halfyearly report
july 1989

tamale
archdiocesan
development
secretariat

village water
reservoirs project
tamale
ghana

cebemo
the netherlands

sawa
tamale, ghana

sawa
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V I L L A G E W A T E R R E S E R O I R S

H A L F Y E A R L Y R E P O R T

July 1989

August 1989

Hans Vos
Tamale

CONTENTS.

1. PROJECT EXECUTION.

1.1 Programme

For two years, now the Village Water Reservoirs Project is working in the Tolon district in order to improve the living conditions of the rural population in the field of watersupply. The ultimate aim is to provide better drinking water with a maximum of the people's participation so that the communities will realise the importance of good drinkingwater and actually use and maintain the improved facility(ies) in a proper way. Therefore the project continued its construction and animation activities this semester, and now for the first time, with almost its complete equipment but with a serious lack of senior staff. The main activities in the field were construction of dams and dug-outs, fitersystem in Chirifoyili and Gbirimani, wells, improvement of traditional wells, health education, participation in the location of structures and animation of the population to participate in the PHC programme. At the compound, the main activities were the construction and lay-out of the workshop as well as reporting and ordering of goods.
During this semester we received 15 applications for dambuilding from villages and more than 100 applications for employment. Out of these employment applications we succeeded in recruiting a bookkeeper, one senior animator and a laboratoryman but no engineers for the technical section. Most of the applicants have either middle or secondary level certificates or are drivers, mechanics and labourers/watchmen.

1.2 Area and population.

This year, the project's constructions took place in the same district as last year; the Tolon district. The animation activities were extended to two villages in the Tamale district being Gariziegu and Yong-dakpemyili.
A complete list is given in the following table;(the figure after the sign: / is the number of villages concerned)

Village	population		activity	remarks
		1987	2000	
Chirifoyili	4730/16	6930	dam + 9 wells	almost finished
Gbirimani	1650/2	2500	2 dug-outs +5 wels	finished
Aseiyili	530/2	756	3 dug-outs +2 wells	finished
Dimabi	1700/3	2500	cattle-dam +	90%
				dr.waterdam60%
		1988	2000	
Buyili	205/1	306	survey soc + techn.	
				health talks
Pakyiyili	1280/2	1825	non yet	starts in July
Garizegu	850/3	1210	soc + techn survey	
Yong	2920/1	4160	soc + techn survey	
Cheshe	1245/1	1775	non	very late response

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All inhabitants of the above mentioned villages are Dagomba. In the first four villages construction activities have taken place but next season some activities will continue like better finishing touches of the embankments, repairing aprons which cracked and in some cases improving traditional wells if the monitoring of the quality of the water proves to be better in improved wells

1.3 Approach and procedures.

The aim of the project is to stimulate to the maximum the participation of the population. This is reflected in the procedure, outlined below, that must be followed by the population to get a dam.

The village has to write an application letter for a dam. Every half year the project makes an orientation visit to those villages who applied for a dam. After reporting to the VSC, the VSC selects the new villages. Those villages have been informed that they should pay a certain contribution per person to the project and it is only after they have paid the complete amount that the project will start its activities. When, during the surveys we realise that the motivation is not enough the project will refund the contribution and omit the village from the list. In the future, a preliminairy cost estimate will be made so that the village-contribution reaches the 10% of the final cost of the structures. At this moment, the ten percent is not reached with a contribution of 300 cedis per person. Probably the amount has to be tripled to attain it.
Additional to the contribution in cash, the project demands from the village a contribution in labour and accomodation plus feeding for the fieldstaff whilst working there.

For more detailed reading, it is suggested that you apply for the document "Elaboration of project objectives" with the annex apply-chart.

1.4 Rural engineering activities.

This half year started with a delay in several aspects, which was caused by the complex nature (esp. participation) of the project, the lack of a projectmanager and the resignation of the ghanaian engineer who has not yet been replaced. The result of this was, less daily supervision of the site-work and the delay in making proper design and reports on the forehand.

1.4.1 surveys and design.
This year, the project had its own surveyor who made all topographical surveys. These surveys have been made in the following villages: Kpakyiyili, Buyili, Gariziegu, Yong-Dakpemyili and Nyanyama near Tuna. Soilsurveys are done in the same villages as well.
The designs of the dams under construction are made proper for Chirifoyili and Gbirimani. Designs for Aseiyili and Dimabi are in the draft stage. The complete reporting up to the executed stage is only made for Chirifoyili. In this field, there is serious arrears in the work of the technical section. To be able to make designs and do the reporting in time, the section needs two more rural engineers.
A complete report with design was made on Achibunyor. The "programme rural action" financed this activity.

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1.4.2 Constructions.
The construction in the following villages will be treated hereafter;

Chirifoyili.
All work was finished in May. In June it was found that the aprons were cracked, so repairs are foreseen for next workingcampaign. A lack of compaction of the backfill is the reason. Furthermore, the evaluation mission found a lack of a nice finishing touch, this will be corrected also.

Gbirimani.
The work was finished in May too. In June, with some very heavy rains, the lower embankment near the wells are overflooded. No serious danger for a breakthrough but this has to be corrected. The embankment of the cattle-dam is obstructing the normal flow in the valley. The reason for this mistake is the lack of proper data on the normal waterlevels and also the map on which the design is based gives wrong levels. During the flow of water, the difference of level between the drinkingwater dug-out and the natural spillway around the cattle dam embankment was not 1.8 mtr but at maximum 60 cm!

Aseiyili.
Three dug-outs, two connected with a well, were finished in May. The report with the design, etc., is still in process. No filtering system is built here. A design has to be made for it so that the people can filter the water after taking it from the well. The strainer will be enveloped by a nylon tissue in order to filter out the cyclops.

Dimabi.
The cattledam is finished but had a problem with piping at the end of June. This is temporarily repaired and an emergency spillway at 1.2 mtr lower than the final spillway is made. The final spillway has to have its finishing touches also. The drinkingwater dam is at 20% of the earthworks. The two pipes to supply gravity water to a filteringsystem are laid. Some additional work to protect Yekura against the spillwater has been made. The designs are in draft and the report in process.

Tali.
The Danish community workers supported an urgent appeal to the project to help the village to repair the dam and to improve the spillway. The existing spillway was only capable of draining a normal yearly flood. Two lateral spillways were added by excavating a part of the embankment at two different levels. The big flood that broke the Tolondam was correctly evacuated by these spillways.

An estimate on the input costs during <u>this semester</u> for the various villages is made and costs are as follows;

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project	project investm	vill. labour	observations
housing	504,000		
Compound	551,000		97%
Chirifoyili	11,599,870	442,200	98%
Gbirimani	9,339,150	307,400	90%
Dimabi	14,438,217	171,000	55%
Aseiyili	4,457,826	123,000	80%
Tali	701,000	2,000	100%
Gariziegu	n. a.	20,000	survey only
Kpachiyili	n. a.	20.000	idem
Buyili	n. a.	13,800	idem
Totals	41,591,063	1,099,400	

NB The above costs (in cedis) are only those of the technical section excluding overhead, animation and workshopcosts.

1.5 Animation activities.

In this period, the animation section could fully operate before the technical section and guided the project and village during the construction in two villages; Aseiyili and Dimabi. The programme of different actions and talks is more or less developed now. A complete review of the programme is given in annex 1 and in the halfyearly report of the animation section.

The programme consists of six components;

1. preparation of the village by orientation visit, social survey and discussions about type of facility, organisation in the village etc.
2. health education through 7 talks/discussions of which 6 have been established.
3. guiding the village and fieldstaff during the constructionworks.
4. maintenance education and training.
5. healtheducation in the field of personal hygiene.
6. monitoring use and appropriateness of facilities.

The activities mentioned under 2 and 5 are specially the operationfield of the health institutions and in future we aim that this will be part of a permanent health education programme.
As shown in annex 1, the number of visits to implement this programme will count between 37 - 54; 11 - 20 for the health education for each group of 500 inhabitants. This does not include the assistance during the construction period during which almost always the daily presence of an animator is required. All this work cannot be done by the present staff of three, therefore an increase of personnel is needed.
Mainly the activities were directed towards an exercise to work away the arrears of interventions in the villages where the project started to work this year i.e. Gbirimani, Aseiyili and Dimabi. 1 and 2 of the above mentioned programme have been executed at 90% but in Dimabi only a few (2/3) of the talks have been held. The guidance during the construction-works was more or less done simultaneously with the other activities. The problem was that the progress of the work was so fast that more continuous contacts were felt necessary. The first villages of the project, Chirifoyili

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area, have asked for assistance from the animation section. A slideshow and discussions about guinae-worm were held in two subvillages of Chirifoyili. Social surveys are carried out in the villages of Gariziegu, Buyili and Yong-Dakpemyili.The latter didnot really make a quick mobilisation of the population during the orientation visits. This happened again at the first general meeting. The animators had some difficulties during their first visits for the social survey. We have to consider under those circumstances the omission of the programme of this village. The village of Cheshe paid their contributions only in June, what does one think about their motivation? As a result of this Cheshe is placed last in the programme. Regularly contacts with the health institutions were kept to animate at those levels, a cooperation with the project and hopefully establish in the project villages a permanent p.h.c.system monitored by the health institutions.
A particular point of attention is the collaboration between the animation and technical sections. The time lapse between technical surveys and implementation is not very convenient for the animation activities. For a more elaborate discussion of this issue see the report "Elaboration of project objectives" (Kuypers end Nurre 1989;p22-23). For the time being, it was decided to experiment with several schemes.

1.6 Equipment performances.

To know if the equipment was often not able to work because of breakdowns the mechnical availability is presented below;
This shows the period of time that the machine was available related to the time it could have worked if it was not broken down. In Fact only the time that the machine was needed at the site is taken into consideration.

no & type of equipment		oper hrs	m. avail. in %	observations
1 Wheelloader	936E	737	98.5	
2 Bulldozer	D6H	677	96.4	arrived in Jan
3 Bulldozer	D6H	462	76.4	arrived in Feb
4 Excavator	215	439	96.7	arrived in Feb
5 Compactor	172d	287	97.1	
6 DAF tipper	1800	699	83.2	
7 DAF mpt	1800	828	99	
8 DAF mpt	1800	41	100	arrived in June
9 Motorpump	TR3/Y156	50	55.9	
10 Motorpump	LV1/J70	164	80.3	
11 Compressor		16	26.8	see note
12 Compressor		104	86.1	
13 Lowloader		71	100	

NB/ compressor no 11 was out of service the first quarter but if available, it would have been used aproximately 40 hours. With this figure the total mechanical availability has been calculated.

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The total shifthours this semester was 1100hrs except for

2	Bulldozer	1016hrs
3	Bulldozer	869hrs
4	excavator	794hrs
8	MPT DAF	60hrs because of their respective arrival

time during this period.
The NISSAN patrol cars have not known major problems and have proved to be very reliable and adapted type of vehicles for the present roads in the region.
All the equipment is serviced on a time basis instead of the amount of working hours or kilometers except for the passengercars and motorbikes. This system works very satisfactorily. In June the workshop manager became aware that the diesel in Ghana contains a high percentage (>1.5%) of sulfid which can damage the engines because of the formmation of sulphuric acid during the combustionprocess. A sample will be examined in the Netherlands to know if special lubricating oil is necessary. Meanwhile, the oilchanges will be executed more frequently.

1.7 Additional activities.

The project received an invitation to assist in the official inauguration of the Chirifoyili dam, organised by the village on Saturday, 10th June. Almost the whole projectstaff was present that day. Also present were the DGIS-evaluation mission, a representive of GWSC, the Archbisshop and several members of the water steering committee. During this celebration the communities offered one sheep and a goat plus some eggs to the project. On Saturday, 17th June the staff gathered to share these gifts by throwing a party of rice and drinks. With a music installation the evening was marvellous. Later in the evening, Mrs Benschop and Mr. Attabeh joined us while returning from a fieldtrip.

1.8 Results and conclusions.

After two years of implementation, the project has no proper senior staff. This is the top-issue for the next semester to be resolved.

However A total of aproximately 7,000 people have the benefit of a water-supply for the whole year (Chirifoyili, Gbirimani and Aseiyili) of which 6,400 have most probably a guinea-worm-free water (excluding Aseiyili). 1,700 People (Dimabi) have a perennial water source but it is a cattle-dam and their drinking water dam is under construction. The programme of next year will cover 6,500 people (Buyili, Pakyiyili, Gariziegu, Yong and Cheshe).

The animation activities covered this year a little over 9,000 people (all above villages except Chirifoyili and Cheshe). The animation programme is now almost complete with regard to the preparation of the villages. The maintenance training programme will now be set up and implemented in the villages where the construction is finished.The project reacts only on requests when it feels a real interest, otherwise it will stop its programme in the village (i.e. Yong).

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Five top and soil surveys have been made plus three after-construction surveys.One gully dam was finished,another has been made, five dug-outs, one sloping sand filter, one infiltration gallery, 16 wells lined by 9mtr and 8 traditional wells improved. In all the villages the project has to come back next year, to give finishing touches.

A total figure of project investment reached 41,600,000 cedis plus a village contribution of 1,100,000 cedis in labour and 1,850,000 cedis in cash. It is clear that the contribution in cash doesnot attain the 10% yet.

The equipment worked well and had no major problems.

The staff agrees with the evaluation mission that the project is still very young. Quality and quantity of staff has to increase. One of the major tasks of the project manager is to get a.s.a.p: the right person at the right place. The project, therefore expects the ADC to help it recruit the qualified personnel as soon as possible. After this, a constant attention has to be given to the quality of the work.

A smooth integration between technical implementation and participation is not found but the experiences will show the most appropriate solution. In all while the workspeed does not increase next year it will be disappointing for the, now 21, waiting villages or clusters of villages who applied for a dam.

1.9 Planning.

The wet season will be used to maintain the equipment, celebrate holidays, recruit senior staff, prepare new designs, finish the watersupply reports on the villages we worked in until now, experiment on a little scale the appropriateness of local available gravel and sand for filters, monitoring of the implemented filtering systems and the use and quality of wells, reach an agreement on health education, finalise design of H.F.R. filters, complete the lay-out of the workshop and gravel the compound. Finally the budget and workprogramme for '89 - '90 and '90 - '93 will be considered. During the last months of the year the work in the villages can start again if the weather permits it.Experience shows that this will be as from November.
For more detailed planning see the halfyearly reports of the sections. >

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2. RELATION: ARCHDIOCESE - VVR PROJECT.

2.1 Archdiocesan Development Committee.

The ADC met three times this semester; 22nd February, 15th and 16th June. The most important issues concerning the waterprojects were;

- -Endorsement of the TOR of the Water Steering Committee and special attention was given to the membership of the WSC. The ADC asked that the membership be spelt out, by names or function to show the ADC nominated and co-opted members.
- -The VVR project should act in the future as a central workshop for all waterprojects of the Archdiocese in case of more difficult repairjobs. In the same light was considered equipment that is not necessary all the time and can be shared by the waterprojects under the management (esp. maintenance and repairs on it) of VVR project.
- -During the last meeting on the 16th of June, the CEBEMO representative, Mrs Benschop, suggested the installation of a water-coordinator to assist the development-coordinator as is the case with the health-, women and agriculture projects. The committee accepted this.
- -The first number of 30 boreholes will be financed by the EEC(10) and CEBEMO(20) and hopefully the Dutch government will soon decide on the 70 others. The evaluator of the VVR project will give an advice hereon to the Dutch government.
- -Attention was drawn towards the necessity of a maximum of collaboration and coordination with the health activities of the archdiocese.
- -Mrs Benschop aknowlegded a long term commitment from CEBEMO to every development project including the VVR project. But she stated that at this moment the costs of four expatriates put a heavy burden upon the financial means. CEBEMO's policy is to stimulate the archdiocese to replace the SAVA-staff as soon as possible.
- -As part of the secondary conditions for senior staff, CEBEMO offers possibilities for scholarships and studies.
- -The ADC created the Tamale Archdiocesan Transport Committee (TATCO) which is an advisory body to the diocese about which type of cars etc. will be used. For projects the choice is not compulsory but if possible the project will line up with their choice. Actually the type of car is; Nissan double cabine with diesel engine, 2wd.

2.2 The Water Steering Committee.

The WSC met four times this semester on 7/3, 13/3, 24/5, 14/6. The nominated members are;

Mr David Millar, Chairman replaced by Mr Mark Attabeh when he returned in March.

Mr. B. Annamoh, Sr. a. Mathew, Mr Jim Myers, Br. A. Schrenk

Co-opted members are; The four heads of sections;

Mr. A. Kuypers, Mrs. T. Murre, Mr. T. Tiecke and Mr. H. Vos.

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The following issues were discussed;

-Selection of new villages; four schools in Tamale were rejected and two villages selected for this year; Aseiyili and repair of the Tali dam plus making an improved spillway.
-Working proposal for Maarten Honkoop and decision that he should stay till 1-7-1990.
-Better conditions for senior staff; Increased basic salary to 20/24,000, agreed on giving motorbikes, increased canteen and transport allowance by 50%. If possible accomodation will be supplied by the project and we can promise courses and scholarships now.
-Introductionary workplan for the new projectmanager approved.
-Discussed the major conclusions of the SAVA-mission before they returned to the Netherlands.
-Elaboration of project objectives and the comments of SAVA hereon discussed and took position in the following matters;

1. The total package of technical realisations together with education about safe water and village organisation must remain a condition for intervention,
2. The project must set up a maintenance unit to provide the villagers the know-how about maintaining the realized infrastructures. (dam, wells, filtersystems, pumps etc.)
3. The use of handpumps should be considered also.
4. Intervention policy will be as follows;
   80% of activities geographically concentrated.
   20% of activities geographically spread over the Northern Region, within the project area. (horse shoe).
5. If handpumps on wells are installed then the village has to supply the large part of finances for it.
6. Concerning secondary activities like reforestation, fish-breeding, gardening etc, we should not occupy ourselves with these. Better to direct these to other organizations who work in the respective fields.
7. We must give as much as possible, technical advice but not set up a seperate unit within the VVR project.
8. A maintenance manual has to be made, consisting of all implemented infrastructure. Gradually the volume will grow to a size in which all possible realisations are treated.

-Visa problems were two times discussed, especially what the Archdiocese could do. A mission of David Millar to Accra helped to get the permit for the husband of Mrs. Nurre.
-Approved the staff proposal to shift in the budget so that more money will be available for building, a car and two motorbikes, inventory, survey equipment and site equipment.

A special meeting was held on the 14th of June, in order to discuss with the evaluation mission from DGIS its first impressions and dialogue on project-policies. The meeting was fruitful. For further information see minutes.

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2.3 Primary health care.

The primary health care activities are executed in the project area by two different organizations. The archdiocesan unit of Holycross and the ministry of health. The former is discussed here. At the moment this unit doesnot work in anyone of the villages in which the project works. Most of them were covered by the Tolon healthpost. Gariziegu and Shigu are serviced by the Sanerigu healthpost.
The Archdiocesan health activities are geographically restricted to the Tamale/Sanerigu area while the ministry of health works in the rest. It seems that during the evaluation mission the regional officer of the ministry of health was willing to eliminate this restriction related to the villages in which the project works. Since we donot work in the area of the holycross phc-unit, they cannot interfere and we will address ourselves to the ministry. In June we contacted both organizations and agreed to hold some meetings in order to program our actions together.

2.4 Parishes.

With the parishes we have had contacts with Tuna to make the surveys of Nyanyama and Holycross to have more information about Cheshe and Youngdakpemyili where we began to doubt their motivation. We had more contacts but of informal kind, at the arrival of goods in container 8 and 9 during this semster, but this is of no importance to mention here more specifically.

2.5 T.A.S.C.

There exists in Holland a proverb; Better to have a good neighbour than a far away friend. We honor this by keeping very good relations with TASC. This year we decided to jointly exploit the electric powersupply on a 24-hr basis. The TASC generator is installed in the VVR generator house and maintained by our workshop. TASC in return covers a third of the running costs of the powersupply. In the same light TASC donated the two diesel aircompressors that were not in use. The water supply is also combined now. The town water supply is connected with the underground watertank and an 800-gallon overhead tank supplies a pressure 24 hrs a day.

2.6 The National Catholic Service-centre.

The NCS provides several services to the project, like all handlings for exemption, visa and clearing of goods, purchasing airline-tickets and communication services; post, radio and telex. Importation of cars if locally bought, cannot be cleared in two months. It seems important to inform the NCS 6 months ahead. NCS cleared containers 8 and 9, two buldozers, one excavator, two DAF-trucks this semster. The containers had no delay.

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2.7 Conclusions.

The Archdiocesan Development Committee took several important decisions concerning the project. A central role for waterprojects is contributed towards the VVR-project and equipment that can be used in several waterprojects, can in future be stored at the project. The Archdiocese plans to nominate a water coordinator. Mrs Martine Benschop from CEBEMO stated that CEBEMO has a longterm commitment towards the project, which we found very important. The Water Steering Committee functions well and takes a clear position while discussing the project polices. The improvement of senior staff conditions will enable the project to find capable persons. The project must continue to intensify the contacts with the WSC-members in order to inform and involve them to the maximum; this will upgrade the performance of the committee and the project.
The contacts with the other organizations within the archdiocese have not been much different from the past. No major changes to intergrate the health education have been achieved yet, but good prospects are expected. The service of the MCS in Accra is definitely not 100%. More attention has to be given to this organization to obtain better results.

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3. EXTERNAL CONTACTS.

3.1 Ministry of health.

3.1.1 District of Tamale

During this semester a new district medical officer, Mr D. Abdulai, was nominated who replaced Mrs. A. van Wijgerden. The contacts with the new man were very good. Regularly contacts were made and we hope to come, in the next months, to an agreement on how the PHC activities can be coordinated between the project, the different healthposts and the Holycross unit of the Archdiocese. These contacts helped the animation section to develop its strategy concerning the health education. The lack of manpower at the Tolon health post made it impossible for them to take care of implementation of an educational programme in the villages. Any village, stimulated by the project, that sent candidate vhw's and tba's is included in their training programme, which is held this semester in Kasuyili. Aseiyili and Adumbliyili villages have vhw's and tba's now, trained by the Tolon health post. Gbirimani,Tibogu and Dimabi couldnot yet send their people because no course is yet given in Tolon itself.

3.1.2 Community health nurses

On several occasions the nurses of this post assisted the project by coming with the animation section to perform a roleplay in the villages of Aseiyili and Adumbliyili. In Aseiyili the nurses trained six women to perform the roleplay which they did in Adumbliyili under the assistance of the nurses.

3.1.3 Tolon health post

As mentioned above, this post trains vhw's and tba's. Normally they should also monitor the vhw's and tba's in the villages by visiting them regularly. However, there is no transport available for this. The health educator has a motorbike and he goes to the villages but one man alone cannot monitor correctly all the villages covered by the health post. So at this moment the health post cannot take care of the health education in the projectvillages.

3.2 G W S C.

The Ghana Water and Sewerage Corporation is normally the responsible authority for the watersupply. Lack of means force them to concentrate on townwatersupply. They welcomed the installation of the project, not being able to do so themselves. In official documents and talks they donot mention the use of surfacewater but when asked, they reluctantly admit that for the moment in the horseshoe it is the only solution. In the beginning, the new project manager was introduced at their office and later contacts were established although not very regular. At this moment the laboratory of GWSC assists the project with water quality tests taken by the project in the dams and wells.

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3.3 ACDEP.

The Association of Church Development Projects is a young institute, founded in 1986. It aims at improving the work and programmes of its members through quarterly meetings of project coordinators. During each meeting a topic is introduced and the participants discuss it. Also the venue of the meeting rotates from one project to another so that the visitors can inform themselves of what is happening there. A delegation of the project by its manager and an animator assisted the meeting held in May. It then also became a member of the association.

3.4 PNDC district secretary Tolon.

During the evaluation mission of DGIS, we paid a visit to the district secretary of Tolon. The secretary was very pleased to be able to recieve us in his office for the first time since he took office in Tolon a few months ago. The absence of a full-time projectmanager was part of the cause. Since then more regular contacts have been established, most of the time to inform the district secretary about the activities of the project in the area.

3.5 NORRIP.

The contacts with this planning and development agency are more or less institutionalised by the participation of its project analyst, Mr Ben Annamoh, in the VSC. The project contacted NORRIP several times and also to introduce the new manager and during the evaluation mission. The library was several times visited.
The workshop had contacts with the canadian mechanic to inform him about the equipment used in the project. NORRIP informed us on that occasion of their plans to set up a hiring plant pool and to work on feederroads and even dams and dug-outs.

3.6 Others.

Through the animation section contacts are established with the Christian Mothers Association who work in Garizlogu an Shigu. Discussions started about possibilities to do some health talks together.
Furthermore, the National Council on Women and Development was invited to explain its programme in two villages; Tibogu (Gbirimani) and Dimabi-Daboyni.
In Accra, the project was officially introduced to the Ministry of Works and Housing.
During the visit of the CEBEMO-representive, Mrs Martine Benschop, the project exchanged ideas about the policies and future of the project.
The last month of this semester was greatly occupied with the DGIS-evaluation mission. The mission started really fully on 12 June when Mr Meerburg from the Netherlands met one of the ghanaian members, Mr Annamoh, and made the first fieldvisits. Later in the week the third

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evaluator, Mr Asigre, joined the team. The mission report was only in a preliminary version so that the project could not give its opinion about it. The comments however, made it clear that more attention has to be given to the quality of the work. This will be realised with a lower construction speed and better prepared designs before starting in a village. The animation section was a bit relieved by this point of view, permitting it to work away their arrears on the technical section in the future. It is very clear that a lack of senior staff is one of the reasons for the poor quality of work. The mission concluded also that the project was still in a very early fase and only with more experiences on the filter systems more final choices could be made.

3.7 Conclusions.

The external contacts vary from administration to health, planning and technical spheres. Not specifically mentioned are various contacts with other organizations in Tamale like NGO's and administrative services. The project begins to be known in Tamale through all these contacts. Direct results are not easy to measure but often the project learns from them. A major event was the evaluation mission for DGIS, the Dutch Ministry of development cooperation, which permitted the project to rectify its working strategy. During this mission it was not possible to present a detailed plan for the coming year or later but this will be one of the important issues in the next semester.

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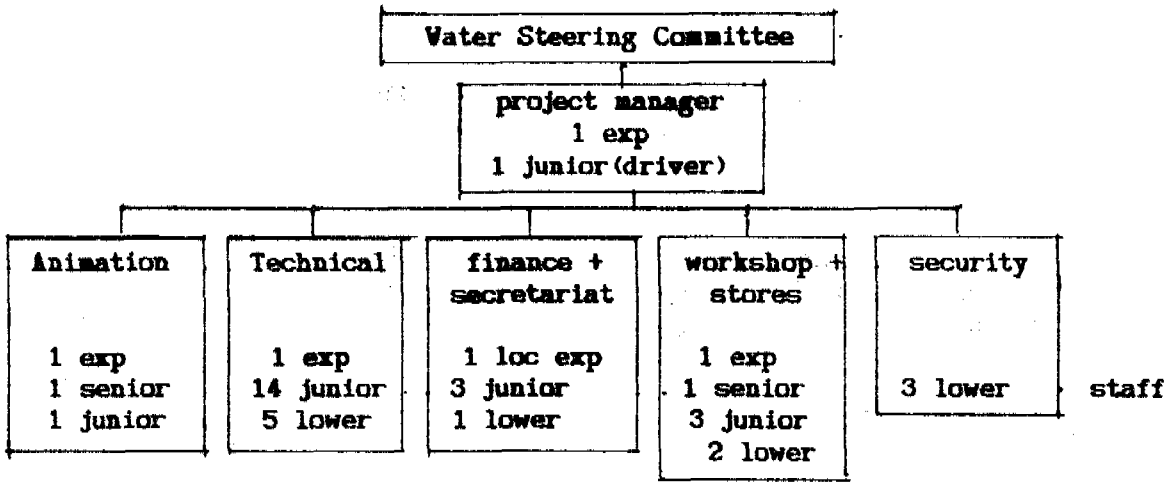
4. PROJECT ORGANISATION.

This chapter deals mainly with the internal organization of the project. A summary of employed staff and their functions together with an organization chart will be given.

4.1 Management

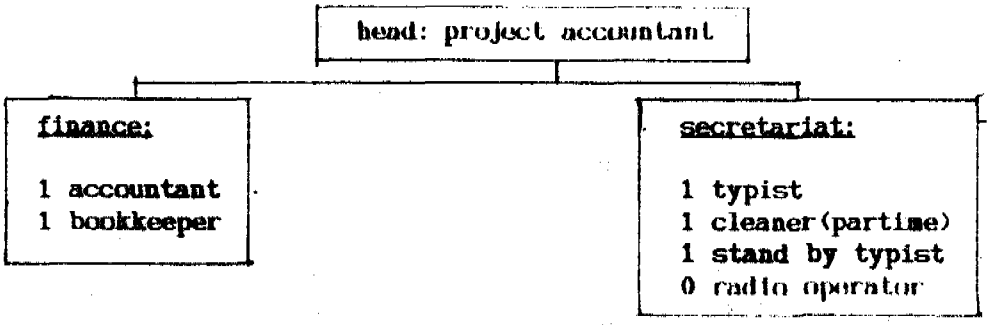
The organization chart for the project is as below;



The security is headed by the Accountant and consists of two nightwatchmen and one daywatchman.

4.2 Administration.

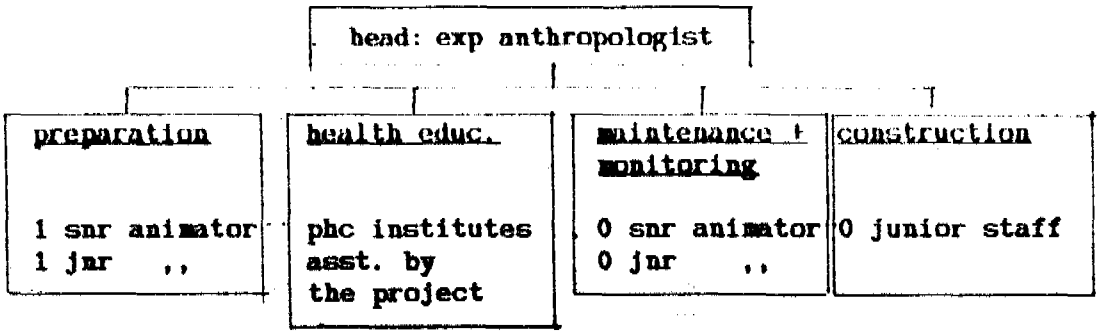
This section is headed by the project accountant. Secretariat, finances and security are included. Usually the storekeeping is attached to the administration section but here with the set up of the store system, it is more logical to charge the workshop with it. This situation will remain for the coming semester.
The organization chart is as follows;



A total of five employees is working in the section. A radio operator won't be full-time occupied, so one of the actual employees will be in charge of the radio.

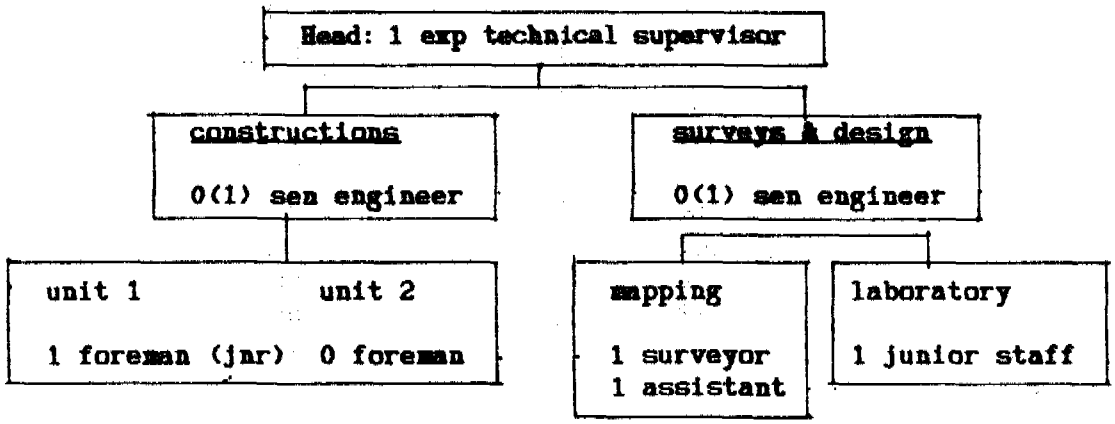
4.3 Animation

In spite of the fact that the animation activities is acknowledged as a very important issue, the number of employees does not reflect this. The workload of the section exceeds the capacities of the staff. Surely in the second semester of this year this anomaly shall be rectified. A subdivision according to the different activities is used to show the organization chart;



Depending on the availability of health personnel from the health institutions 0-2 extra junior staff will be needed to cover the health aspect, especially when the health education has to be done by the section itself. Well before the start of the working season the now vacant places (where mentioned 0) have to be filled.

4.4 Technical section.



Both units will make use of field staff below;

junior staff	3	Truck drivers
	5	operators earthmoving equipment
	2(3)	masons
lower staff	1(2)	pump operator
	0(2)	compressor operator
	1(2)	labourer
	2(3)	assistant masons

NB/ Between brackets is mentioned the required number of personnel when implementation is at full speed.

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4.5 Infrastructure.

The buildings finished in this period are; shower room, pitlatrine, workshop 90% (plastering, electricity, watersystem not yet), overhead tank, part of the pipes of the watersupply and putting the gates at the compoundhouses. During the evaluation mission the constructor of the compound foresaw an expenditure of 3,500,000 cedis. After consultation with CEBEMO a change of budget has been made to avoid an overexpenditure on this code. The cause is an increase of salaries in the last semester of '88 to be paid in this semester. The same trend can be expected because of the renewal of the collective agreement. At this moment an overexpenditure of the new budget with DFL 8,000.00 is foreseen on this code.

4.6 Purchase of projectgoods.

In this paragraph will be listed the state of the different orders as from 1-7-'89. Orders not mentioned have already arrived.

Order	Description	codes	section	remarks
68	shock absorb. DAF/spares Nissan type 160	5203	work	part arrived
70	spares Nissan pick-up	5203	,,	in process
78	Nissan spares	5203	,,	,,
86	diff spares of tools	5203	,,	,,
87	spare footpump	5203	,,	,,
88	compressor spares	5203	,,	,,
89	spares concrete mixer	5203	,,	,,
90	portable pumpset	4202	techn	,,
91	diff construction materials	4203	,,	,,
92	tools & equipment	4204	,,	,,
93	materials, drainage pipe etc	4203	,,	,,
94	site handtools	4204	,,	,,
95	frames for cont. steel prof.	4202	,,	,,
96	slurry sumper pump, hoses tamper	4202	,,	,,
97	steel sieves, level recorder	2601	,,	,,
98	automatic level instr. etc.	2601	,,	,,
99	spares fo refrigerator	5203	work	,,
100	polaroid film	5203	,,	,,
101	spares dozer & excavator	5203	,,	,,
102	spares concr. mixer B Brown	- -	- -	,,
103	5000hrs spares dozer	5203	,,	,,
104	idem ,, excavator	5203	,,	,,
105	watermeter	4100	build	,,
106	galvanized pipe	5203	work	,,
107	rain gutter	4100	build	,,
108	halogenlamp, drillbits, etc.	5203	work	,,

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4.7 Transport and Equipment.

A project, implemented for two years now, is aware of which equipment is really useful or not. As a result of the evaluation the working speed won't increase untill the quality of the work is ensured. For this moment, a slight overcapacity in power is present but should not have to result into any replacement of equipment. Still some small equipment is needed and a list will be given in this paragraph, after a list of rolling fleet and engines. Last year the VSC decided to purchase a car and two motorbikes. As an improvement of senior staff conditions it was decided to provide each senior staff with a motorbike as a transport facility. This results in an extra need of 5 or 6 motorbikes which will be purchased in the next semester.

In the light of the CEBEMO-proposal to use the project as the central point for special repairs and equipment for the waterprojects of the Archdiocese, it is possible that some extra funding is needed. At this moment no ideas about what will be needed are available. The workshop equipment is complete enough as it seems now.

LIST OF ROLLING FLEET AND ENGINES.

Description	brand	type	quantity
Wheelloader	Caterpiller	936 E	1
Bulldozer	,,	D6H	2
Excavator	,,	215 C	1
Compactor	Bomag	172 d	1
Tipper truck	DAF	1800	1
Multipurp. truck	DAF	1800	2
Motorpump	Lister	TR3/J156	1
,,	,,	LV1/J70	1
Generator	,,	27, 12, 7 KVA	3 (1 TASC)
,,	Yamaha	4.7 KVA	2
Aircompressor	Ingersollrand		2 (2 TASC)
4WD pick-up	Nissan	patrol	2
4WD stat.wagon	,,	patrol	3
Motorbike	Honda	100	4

In July or August 6 new motorbikes will be bought locally.

LIST OF EXTRA EQUIPMENT

Description		type	quantity
Concrete mixer			2
hand compactors manual use	2	airdriven/	
rain recorder		autom.	2
level recorder		autom.	2
portable pumpset			1
slurry pump		airdriven	1
level instrument	NA24	2	

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4.8 Remarks.

The project is now at the stage of stability. The organization chart is clearer, needed personnel and equipment is known and one year of workexperience is gathered. In future, only spare parts and some small equipment are required. Replacement of heavy equipment or means of transport means will not be necessary before the working season of '90 - '91.
The large rolling fleet puts a heavy responsibility on the workshop manager to keep it in good condition, but also on the technical supervisor to use it as efficiently as possible. Therefore a high level of skills is needed for those two functions. It will not be easy to find the right persons though.

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6. OTHER PROJECTINPUTS.

6.1 Backstopping from the Netherlands.

The yearly visit from SAVA took place in March, Simon Dermijn (project coordinator at SAVA-office) and Jorien Mudde (accounting and personnel) stayed for two weeks and introduced the new project manager to the project and the Archdiocese. Simon presented in his he last days a his summary of major conclusions which was discussed by the Water Steering Committee. For details see the mission report.
The most important items are:

1. The conditions of service for senior staff has to be improved.
2. The Archbishop would try to assist the project in finding senior staff.
3. The present dutch bookkeeper will stay till June '90 to assist the porject to develop a system of data registration for damconstruction calculation and calculation of economical effects.
4. Continuous problems with residence permits will endanger the project management.
5. The extension of the animation section is a necessity in order to be able to keep up with the working speed of the technical section when the project reaches its maximum speed.
6. A manual of all maintenance aspects is to be made in the coming time.
7. A policy must be developed concerning consultancy activities of the project. See 2.2.
8. An extra car is needed to execute the project correctly.
9. Periodical project reporting will be standardized.
10. To facilitate correspondency, both the project manager and the SAVA coordinator will be the only persons through whom this will be sent except very private issues.

From the SAVA head office the following backstopping came to the project;

- A report on the erosion problems that can occur in this field and which measures that can be taken to avoid or diminish the negative effects (De Jager; Models for the prediction of soil erosion and silt sedimentation in artificial lakes in Northern Ghana in order to determine life time, 1989a, SAVA publication). High yields of silt is expected in the dams, especially gully dams, but also it is found in literature that not all the deplaced sediments will deposited in the dams. (see desilting by washing). The lessening out of this is that further measurements are necessary to evaluate and later estimate the expected silt yields in dams and dug-outs in the horse shoe.
- Simon Dermijn is doing research in literature on the topic of horizontal roughening filtration. Contacts with several institutes which work in this field are established. The project is informed of these contacts and will participate in it in future.
ime. The result of this research is a document written by Simon Dermijn which treats the different possibilities and gives advice on how to start a set up and which methods seem most appropriate(Design of appropriate Water-filter on community level, draft 1 16-6-1989). For the moment, horizontal roughening

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filtration. Filtration through coarse materials in combination with a nylon filtermesh of 100 - 200 micrometer openings promises the best results. A major question to answer will be, should the project aim at a bacteriologically clean water quality or just be happy to filter out the guinea-worm. The first involves technical inputs (knowledge of organisation of maintenance and exploitation) that cannot be expected from the villages for the moment. The most practical solution for the first years will be to aim at a lower standard but to make the systems in a way that optional systems can be added in order to reach the highest possible standard.

- Several times the project needed specific literature or publications which could not be found in Ghana. In most cases, SAWA managed to find what we needed.
- Sawa did rechearch wether the now used iron wire for the gabions could be replaced or not. We have ordered now different type of wire to test it out.

6.2 Training.

The forman and the surveyor with his assistant will undertake a two week training course on concrete constructions at the Tamale Vocational Training Centre in Tamale, during the wet season. Although the budget does not allow this kind of expense in a clear way (mentioned pm), the project found it very important to stimulate and upgrade the skills of its personnel.
The two masons with their two assistants will also follow at the above centre course of four weeks in their field.
With Tractor & Equipment in Accra an agreement is made to train the foreman and 5 mechanics in field maintenance & repairs and on special repairs on the heavy Caterpillar equipment.

6.3 Seminairs.

No staff of the project assisted this semester in a seminair or in a similar meeting.

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ANNEX I

VILLAGE WATER RESERVOIRS
TAMALE GHANA

I am interested to receive the following documents;

O Technical halfyearly report 1st semester 1989
O Animation ,, ,, ,, ,, ,,
O Workshop ,, ,, ,, ,, ,,
O Document "Elaboration of project objectives"
O Water supply report of village:
O Others:

Name :
Adress :

O make it black to get the wished document

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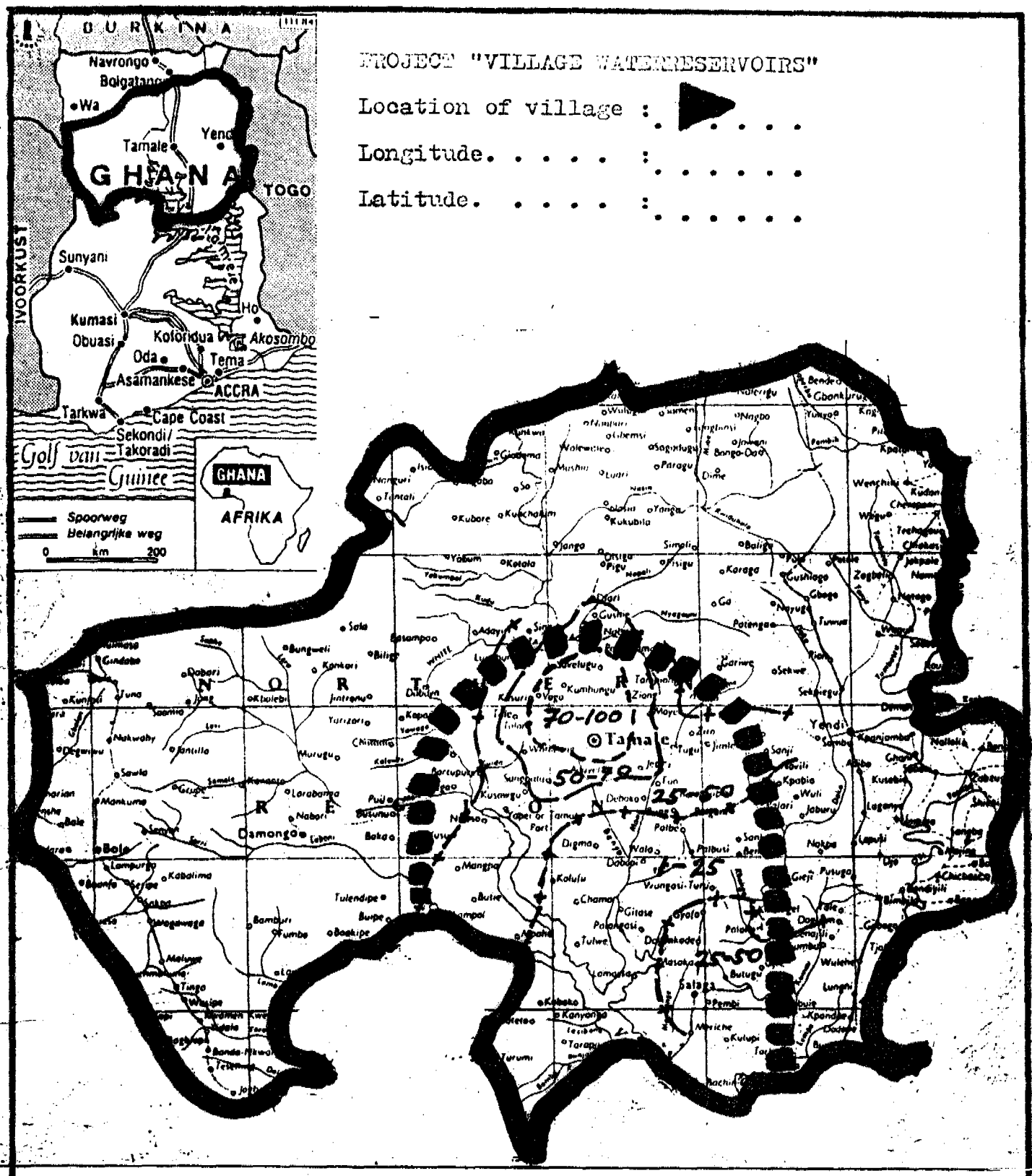
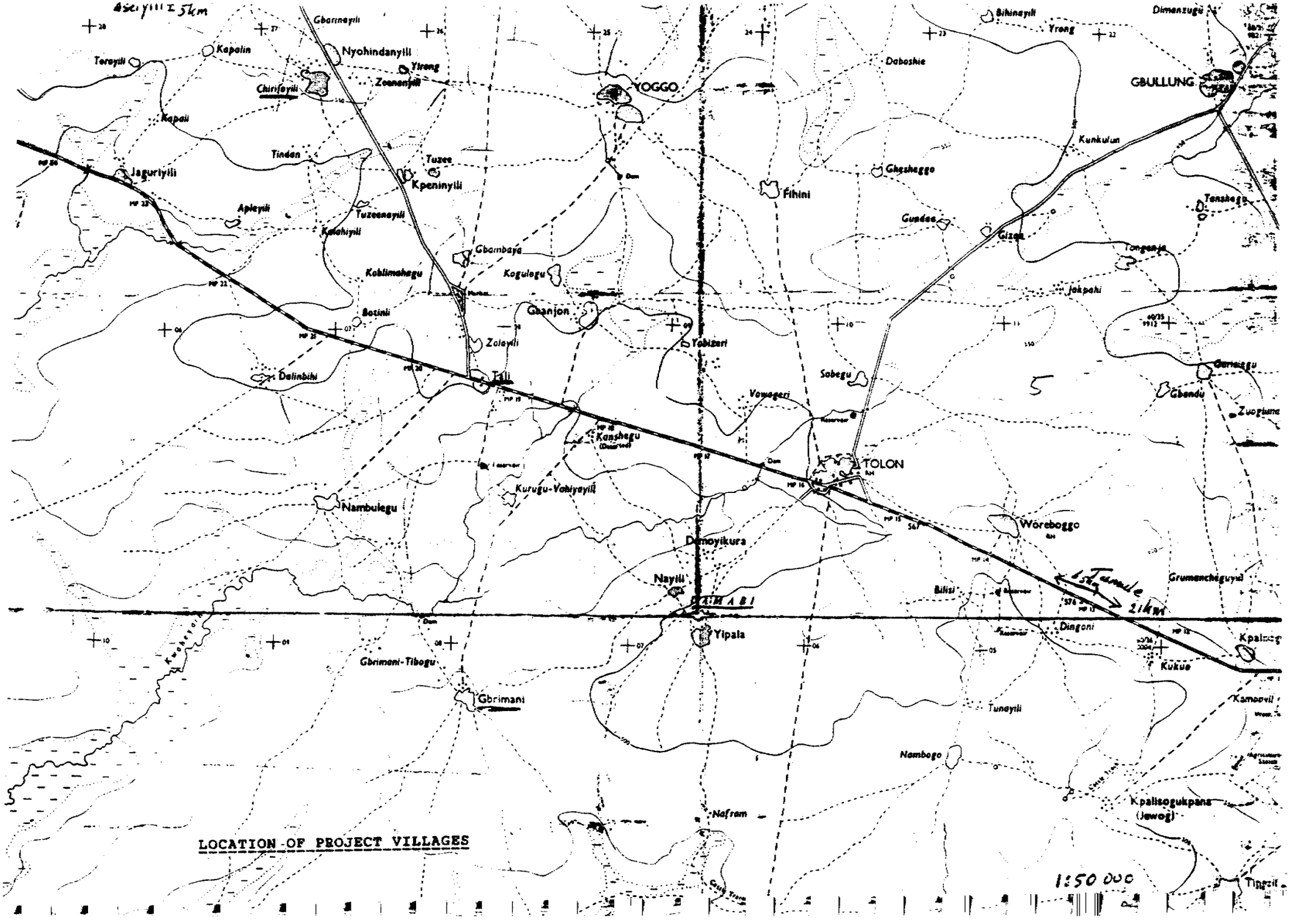
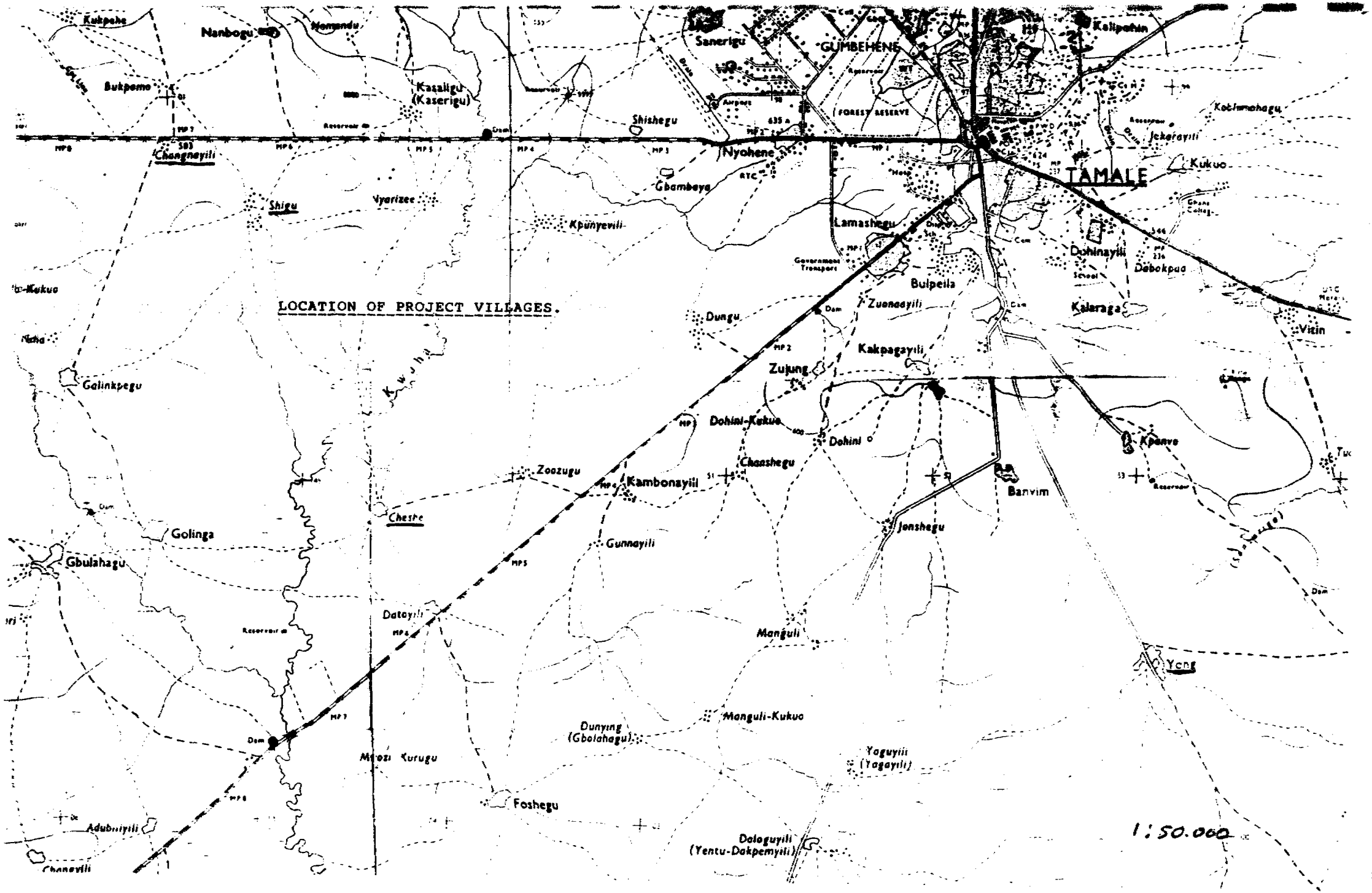
Name :
Adress :

O make it black to get the wished document

ANNEX 2: project area




Gbarinayili
Kapolin
Nyohindanyili
Yirong
Zeenanjili
Chirifayili
Teregili
Kapali
Tinden
Tuzee
Kpeninyili
Jaguriyili
Apiayili
Tuzeenayili
Kalahinyili
Kablimahegu
Botinli
Dalinbihi
Gbambaya
Kogulegu
Gbanjon
Zolayili
Tali
Nambulegu
Kurugu-Vohiyayili
Kanshegu
Yobizeri
Vowogeri
Sobegu
YOGGO
Fihini
Daboshie
Bihinayili
Yirong
Dimanzugu
GBULLUNG
Kunkulun
Ghashaggo
Gundaa
Gizaa
Tenshegu
Tongonja
Jakpahi
Gbendu
Zuogbuna
TOLON
Woreboggo
Demoyikura
Nayili
YAMABI
Yipala
Bilisi
Grumenchegu
Dingoni
Kpalsog
Kukua
Kamavil
Tunayili
Nambogo
Kpalisogukpana
(Jewog)
Nafram
Gbrimani-Tibogu
Gbrimani
1st Tunnel
2.1km
5
LOCATION OF PROJECT VILLAGES
1:50 000


LOCATION OF PROJECT VILLAGES.
Kulpeho
Nanbogu
Bukpeme
Kasaligu (Kaserigu)
Changnayili
Shigu
Vyarizee
Kpunyevili
Shishegu
Nyohene
Gbambeya
Saneregu
GUMBEHENE
FORESTY RESERVE
Kalipofun
Kokomohagu
Ickerayili
Kukuo
TAMALE
Lamashegu
Bulpeila
Dohinayili
Debokpua
Kalaraga
Vitin
Zuonayili
Dungu
Kakpagayili
Zujung
Dohini-Kukuo
Dohini
Kpanve
Banvim
Galinkpegu
Kwahu
Zoozugu
Kambonayili
Chaashegu
Chestre
Golinga
Gbulahagu
Gunnayili
Jonshegu
Datoyili
Manguli
Yong
Manguli-Kukuo
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