growers" should receive fresh seed every year.

It must be hoped that the countries seed supplier takes up this issue and introduces a pearlmillet variety soon so that this crop which is so typical and important under Valley conditions can improve and higher yields can be obtained.

4.4. Selection of Seed out of MMV 400 by local farmers

One of the great advantages of an open pollinating variety such as MMV 400 and MMV 600 are, is that a farmer can retain some of his harvest as seeds for the following seasons without risking a low yield due to a degeneration of the genetic material as would be the case with a hybrid.

Therefore, it must be highly appreciated that such varieties are on the market in Zambia nowadays. They offer the opportunity for a farmer to be less dependent on a secure supply of fresh seed every year.

In the past Gwembe Valley farmers never practiced the selection of certain types out of their local "varieties" of maize, sorghum and millet . If at all they just kept some of their harvest without paying much attention to what it looked like in respect of size of seed, colour or height of plant a.s.o. The process of selecting for certain desirable characteristics and thereby influencing the crops' characteristics was not known to them.

A number of farmers around Kanchindu were educated on how to do this in respect to MMV 400. The programme co-ordinator visited them and demonstrated what qualities the cobs should have that they can keep for replanting.

It must be hoped that farmers will learn from each other how to do this and that the extension workers make them aware of this possibility.

/15.....

5. EDUCATION

Introduction : A number of seminars were conducted as a result of the need to provide farmers with better information on certain subjects. The programme co-ordinator invited special resource persons to cover a subject and supplied local additional information herself.

In general it can be said that these seminars were always very welcome and that there seems to be a great demand from farmers to learn. The author would like to encourage any effort to invite people in the field of research and the like to the Valley to get in contact with farmers directly. This is of benefit for both sides. There are many very qualified people in Zambia and most of them are very willing to come once they are invited.

5.1. Seminar on Seed Production at Siatwiinda Irrigation on 28.7-30.7.86

This seminar was attended by 16 farmers both irrigation and dryland farmers. The resource persons were Mr. R. Kasongo (seed production officer, ZAMSEED). Ms Tonga (seed production officer, ZAMSEED) and Mr. Nawa (seed inspector, Mochipapa)

The seminar covered questions like

- who is and what does ZAMSEED?
- how can a farmer become a seed grower?
- how can a farmer select his own seeds?
- difference in maize varieties
- a slide show on rice production

5.2. Seminar on sorghum and millet production May 4, 1987

This seminar was attended by 20 farmers and extension staff at Malima Farmer's Training Centre. Mr. Stefan Huk Hultgren, (sorghum agronomist) of Mount Makulu informed the participants about the different varieties of sorghum and millets, their characteristics and advantages of growing these crops in areas like the Gwembe Valley. It was the objective of the seminar to encourage farmers to grow more sorghum and millet and not to favour maize only.

/ 16cont....d

5.3. Workshop on Traditional Storage Techniques 3.7.87

Storage of food and seed is a problem for the farmers and the knowledge of traditional techniques is being forgotten. Therefore it was the objective of this workshop to remind people of the possibilities of using a traditional storage technique which is effective. As a demonstration a local woman was showing the participants how a 'chimumbwa' is build. The participating women discussed among themselves their experiences and were encouraged to start using these clay storage containers again in their homes. It was later reported that the demonstrator had received an order to make a chimumbwa for somebody which had not happened for a long time. It is sad that knowledge like this is not present among young people.

5.4. Seminar for sellers of seeds in the Seed Programme 6. and 7.10.87

This seminar was attended by nearly all agents selling seeds for VSP, Maaze, Maamba Church or the Seed programme. It was the objective of the seminar to inform them about the varieties they are selling, their duties and responsibilities and the organization of the programme.

As an addition Mr. Peter Sturmheit from Lusume Service, Magoye was invited to lecture about the use of trees in farming and to introduce the idea of agroforestry and alley cropping to the farmers.

6. INTRODUCTION OF NEW VARIETIES IN 1984

In 1984/85 a number of farmers in the Kanchindu area were given samples of the new varieties of MMV 400, ZSV1 and cowpea for testing on their fields. After the growing season the programme co-ordinator visited these farmers and interviewed them about their experiences. Farmers accepted the new varieties well especially MMV 400 and they appreciated the fact that someone was interested in their opinion. Unfortunately, very few of them harvested anything due to a heavy outbreak of Armoured Crickets (Acanthopplus speiseri) in the area. A report on the findings was written and send to Mount Makulu Research Station which had supplied the seeds.

18/...cont....d

7. THE SEED PROGRAMME ADVISORY COMMITTEE (SPAC)

The SPAC established in 1986. Its members are individuals interested in the programme and members of the organizations involved. At present its members are : -

Mr. G.Madyenkuku (chairman)
Mrs. U.Wittern (secretary and programme co-ordinator)
the Chief Administrative Officer Sinazongwe
Mr. J.Halupepe (GSDP co-ordinator)
Mr. Miyoba (Crop Husbandry Officer Gwembe
Mr. B.Hossain (Buleya Malima Irrigation)
Mr. j.S. Bbuka (seed programme)
Mr. E.Micelo (Monze Diocese)
Mr. R.Chimimba (Block supervisor, Sinazongwe)
Mr. C.Malimawa (Block supervisor Mweemba)
Mr. A.Simwami (VSP co-ordinator)
Mr. V.S.Siankondo (Maaze co-op.)
Mr. M.Beene (Maamba, Agricultural Advisor)

The SPAC sat on the following dates: 13.1.86, 10.2.86, 15.8.86, 13.10.86, 24.11.86, 27.8.87

In the meetings the co-ordinator informed the members about the progress of the programme and the representatives of Maaze, VSp, Monze and Maamba had the opportunity to relate their experiences and problems. It was the objective of the committee to involve these organizations more and more and to act as a decision making body for the programme (prices, distribution).

/19...cont...d

8. FUTURE PROPOSAL

In order to ensure that the area is supplied with seeds in the future the involvement of local organizations should be intensified. The timetable below is a suggestion how this could be achieved and can serve as a guideline.

	1988/89	89/90
Mucekwa	MC	MC
Siatwiinda	MC	MC
Sinanjola	VSP	VSP
B.malima	SP	VSP
Chiyabi	VSP	VSP
Sinazongwe	SP	VSP
Nambisya	VSP	VSP
Sikaneka	VSP	VSP

The SPAC should decide on this matter early before the season.

Generally, the overall co-ordination of the programme could be part of a dryland farming programme which should include elements of soil conservation, storage, and forestry.

/20.....cont...d.

9. ACKNOWLEDGEMENTS

The programme co-ordinator would like to express her sincere thanks to all those who made the programme possible.

First of all my thanks go to the staff of the Gwembe South Project who have expressed interest and concern in the ongoing work and have helped in many ways, especially with the huge task of transport the programme encountered.

My special thanks to Mr. Grey Madyenkuku, former project secretary and chairman of the seed programme advisory committee who helped with his deep knowledge of the area and its people and with excellent translations at our meetings as well as in the actual distribution and selling of the seeds. I always appreciated the many fruitful discussions we shared.

Further, I'd like to thank the Chief Administrative Officer in Sinazongwe for his interest in this programme and his support.

My special thanks also to all sellers of seeds in the villages who helped voluntarily and without whom it would not have been possible to carry out the task. They have really made this programme successful by making it their own.

PROPOSAL FOR A DRYLAND FARMING AND SEED PROGRAMME

According to my experiences and observations in the previous years I would like to suggest the following programme to the project and to GM. I can see a great need for education and advice in the following areas and would like to propose to GM to send out one agriculturalist to work in the following fields:

A). Seed Programme

1. Purchase and distribution of adequate amounts and appropriate varieties of maize, sorghum, millet, groundnuts in Gwembe South.
2. To assist and coordinate efforts connected to the distribution of seeds by local organizations (VSP, Maaze) to enable them to carry the programme in the future.
3. To inform farmers and extension staff on the characteristics of different varieties and how to cultivate them.
4. To keep close contact with Mount Makulu Research Station in order to make new varieties available to the farmers and if necessary to help Mount Makulu to set up trials in the area.
5. To keep close working relationship with Zamseed, especially the seedproduction officers in order to establish seed-production in the valley especially rice seed at Siatwiinda.

B) Dryland farming

1. Erosion control (by means of ridging, water harvesting, gully control a.s.o.)
creating awareness of the problem by information and by demonstration at those sites that are already badly affected by destruction.
2. Promotion of tree planting for fruit production, windbreaks and shed.
3. Training programme in order to introduce and improve the storage of maize and sorghum for home consumption, preferably with traditional techniques using local materials. (matala or chimumbwa)
4. To organize one or two day seminars on all aspects related to dryland farming (crop production, storage, seeds, vegetable growing a.s.o.)

APPENDIX I

Table: 3 expenses of seeprogramme, listed by components for 1985 - 1987

	total	seed		transport ⁺		salaries		building ⁺⁺⁺⁺		miscellaneous ⁺⁺	
1985	12109.-	<u>vegetable Seed</u>	<u>agric. seed</u>								
		-	-	9702.- 80 %	888.00 73 %	495.- 4 %	-	-	-	1024.- 84 %	
1986	52191.-	1328.- 2.5%		41659.- 79 %	6481.- 12 %	2233.- 4.2 %	3850.- 7.3%			2473.- 47 %	
1987	69493.-	1552.- 2.2%		53991.- 77.6%	1843.- 2.6 %	1682.- 2.4 %	8255.- 11.8%			2570.- 36 %	
+++											

+ does not include transport of programme
co-ordinator but hired transport only

++ includes chemicals, plastic bags, stationery

+++ until Oct 31, 1987

++++ storage and office building

PRESCRIBED SEED PRODUCTION CONTRACT

APPENDIX 3

Between

ZAMBIA SEED COMPANY LIMITED
(hereinafter called Zamseed)

and

STATWINDA FARMERS Box 4 SINAZEZE VIA CHOMA
(hereinafter called the Grower)

CONCERNING THE FOLLOWING CROP:

Species: Rice
Cultivar (Variety): Kalembwe
Class: Government tested seed (Approved seed)
Planting Period (Time): N/A
Area (Hectarage): Quantity - about 1000kg
Seed Requirements: Female parent N/A
Male parent N/A
Ordinary parent N/A
Total Seed Costs: K. N/A
Producer Price(s): K. 48.50 per 50kg
K. per

Some Minimum Standards and Delivery Conditions:

Isolation: N/A Previous Cropping: N/A

Field Standards:

(a) Not more than 0.1% undesirable plants
(b) Not more than 1% grain of different colour
(c)
(d)
(e)
Defects: N/A Purity: 97% Germination: 75%
Grading: N/A

Packaging: In new 100kg Zamseed bags

Delivery Date: 31st August, 1986

To nearest Zamseed depot MAZABUKA

Growers's Representative

U WITTERN

THIS CONTRACT AND ATTACHED GENERAL CONDITIONS JOINTLY DRAWN AND AGREED UPON BY ZAMSEED AND Z.S.P.A. HAVE BEEN READ, UNDERSTOOD AND AGREED TO BY THE PARTIES TO THIS AGREEMENT, WHO IN ADDITION TO Z.S.P.A. HAVE EACH TAKEN AN ORIGINAL COPY.

GROWER:

SIGNATURE: U. Wittern

DATE: 14.3.86

STAMP:

ZAMBIA SEED COMPANY LIMITED:



ZAMBIA SEED COMPANY LIMITEDGENERAL CONTRACT CONDITIONS FOR THE PRODUCTION OF
PRESCRIBED AGRICULTURAL SEEDS

THE GROWER binds himself to:

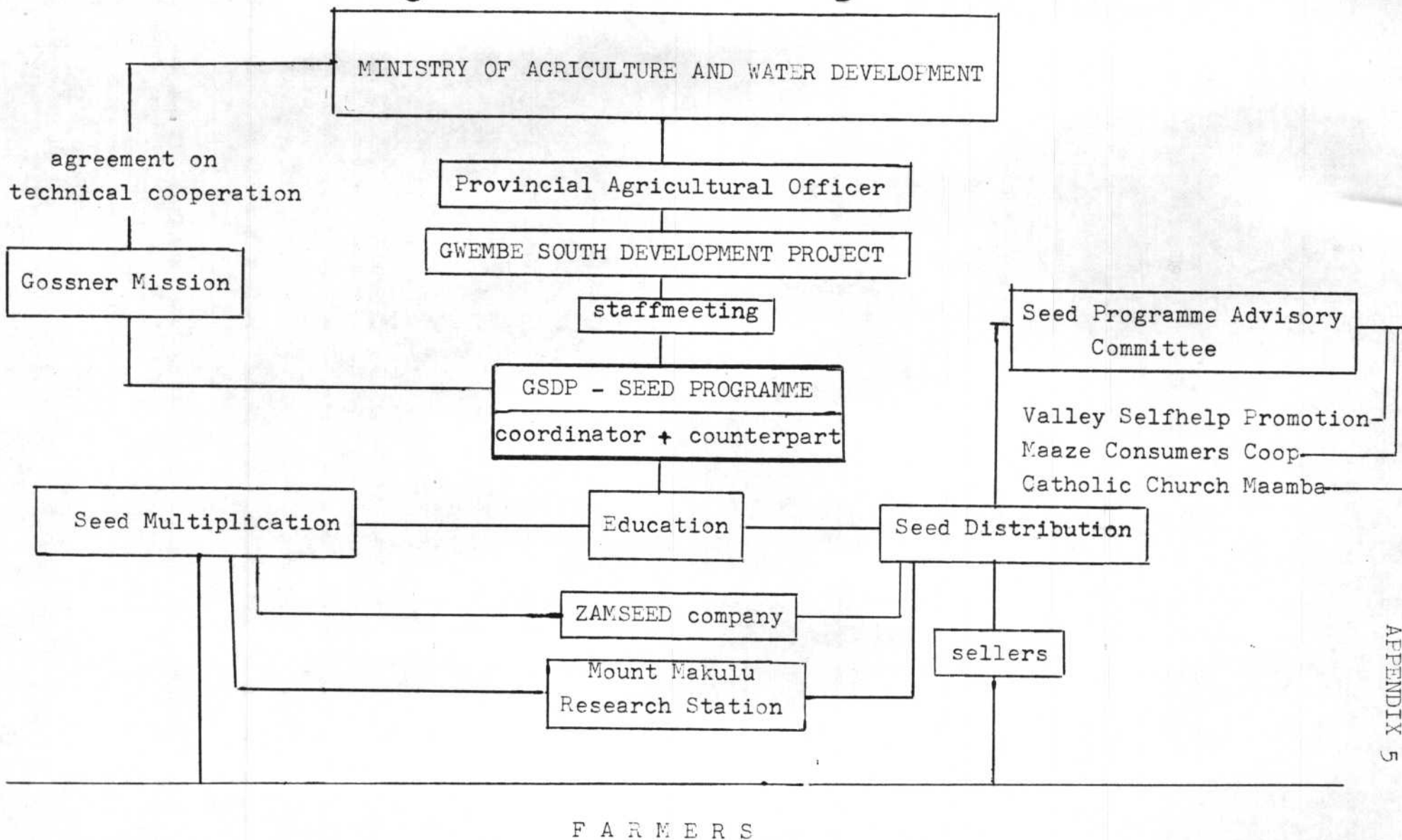
1. Be a recognised member of Zambia Seed Producers Association (Z.S.P.A.)
2. Use only parent seed supplied by Zamseed and pay the appropriate price where applicable.
3. Practice good crop husbandry and follow all instructions given by Zamseed and Government (SCCI) Seed Inspectors.
4. Provide free access to the contracted crop for Government (SCCI) Seed Inspectors and Zamseed staff at any reasonable time.
5. Grow and process the crop in accordance with the Agriculture (Seeds) Act and the regulations made thereunder.
6. Obtain Zamseed's written approval to retain for own planting a known amount of seed out of the total yield of the contract crop
7. Deliver sealed pockets to nearest Zamseed depot or any such destination as shall be agreed upon with Zamseed and any by product being purchased by Zamseed to delivery point agreed with Z.S.P.A.
8. Not to dispose of any part of the contracted crop or by product thereof until so authorised by Zamseed in writing.
9. Comply with agreed delivery dates. Failure to meet the deadline will result in a penalty reduction on the producer price of 5% for each week's delay (unless prior agreement has been reached with Zamseed).

ZAMSEED bind themselves to:

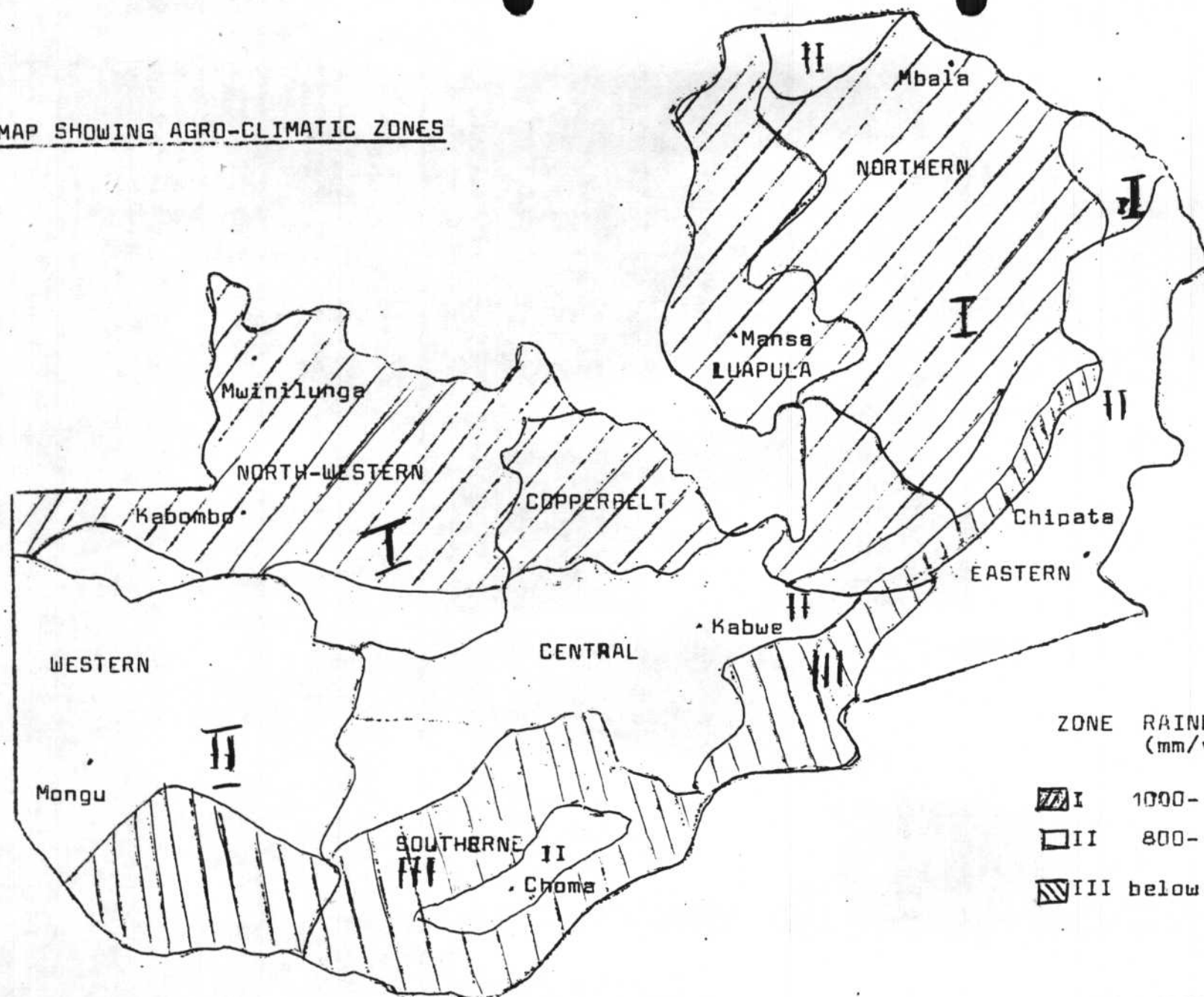
10. Supply parent seed in good time.
11. Effect registration of the crop as required under CAP 352, Agriculture (Seeds) Act.
12. Carry out extension visits to the grower.
13. Purchase all certified and sealed seed at contracted price and have the first option to purchase any unsealed seed or by products on terms mutually agreeable.
14. Pay the grower within 30 days of delivery, unless otherwise agreed.

AGREEMENTS in common:

15. Force majeure, such as war, or fire, will release the Grower and Zamseed from their commitments to this contract.
16. Any dispute arising from this contract shall be referred for arbitration, in accordance with the Arbitration Act, by three appointees:-
 - a) one by Grower/ZSPA
 - b) one by Zamseed
 - c) one by both (a) and (b)



MAP SHOWING AGRO-CLIMATIC ZONES



ZONE	RAINFALL (mm/yr)	SEASON LENGTH (Days)	COMMENTS
I	1000-1500	180-200	acid soils
II	800-1000	150-180	High potential area
III	below 800	120-150	Hot, drought prone

SOURCE: Partly adapted from "OVERVIEW OF THE MAIZE RESEARCH IN ZAMBIA - OCT. 1983" by Dr P Gibson, GRZ-ISAID - ZAMARE.

GWEMBE SOUTH DEVELOPMENT PROJECT

SEED PROGRAMME

Financial Report for 1987, plus January 1 to February 19, 1988666 per
Growing seasons

	1986-87	1987-88 Season (to Feb 19)		
	<u>Jan-June 87</u>	<u>July-Dec</u>	<u>Jan-Feb</u>	<u>Total</u>
INCOME				
Seed Sales	21,303.70	19,518.50	10,646.50	30,165.00
.....				
EXPENDITURE				
Seed - Maize		80,442.00	-	80,442.00
Seed- Veg, Other	4,958.90	682.00	9,364.50	10,046.50
Chemicals	552.20	-	-	
Supplies&Materials	58.70	2,816.00	179.70	2,995.70 ✓
Transport	1,096.50	1,885.00	2,616.70	4,501.70 ✓
Salary&Allowances	840.00	1,140.00	305.00	1,445.00 ✓
Labour Wages	160.00	409.00	112.00	521.00 ✓
Office Supplies	16.15	53.00	22.50	75.50 ✓
Training Programmes	201.40	393.30	-	393.30 ✓
Miscellaneous	-	25.20	-	25.20 ✓
.....				
Total Running Costs	7,883.85	87,845.50	12,600.40	100,445.90
Capital Costs				
Seed Storehouse	8,255.15	-	-	-
.....				
Total Expenditures	16,139.00	87,845.50	12,600.40	100,445.90
.....				

9.957.40

INVOICE

GWEMBE SOUTH DEVELOPMENT PROJECT:

Supplies/Materials	K 2,995.70
Transport	- 4,501.70
Salaries/Allowances	- 1,445.00
Labour Wages	- 521.00
Office Supplies	- 75.50
Training Programmes	- 393.30
Miscellaneous	- 25.20
	K 9,957.40

5 YEAR PROPOSAL FOR A DRYLAND FARMING AND SEED PROGRAMME

According to my experiences and observation in the previous year I would like to suggest the following programme to the project and to GM. I can see a great need for education and advice in the following areas and would like to propose to GM to send out one agriculturalist to work in the following fields:

A) Dryland farming

1. erosion control (by means of ridging, water harvesting, gully control a.s.o.)
creating awareness of the problem by information and by demonstration at those sites that are already badly affected by destruction
2. promotion of tree planting for fruit production, windbreaks and shed.
3. training programme in order to introduce and improve the storage of maize and sorghum for home consumption, preferably with traditional techniques using local materials. (katale or chinumbwa)
4. to organize one or two day seminars on all aspects related to dryland farming (crop production, storage, seeds, vegetable growing a.s.o.)

B) Seed programme

1. purchase and distribution of adequate amounts and appropriate varieties of maize, sorghum, millet, groundnuts in Gwanbe South.
2. to assist and coordinate efforts connected to the distribution of seeds by local organizations (VSP, Maase) to enable them to carry the programme in the future.
3. to inform farmers and extension staff on the characteristics of different varieties and how to cultivate them.
4. to keep close contact with Mount Makulu Research Station in order to make new varieties available to the farmers and if necessary to help Mount Makulu to set up trials in the area.
5. to keep close working relationship with Zamseed, especially the seedproduction officers in order to establish seed-production in the valley especially rice seed at Siatwiinda.

May, 1987

Seeds-Prof.

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

Lusaka 4.5.1987.

The Permanent Secretary,
Ministry of Agriculture and Water Development,
P.O.Box 50291,
Lusaka.

Dear Sir,

Re: Food Programme Gwembe South Development Programme.

Further to our meeting this morning in your office and your request for a summary report on our activities in foodsupply in the Gwembe South Region, please find enclosed a summary of our activities on the subject.

We are very much obliged to you for your invitation to attend your meeting on this subject.

As requested we have contacted the Secretariate of the Roman Catholics and the Salvation Army (Chikankata area). Mr. Leo Goodfellow was at his camp at Kariba Lake shore where he cannot be contacted, but the S.Army will send someone who is familiar with the project.

Yours Faithfully,

Mrs. S.C.Krisifoe- van der Bom,
Liaison Officer - Gossner Mission.

c.c. Director of Agriculture, MAWD.
Chief Administrative Officer,
Sinazongwe.

4.5.1987.

FOOD PROGRAMME OF GWEMBE SOUTH DEVELOPMENT PROGRAMME.

The food programme of Gwembe South Development Project (GSDP) is done by three of its components, together with the Roman Catholics in Maamba. The three components, Valley Selfhelp Promotion Society (VSP), Gwembe South Builders (GSB) and Maaze Consumers coop (MCC) have their own transport. By mutual agreement the area has been divided into sections and each of them is taking care off supply of food to the sections.

V.S.P. : Nyanga - Syameya - Kafwambila (by boat), - Chiyabi - Malima

GSB: Syampondo and Syamya, Sikaneka

MCC: Syabazwi - Muuka - Siatwinda area

Also the Roman Catholics are involved in foodsupply in the area, taking care for Silvegonde area.

All this in cooperation with the Council and local shopkeepers. These organisations also agreed to keep the price at the same level, so nobody competes against others. It is a service to the villagers.

II. Seedprogramme:

The seedsprogramme has been started after the first draught in 1983. It exists out of 2 components:

1. Seed distribution: This was done with short maturing maize varieties, eg. MMV 400 and sorghum (Red Framida) and maila.

1985 7 ton seed was brought in by GSDP

1986 more than 10 ton (divided over Gw. South and a smaller part to Gw.C)

Also during 1984 traditional varieties, such as Zembe and Kaila were collected from far corners of the valley and spread again amongst the farmers.

The amount which they received they had to return after the harvest for spreading again amongst others.

2. Seed multiplication. Done with the open polinated variety MMV 400.

Small scale rice seed multiplication under irrigation under the direction of M. Makulu and Zamseed.

III. Water programme:

VSP, through the years have been promoting wells and boreholes on selfhelp basis. This was done in close cooperation with the council.

About 30 wells and boreholes are constructed in the area. Not all of them are working, since repairs are needed and transport and distance are hampering factors to the maintenance.

GOSSNER SERVICE TEAM

P.O. Box 4,
Sinazeze.

Gossner Mission,
Liaison Office,
P.O. Box 50162, Lusaka.
Tel: 250580.

expenses of seedprogramme 1.1.86 - 31.10.86

agricultural seeds 12 tons	K 29982.70
salary, ZNPF	1040.00
vegetable seeds	708.75
rice seed	371.20
potatoe seed 1480 kg	3468.00
seeds from farmers	94.40
seminar (diesel , food)	279.75
piece work	446.30
pool car	125.40
chemicals, bags, stationary	514.10
agricultural show	20.00

storage building (not yet payed to GSB) about	K 15000.00
groundnut seds (not yet payed to Catholics	K 30000.00
3000 kg	

income (backflowing money)

vegetable seeds	K 834.00
potatoe seed	588.20
agricultural seeds	1424.00

on the seedaccount at Barclays Bank are K 6093.74 which will be used up to subsidize the selling price for groundnut seeds.

Gwembe South Development Project
P.O. BOX 3,
SINAZEZE.

The Project Co-ordinator,
P.O. Box 3,
Sinazeze

ANNUAL REPORT SEED PROGRAMME

November 1985 - December 1986

objectives- to supply agricultural seeds of appropriate varieties to local farmers at a time that makes early planting possible to reintroduce traditional crops that got lost during the years of drought.

to introduce the concept and idea of seedmultiplication to farmers in connection with ZAMSEED both under dryland farming and irrigation at Siatwiinda.

activities- a group of farmers around Kanchindu was visited regularly and shown how to select cobs of MMV 400 maize for seed. 50 kg of seedmaize for their own use and 40kg of Ugandi pearlmillet were produced with them.

- a three day seminar on seedmultiplication, seed storage and the differences in varieties was held with farmers interested in becoming seedproducers and seed inspectors from ZAMSEED and Mochipapa.
- 2 farmers at Siatwiinda produced government tested rice seed which was bought by ZAMSEED.
- a storage building for seeds was completed at Kanchindu.
- a three meetings of the seedprogramme advisory committee were held to coordinate all groups involved in the distribution of seeds in the area (VSP, Maaze Coop, Catholic Church).
- reintroduction of Bambara nut, cowpea and groundnut
- there is close cooperation between the research branch at Mount Makulu to keep informed on the development of new varities. They supplied some pearlmillet and sorghum to the programme.
- the following amounts of seeds were distributed in 20 villages of Gwembe South:

MMV 400 maize	9110 kg plus 50 kg produced locally
MM 504	5420 kg

cowpea	200kg
natal common	3000 kg from R.S.A.
red framida	300kg
ugandi	30kg plus 40kg produced locally)from Mt.Makulu
WCC 75	50kg
bambara nuts	240kg from IRDP Kabompo
potatoes	1480kg
rice	160kg
vegetables	

seeds worth K 700.00 to Siatwiinda and B/malima irrigations

transport and distribution involved local organizations like Valley Selfhelp Promotion Society and Maaze Consumers Coop in order to come to a point where these organizations can take over this part of the programme independently. The Catholic Church in Maamba also served in some villages and was supplied with seeds.

- 1800 kg of maize seed was given to Monze Diocese to be distributed in Gwembe Central.

- over 15000 km were driven to carry out the programme

programmes: prices for seeds were fixed very late between ZAMSEED and the government so delivery could not take place as early as would have been appropriate.

-transport to many places is difficult if not impossible because of bad roads

-some voluntary sellers are reluctant to deliver the money back to the programme after selling the seeds

-groundnut seed was not available through the seedcompany and therefore had to be ordered in Southafrica making it very expensive so that the programme had to subsidize the price.

-adequate amounts of millet seeds were also not available

-since the process of seedmultiplication is a rather complex one only a few local farmers were able to participate in a full sense.

Urusula Gröhn-Wittern
seed programme co-ordinator, GST
December 1986

MINUTES OF THE FIRST MEETING OF THE SEED
PROGRAMME ADVISORY COMMITTEE HELD ON JAN 13, 1986
AT NKANDABBWE

<u>PRESENT:</u>	R.J.Mwananyina	- ACAO - Sinazongwe
	B.C. M.Hantuba	- C-ordinator - GSDP
	S.Krisifoe	- Liaison Office - Lusaka
	G.K.Madyenkuku	- GSDP Secretary
	U.Wittern	- Seedprogramme GST
	I. Wittern	- Siatwinda Irrigation GST
	B.Hossain	- Buleya Malima Irrig. GST
<u>ABSENT:</u>	K.Schaefer	- IRDP Co-ordinator
	G.S.Kwaleyela	- DAO - Gwembe

Mr. Madyenkuku was elected chairman and Mrs.Wittern will act as secretary.

1. OPENING REMARKS

The Chairman pointed out the importance of the availability of adapted seeds (local and imported) for the valley.

2. MEMBERS OF THE COMMITTEE

Appointed were: The DAO, CAO Sinazongwe, IRDP Co-ordinator, Mr.B.Hossain, Mr.I.Wittern, Mr.Madyenkuku and Mrs. U.Wittern. It was agreed that representatives of VSP, Maaze Coop, the Roman Catholic Church in Maamba and other bodies possibly to be involved in the programme should be invited when need arises.

3. FUNCTION OF THE COMMITTEE

It is the function of the committee to help Mrs.Wittern tackle the constraints of the programme meetings should be held prior to Steering committee meetings of Gwembe South and Gwembe Central.

Distribution of seeds should be done in Gwembe South and the Southern part of Gwembe Central. In Gwembe Central this should be done in close co-operation with the Roman Catholics Agricultural staff.

Seed multiplication for technical reasons has to be done in a concentrated area, in this case Siatwinda. Seeds produced will go into other areas as well. Mrs. Wittern should be seen as a Co-ordinator in the aquisition and distribution between VSP, Maaze, Rom.Catholics, and church of christ. These bodies should find out how much money they are prepared to set aside for the purchase of seeds and in which area they think they can carry out the distribution. A meeting of all parties should be held in the first week of February and invitations written. It was agreed that the idea behind that meeting will be conveyed to the Rom. Catholics and UCZ by Mr.Mwananyina, to the VSP and Maaze by Mr.Hantuba, to World Vision International by Mrs. Krisifoe.

Information on the demand of seeds should come from the blocksupervision of Lufua block, Mweemba block and Mulonga Munene block. A letter will be written by Mrs. Wittern.

4. It was stressed that the training aspects of the programme is important. Teachers should also be encouraged to teach agricultural skills more than they do at present. The committee members generally accepted all objectives without additions. It was agreed that Mrs. Wittern is the coordinator. Implementation can come from the Dept. of Agriculture, the members of the committee or her. Physical execution can come from any source capable of doing it.

5. Request for vegetable seeds for B/malima.
Seeds will come out of the seedprogramme funds and must be paid back. It was not found necessary to sell them to the farmers on Credit since they have to get used to paying cash and the amounts involved are small.

Mr. Mwananyina expressed his appreciation of the meeting held on Nov. 25, 1985 at Sinazongwe and said it was clear now what is being done and that a good working relationship is established. He asked Mr. Hantuba to take been interest in the programme and Mr. and Mrs to continue in their working spirit. He will report positively to GM.

6. Since there seemed to be no leadership in the team and no guidance for the O/C on to whom to contact this committee was very welcomed by Mr. Madyenkuku.

CHAIRMAN

SECRETARY

Belie

SEED - PROGRAMME
EXPENDITURES JULY to DECEMBER 1985

(i) PAID OUT OF SEED MONEY (seed account + backflowing money):

25. 07.	groundnut seed	K	180.-	180.-	
11. 08.	shelling of groundnuts	K	49.-	49.-	
12. 09.	fertilizer	K	178.75		
20. 09.	sorghum seed	K	400.-	578.75	
30. 10.	ZSPA levy	K	30.-	30.-	
01. 11.	transport	K	72.-		
10. 11.	seeds from ZAMSEED	K	5897.50		
14. 11.	stationary	K	6.-		
25. 11.	repacking of seeds	K	45.-		
27. 11.	salary	K	95.-		
25. 11.	maize seed	K	174.-	6289.50	
03. 12.	shelling of groundnuts	K	14.-		
03. 12.	maize seed SPCMU/NAMBOARD	K	184.-		
06. 12.	- " -	K	368.-		
06. 12.	- " -	K	184.-		
11. 12.	- " -	K	18.40		
11. 12.	- " -	K	36.80	805.20	
S U B T O T A L (i)		K	7932.45	7932.45	7932.45

(ii) PAID OUT OF GST - MONEY:

12. 08. (352)	Zspa membership fee	K	37.-		
12. 08. (354)	Bambara nut seed	K	4.-		
12. 08. (358)	plastic bags	KK	65.-		
12. 08. (355)	shelling groundnuts	K	7.-		
14. 08.	groundnut seed	K	300.-	413.-	
16. 09. (390)	salary	K	95.-		
20. 09.	rice basic seed	K	90.-	185.-	
29. 10. (437)	salary	K	95.-		
30. 10. (440)	maize seed SPCMU	K	1380.-		
30. 10. (441)	store room	K	161.-		
30. 10. (443)	Leucaena seed	K	10.-		
30. 10. (447)	plastic bags	K	360.-	2006.-	
10. 11. (468)	fertilizer	K	187.-		
10. 11.	rice seeds	K	476.-		
28. 11. (452)	transport VSP	K	786.-		
28. 11. (484)	transport	K	30.-	1479.-	
24. 12. (513)	salary	K	95.-	95.-	
S U B T O T A L (ii)		K	4178.-	4178.-	4178.-

(iii) TOTAL EXPENDITURES: K12110.45 12110.45 12110.45

GOSSNER SERVICE TEAM
P.O. BOX 4
Via Choma
SINAZEZE

KANCHINDU, 8TH FEBRUARY, 1986

Eilanfrage an GM für ein ~~XXXX~~
Hilfsprogramm zum Ankauf von Saatgut im Gwembe Tal.

Beim heutigen Meeting des Steering Committee des IRDP Gwembe Valley wurde als wichtigster Punkt eines Crashprogramms für das von Trockenheit heimgesuchte Gwembetal der Ankauf von Saatgut bezeichnet.

Da wir einerseits bereits Ende Mai haben - das Saatgut andererseits bis spätestens September verfügbar sein muß - waren die Mitglieder des Steering Committee übereinstimmend der Überzeugung, daß die normalen Finanzierungskanäle (District Council) hierfür nicht in Frage kommen.

Der District Council könnte ein solches Saatgutbeschaffungsfür 1984 einplanen, keinesfalls aber für 1983. Die ~~XXXX~~ Finanzierung des Notprogrammes über Internationale Hilfsorganisationen wird angestrebt, dauert aber voraussichtlich auch mehrere Monate. Auf jeden Fall dürfte es dann zu spät sein für die Saatzeit zu Beginn der kommenden Regenzeit im Oktober.

Wenn es aber möglich wäre, 8.000 bis 10.000 DM kurzfristig für ein zinsloses Darlehen zur Verfügung zu stellen, könnte - so ein Vorschlag aus dem Steering Committee - zur Zeit noch vorhandenes Saatgut (hauptsächlich trockenheitsresistente Hirse) aufgekauft werden. Die Verkäufer könnten für den Verkauf dieses Saatguts Nahrungsmittel einkaufen.

Andernfalls sind die gegenwärtigen Besitzer der geringen Saatgutbestände gezwungen, dieses Saatgut in den nächsten Wochen zu essen, weil sie sonst keinerlei Nahrungsmittel mehr besitzen.

Das durch einen solchen Ankauf sichergestellte Saatgut (Lagermöglichkeiten sind vorhanden) kann dann im September mit Hilfe von VSP über die lokalen Institutionen (Chiefs und Headmen) rechtzeitig zur Neuaussaat verteilt werden. Die Empfänger müssen sich nur verpflichten, nach der Ernte im März 1984 die gleiche Menge an Saatgut zurückzugeben, die sie im September 1983 erhalten haben.

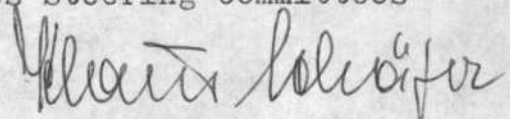
Mit dieser Art von Saatguthilfe hat man in der Vergangenheit angeblich gute Erfahrungen gemacht.

Die Bitte des Steering Committee geht hiermit nun an die Gossner Mission mit einem solchen kurzfristigen Darlehen den von der Trockenheit Betroffenen im Gwembe Tal schnell und unkompliziert zu helfen.

Gleichzeitig sollen aber auch die anderen möglichen internationalen Hilfsorganisationen um Hilfe ersucht werden, um wenn irgend möglich noch größere Mengen Saatgut auch außerhalb des Valleys einzukaufen, und um das Darlehen, das von der Gossner Mission erbeten wird zurückzuzahlen.

Nkandabwe, 23.5.83

Im Auftrag des Steering Committee



Klaus Schäfer
IRDP Coordinator

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Gwembe South Development Project

V. Workshop

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G. 17.

ADVANCED ZILILI FARMING

EXPERIENCES WITH DRAWDOWN IRRIGATION AT SIATWINDA)+
by I. Wittern^{*)} and D. Mutinta.^{**) **}

Gwembe South Development Project,
P.O. Box 3,
Sinazeze.

ABSTRACT:

The landuse system in the Gwembe Valley is very diversified. Irrigation has become a new important form of advanced agriculture. A drawdown irrigation project was started at Siatwinda in 1986 to find out means of improving the utilization of the fertile soils along the shore of Lake Kariba. Two small diesel pumps were used on two hectares.

The idea was accepted by the farmers as the good participation shows. There is a high potential for growing maize and especially okra from June to December, depending on the lake level. Advanced zilili farming has to be adaptable to the fluctuations of the lake.

Introduction:

A drawdown irrigation project (advanced zilili farming) was established at the shore of Lake Kariba in 1986. It is located next to Siatwinda Irrigation Scheme in the Gwembe South Sub-District.

The main objectives of this project are to intensify the use of the fertile drawdown area and to provide more irrigation facilities. At the same time the feasibility and efficiency will have to be studied.

BACKGROUND:

The Valley Tongas always had two seasons for cultivation crops. The type of landuse was determined by the location of the fields towards the Zambezi river and depended on the extend of the annual floods.

This changed after the forming of Lake Kariba. But still the fluctuations of the lake level influences farming to a great extend. Apart from being grazing land, large parts of the drawdown area are used for planting the main staple crops, maize, sorghum and millet.

)+ paper presented at the Annual Irrigation Research Meeting at Mount Makulu held on the 6th of February 1987.

)= Agr. Adv. Siatwinda Irr. Scheme/Gossner Mission
**) Officer i/c Siatwinda Irrigation Scheme.

The following types of landuse farming are found nowadays:

- | | | |
|------------------------------------|---|----------------------------------|
| i. upland | } | cultivation in the rainy season, |
| ii. upper parts of the flood plain | | November to april |
| iii. drawdown area/lake shore | } | cultivation in the dry season |
| iv. river gardens/Zilili | | June to December |
| v. Irrigation schemes | } | Cultivation throughout the year |

IMPLEMENTATION AND RESULTS:

i. Participation: The participation, six men and four women were chosen out of the applicants on the waiting list for Siatwinda Irrigation Scheme. They had no experience in irrigation before.

ii. Location and preparations: The project field was layed out at the present lake shore on the former mopane soil, which shows an alluvial influence after having been flooded for several years.

Two hectares of land were fenced and ploughed by a tractor.

The field was leveled (gradient 0.13 %) and devided into 10 plots of 0.2 ha each.

iii. Irrigation set-up:

- two KUBOTA diesel pumps (5HP)
- direct pumping to the fields through flexible irrigation hoses (2 inches)
- furrow irrigation
- pump capacity: 6.0 l/s (field test)
- irrigation regime: two times/week
about 35 mm/week.

iv. Cultivation of crops: An unexpected rising of the lake delayed the field work. After ploughing in May, the field was partly flooded. So farmers could not start planting before August. Planting mainly green maize and okra the farmers cultivated the same crops as in the adjacent fields without irrigation, but they harvested earlier and the fields looked much more uniform. Fertilizer was not applied. though it had been advisable at least for the maize.

<u>Crops cultivated:</u> green maize	0.79 ha
okra	0.63 ha (about 7000 kg/ha)
tomato, onion, beans.	0.02 ha
	1.44 ha

The utilization of the land was 72%.

v. Constraints: In the area concerned it was not easy to get a suitable piece of land. The traditional rights have to be respected. Though the land was flooded for a long time, the former owners still claim their rights.

The drawdown area has become a natural grazing land. Without proper fencing the cultivation is not possible.

DISCUSSION:

The drawdown area of Lake Kariba with its fertile soils has got a high potential for farming and animal husbandry. Advanced zilili farming which was newly introduced at the lake shore, was well accepted by the participating farmers.

First results seem to prove, that the project is feasible and fits into the socio-economic background. The farmers should be able to meet at least the running costs, though they had not to pay in the first season.

Crops will have to be sold to the markets to cover the expenses. Therefore marketing aspects have to be considered before an extension of irrigation facilities take place in the area.

Furthermore the project like this must be able to compete with the traditional low-input farming in the drawdown area.

Any irrigation system operating at the lake shore has to be flexible (portable pumps/no expensive permanent structures) as the land use can only be a temporary one. The forecast on the fluctuation of the lake level (from CAPCO) will be needed for further planning.

So far self organisation of the farmers has not yet been initiated but there is a lot of experience available from the big irrigation schemes in the area. The project will be continued.