

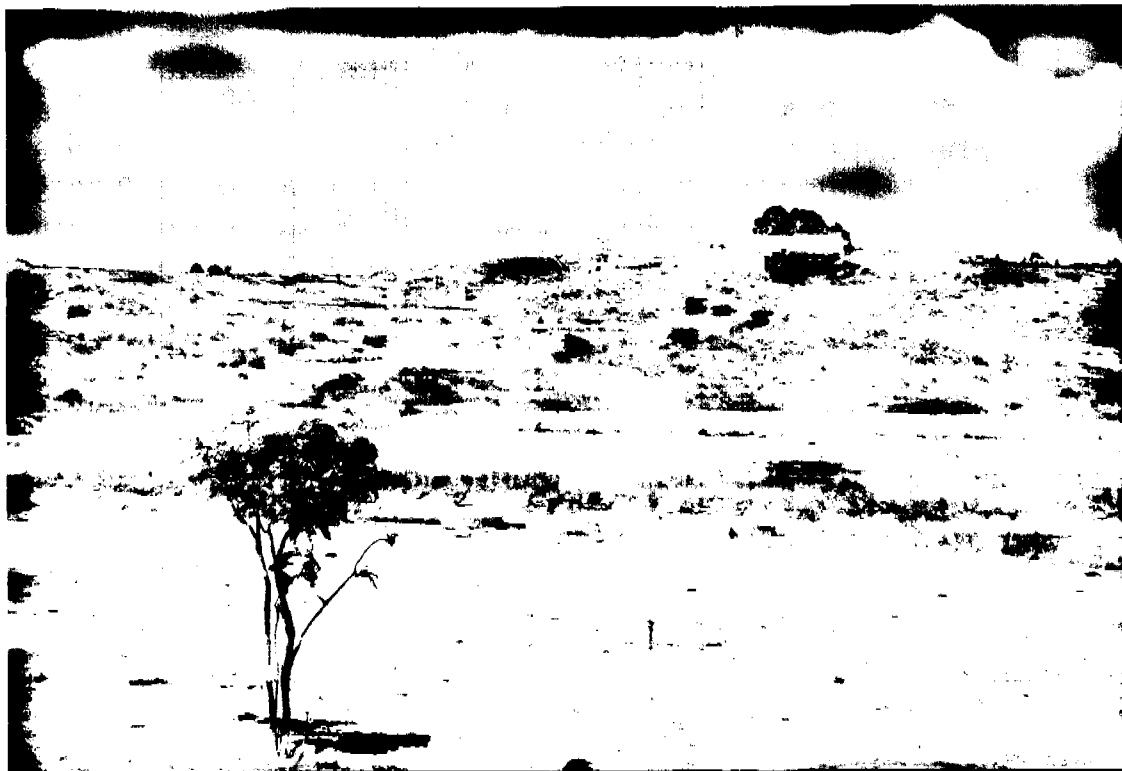
NETHERLANDS MANAGEMENT COOPERATION PROGRAMME "PUM"

Project Eritrea 29274 M ER

ASMARA WATER & SEWERAGE DEPARTMENT (AWSD)

**Report on Mission
from 30 October – 13 November 2003**

**to the Head of the AWSD
Eng. Ghebrekidan Ghirmatsion
Asmara - Eritrea**



New treatment plant Adi Nefas, 20,000 m³/day

**Address of the advisor
A.J. Roebert
Harp 17
2121 VX Bennebroek
THE NETHERLANDS
Tel. +31 23 5848 05
Fax. +31 23 5848 059
e-mail bert.roebert@hetnet.nl**

Bennebroek, 15 November 2003

824 ERAS03 - 19341

NETHERLANDS MANAGEMENT COOPERATION PROGRAMME "PUM"

Project Eritrea 29274 M ER

ASMARA WATER & SEWERAGE DEPARTMENT (AWSD)

**Report on Mission
from 30 October – 13 November 2003**

**to the Head of the AWSD
Eng. Ghebrekidan Ghirmatsion
Asmara - Eritrea**



Stretta Vaudetto dam

**Address of the advisor
A.J. Roebert
Harp 17
2121 VX Bennebroek
THE NETHERLANDS
Tel. +31 23 5848 05
Fax. +31 23 5848 059
e-mail bert.roebert@hetnet.nl**

Bennebroek, 15 November 2003

CONTENTS

- 1 Description of the problem, what problem did the advisor found
- 2 Methodology
- 3 Results of the ZOP-analysis and the other studies
- 4 Research done and communication with AWSD
- 5 Advises given
 - 5.1 On problems mentioned to the Mayor/Governor
 - 5.2 On problems found during the ZOP-analysis
 - 5.3 Advises of 5.2 but grouped into a small number of subjects including the priority given by the director of AWSD
- 6 Follow-up mission
- 7 Traineeship in The Netherlands
- 8 NMCP asks the evaluation of the advisor on the mission as a whole.

ANNEX

- Annex 1 Presentation given at the conclusion of the mission in Asmara on 11 November 2003
- Annex 2 Mail to AFD, Djibouti
- No further reference in the text of the report
- Annex 3 Map of the are surrounding Asmara including the several sites
- Annex 4 Pages 9, 10 and 11 form Inst. Report of SAUR + present organisation scheme
- Annex 5 New tariff system, Asmara Newspaper dated 7 Nov. 2003

Barcode 19341
Location 824 ERAS03

1. Description of the Problem; what problem did you found

The nature of the problem was described by AWSD very briefly and covered in a way all activities of a water and waste water company. As discussed before with the NMCP-Country coordinator the advisor should find his way and try to find out what could be the best approach to answer on the Application by AWSD.

The advisor was received by the Mayor of Asmara who is also the Governor of the Maakel Region at the conclusion of the mission. The advisor summarized the problems on that occasion as follows:

- a. A huge problem is the availability of water resources from the present dams in dry years and dry years occur quite often in the region.
- b. The Asmara Water & Sewerage Department is highly understaffed and is in huge need for well trained professionals.
- c. The French organisations for Development prepared though "SAUR-Afrique" a very professional report that may be called a Master Plan for the drinking water supply of Asmara. Most probably due to also the item sub b. the French activities came to an end in February 2003 for the time being.

2. Methodology

- Preliminary studies at home on internet and in libraries, reading books about the region, studying maps etc.
- To find out what problem should be tackled during this mission the advisor used the so called **ZOP-method**, an originally German method ("Ziel Orientiertes" Programming).
- Visits to many water production sites of AWSD and to ongoing activities in the distribution networks in the city; visit of areas without piped water supply.
- Many talks to staff members and especially the Director.
- Interviews with several acting Heads of Divisions.
- Talks to many people who I met by chance in town.
- Visit to the Royal Netherlands Embassy.
- Final presentation to the Staff on my findings.

3. Results of the ZOP analysis and the other studies.

The method includes to listen to answers of the people in the company on the question around what problems exist. It is a long list. The conclusion of all these items is laid down in three main problems stated in the meeting with the Mayor/governor, see par. 1.

Results in random order according to the ZOP-method.

- Lack of skilled personnel;
- Skilled personnel is kept by the army, see below;

- Salaries are low;
- The costs for fuel and electricity for AWSD as a whole are higher than the total collected water fees;
- Highly dependent (financially etc.) of the City administration;
- High percentage of loss from the water pipes, but reducing by new pipes now;
- Formerly the company was part of the City administration and completely integrated in the bureaucratic structures, no separate budget, no separate personnel policy, no own engineering responsibility etc. the situation is now in transition to ore independence;
- Young organisation without any experience in the work of a "normal" water and waste water company;
- Hopefully the soldiers will come back soon and put at the disposal to also governmental organisations; in order to lay a hand on that future capacity of young (educated) people the director submitted a claim for 150 of them; these former soldiers will not be paid a normal salary: they are supposed to work for the country .
- The Director asked the advisor to give an overview of the necessary skills, job descriptions etc. for the future organisation, not performed;
- The director want me to have a close look also on the technical installations.
- The activities of the French SAUR company seemed to be postponed.

The advisor presented his findings at the end of mission to an audience of Management and Staff of WASD, the Water Resources Department of the Ministry of Land, Water and Environment and some Governmental representatives. The Mayor/Governor assisted as well. The full presentation is given in **annex 1** to this report.

4. Research done and communication with AWSD

The advisor read carefully the existing Master Plan report by SAUR (1998); from 1998, but still considered up to date. Also the report on Water conservation prepared for a Workshop in October 2003 was very instructive.

The communication with AWSD director and other staff was intense; they understood that they themselves asked the advisor to come, they assisted me a lot. At the end of the stay they organised smoothly a seminar morning for my presentation.

The communication with the Head of Department, called Director by the advisor, was very intense and heartily. Quite some time of our conversation could be considered as "board room consultancy". It proved how important it is for directors in developing countries, in an understaffed organisation with only few professional staff to speak from time to time to someone who knows the responsibilities and the difficulties of the job.

5. Advises given

5.1 On the core problems as mentioned to the Mayor/Governor

Advises on the problems mentioned under 1 a, b and c:

Ad 1a: start immediately with the site investigations for the Mereb dam and reservoir including studies on physical planning, geology, hydrology, design and construction.

Ad 1b: I was told that many skilled technicians, engineers, chemists are available in the country but bound by the army without much work to be done; these people could do a good job for the safeguarding of the water supply capital of the country.

Ad 1c: Call upon the French experts to continue their work according to the reports of SAUR.

5.2 On problems found during the ZOP-analysis

More detailed advises are included in the presentation, see annex 1. The main advises are listed here under.

Sheet 11: study carefully the Master Plan of SAUR and try to execute the many suggestions.

Sheet 16: the SAUR report contains 18 action point; to be executed as soon as number and qualification of staff allows.

Sheet 17: the SAUR report contains 9 forms with performance indicators, some of them already used in the organisation; continue and expand the use of these forms as soon as number and qualification of staff allows.

Sheet 19: advise on public relations and related activities.

Sheets 20, 21 and 22: advise on organised communication

Sheet 23: advise on the formation of a Research and Planning group.

Sheet 25 and 26: to use Solar disinfection by means of PET bottles, the SODIS system.

Sheet 28: Protection of dams to be laid down in a Law.

Sheet 30: To prepare an operation and maintenance handbook.

Sheet 31: Give attention to water quality.

Sheet 32: to give priority to upgrading Stretta Vaudetto plant.

Sheets 35 and 36: the use of leak detection equipment, mathematical models and computerised maps as prepared by SAUR c.s.

Sheet 37: installing new connections is a key issue.

Sheet 38: make good use of the higher educated (ex-)soldiers already available in AWSD.

Sheet 39: Prepare a crash programme for the use of groundwater.

5.3 Advises of 5.2 but grouped into a small number of subjects including the priority given by the director of AWSD

More details on the subjects are given in the several sheets of annex 1

No.	Description	Execution	
Subjects of 1st priority as given by Eng. Ghebrekidan, Dir. AWSD			
Subject no. 2	Piped Water in Imbaderho - Village of 5000 inh. without water supply now	(SAUR)	
Subject no. 3	Improve Pumping Station(s) - Stretta Vaudetto - Mai Ciowet - Etc.	SAUR-Fr.	
Subjects of 2nd priority as given by Eng. Ghebrekidan, Dir. AWSD			
Subject no. 1	Operation and Maintenance at treatment plants, Mai Nephi and Tokor - technical assistance - documentation - maintenance system		
Subject no. 8	Solar disinfection		
Subject no. 9	Supplying books etc.		
Subjects of 3rd priority as given by Eng. Ghebrekidan, Dir. AWSD			
Subject no. 4	Training executing new connections - Trainer from Netherlands to assist in the actual work		
Subject no. 5	Assistance organization - 18 actions (SAUR) - 9 indicators (SAUR)	SAUR+AWSD	
Subjects of 4th priority as given by Eng. Ghebrekidan, Dir. AWSD			
Subject no. 7	Mapping and calculation of the network, GIS,	SAUR+AWSD	
Subjects of 5th priority as given by Eng. Ghebrekidan, Dir. AWSD			
Subject no. 6	Public Relations - brochures - instruction the schools		

6. Follow-up mission

The advisor had in mind the policy of NMCP that the relation should not be restricted to just giving some advise, but directed towards a more sustainable relation.

Not all the subjects could in one or the other way covered by NMCP.

It is the advisor's opinion that the following subject could be very suitable for further NMCP involvement, without completely excluding the other subjects. Co-operation could be sought from other organisations.

- Resources, see par. 5.1 subject 1a.
- Subject no. 1, Operation and Maintenance
- Subject no. 8, Solar disinfection
- Subject no. 9. Supplying books
- Subject no. 4, Training on connections

7. Traineeship in The Netherlands

In the present stage of the relation it is less advisable, but after some more activities it could be a role in the improvement of the skills and operations of AWSD.

8. NMCP asks the evaluation of the advisor on the mission as a whole.

The advisor has the opinion that the mission was highly appreciated by the Head/Director and staff of AWSD. Also the Mayor/Governor expressed his feeling of great satisfaction.

The advisor himself was impressed by the huge problems that are existing for AWSD, but also by the way they had been able to keep running the water supply and even to improve continuously with so few means and also impressed by the enthusiasm of the staff to continue under the far from favourable conditions; he was able to group some of the problems and to formulate subjects for further co-operation.

A big advance of the NMCP assistance is the

- low key,
- process like and
- participative approach of the problems.

A practical co-operation in the future with SAUR in the execution of tasks can not be excluded and could be very useful. The advisor sent an e-mail to AFD in Djibouti to this end, see in **annex 2**.



**Asmara Water & Sewage
Department**

**Presentation on
Tuesday 11 November
by Bert Roebert, NMCP advisor**

17-11-03

Asmara Water & Sewage Department

Presentation on
Tuesday 11 November
by Bert Roebert, NMCP advisor

17-11-00 1

NMCP
Netherlands Management Cooperation Programme

- Netherlands organization sponsored by the Government
- Not commercial
- Retired managers, volunteers, who want to do something with their knowledge and experience
- Request by AWS
- NMCP cannot supply money

17-11-00 2

Amsterdam Water Supply

- Amsterdam Water Supply (650 staff, 90 million m³/year)
- 1968-1975 as Hydrologist
- 1975-1997 as Deputy Managing Director
- Many projects in foreign countries like: Tunisia, Egypt, Indonesia, Jamaica, Mozambique, Kosovo, Russia etc.

17-11-00 3

Bert Roebert

- 30 years with AWS, now retired
- Planning of water supply and investments
- Groundwater and nature conservation
- Organizational (budget cuts)
- Personnel
- Financial
- Business Economics

17-11-00 4

NMCP – Advisor, task 1

- Director Ghebrekidan gave me the task:

Look around with all your experience and tell us what you saw

17-11-00 5

NMCP – Advisor, task 2

- Director Ghebrekidan specified my task:

Have you got suggestions for a longer commitment of your country, may be in a project for some years

17-11-00 6

This presentation

- My presentation
- I did not show the presentation in the AWSD
- All mistakes, observations, suggestions are mine
- I want to thank all staff members and especially Mr. Ghebrekidan, who spend a lot of time to show me around and to inform me

17-11-03

7

NMCP-Advisor

- I saw very dedicated people working in AWSD
- I understand the difficult situation of your country and AWSD
- Most probably nothing really new for you
- But I want to highlight the items that struck me

17-11-03

8

NMCP - Advisor

- I must be modest: I am only 2 weeks in the country
- When I say something that could be understood as criticism: nothing is meant personally

17-11-03

9

Task 1

Look around with all your experience and tell us what you saw

17-11-03

10

French Study by SAUR

- Excellent study from 1998, a lot of information and background
- Good reports
- Advise: TO STUDY CAREFULLY THIS "MASTER PLAN", preferably in working group, AND TRY TO EXECUTE THE MANY SUGGESTIONS
- The value of this study cannot be overestimated

17-11-03

11

Private vs. Public: Autonomy?

- Municipal, ownership and operation (Asmara, Amsterdam, Germany)
- Corporate Company, PLC (Public ownership, private business)
- Lease constructions (system of France)
- Private (England, but forbidden by Law in Denmark and The Netherlands)

17-11-03

12

Execution French project

- Foreign costs FrF 99 258 000
- Local works FrF 67 010 000
- Total FrF 166 268 000
-
- Priority phase FrF 68 409 000
-
- Executed only FrF 28 000 000
- until February 2003, stopped then.

17-11-03

13

Execution French project

- Training centre
- Demonstration hall of technical equipment
- Laboratory ready at the Chinga (Expo) site
- French did not come back, installation already a year left alone

17-11-03

14

French activities

- Stopped in February 2003
- NMCP advisor tried to contact the French Embassy in Asmara, but visit was not possible on so short notice
- Necessary to give follow up, possibly via Regional office in Djibouti (Roebert)

17-11-03

15

18 Actions

- Listed in the Institutional report of SAUR, Chapter 5
- It is a good programme of Action
- ADVISE: organize the execution of these actions as soon as number and qualification of staff allows

17-11-03

16

Performance indicators

- I saw several indicators used by AWSD already; several forms related to the proposed forms by SAUR for collecting Management Information, Instit. Report chapter 2.
- ADVISE: continue and expand the use of these forms as soon as number and qualification of staff allows

17-11-03

17

Billing and collection

- Great effort by AWSD Staff
- SULIS, System implemented with the French Ass.
- Wishes of the staff:
 - to be informed better on programme in order to be able to make changes in the programme (training course needed)

17-11-03

18

Public Relations

- I saw good messages in the newspaper on activities of the Warsey-Ekalo brigades
- Message on the increase/structure of tariffs
- Saturday morning casher is open for payment
- People know about shortage of water, but do they know how they can contribute?
- ADVISE: communicate methods to save water, prepare brochures, programme in primary school

17-11-03

19

Management

- A organization Chart is not enough
- Essential is communication between the levels
- Also ORGANIZED COMMUNICATION
- Even when the staff is few and the conditions not favorable: perhaps extra necessary to make good appointments

17-11-03

20

Organized communication

- Meetings
- Agenda spread before the meeting, secretary makes notes on decisions and considerations
- Advise: a weekly meeting Monday 9-11 of the Director (Head) and the next lower level (MT Management Team); make a year planning for these meetings

17-11-03

21

Other regular meetings

- Advise
- Each boss makes appointment for monthly meeting with his direct staff members (1 or 2 hours)
- This on top of day to day contact
- Also important are "horizontal" meeting for projects.

17-11-03

22

Organizational Advises

- Attention to water quality issues
- I would prefer trying to get in the organization a special Research and Planning group for dams, resources, transport, distribution
- Example report by Mr. Akilu c.s. on possible future water shortage in dams (managers have only occasionally time for such studies)

17-11-03

23

Water Quality

- I did not hear much about water quality
- Water quality data ?
- Good French equipment not used, jar test, bacteriological equipment incl. stoves and sterilizer in training centre

17-11-03

24

Quality of drinking water

- From the tap
- From tankers
- From dams
- From the roof tank

Many people boil the water before drinking;
To save time and energy (wood):
instead of boiling : SODIS

17-11-00

25

SODIS = Solar disinfection

- Disinfection by the sun
- SODIS, a well proved system, old principle
- No costs, no wood to get bacteriological safe drinkingwater
- Good communication required, with Health authorities, village administrators etc.
- Good team for transfer of procedure

17-11-00

26

Water Resources = Dams

- Also the small dams are important
- Protection of intake area or at least the riverbed and surroundings
- Removing the silt on the bottoms of the lakes has the attention of the company
- Brick industry is interested in the silt for their production

17-11-00

27

Protection of water resources/dams

- Surface water is used for drinking water
- Important to safeguard to quality
- No people, no cattle allowed to reservoirs
- Protection of intake area; that is a big area
- In intake area no gas station, no new houses, no roads, no pesticides etc.
- Advise to Government: TO LAY THE PROTECTION DOWN IN A LAW

17-11-00

28

Mai Nefhi (1)

- In addition to the SAUR report
- Area around Treatment Plant is little paradise
- Traditional treatment
- 2 pumps, each 450 m³/hour
- We checked the production on the water meter: 5 m³ in 25 sec. is 720 m³/h
- Very high pressure, 23 bar
- 500 mm pipe has no capacity left

17-11-00

29

Mai Nefhi (2)

- Station is well kept, clean, everything under control; diesel generator out of order; see advise in SAUR Report
- No laboratory
- Advise on operations: optimization of process seems possible, amount of Al-dosing (6.5 mg/l), pH, period between back washing, re-use backwash water, make a handbook
- Advise on maintenance: also make a handbook incl. description of equipment

17-11-00

30

Sembel Booster station + Dam

- Water company / Municipality owns a lot of land
- Sembel dam: water used for gardening
- Water of the dam is said to be not suitable; what is the composition, water analysis? Can it be treated? Also this water is a possible source for piped water
- Diesel generator is not operational

17-11-03

31

Stretta Vaudetta Trtm.Pl. (1941)

- Planning to update from 4000 to 8400 to 10,000 m³/day
- Station is partly rehabilitated (pumps)
- See SAUR Report for details
- ADVISE: to give priority to upgrading this plant

17-11-03

32

Adi Nefas/Tokor T.P.

- Recently new system incl. Tokor dam
- Sophisticated equipment asks for sophisticated installation, buildings, laboratory and knowledge
- Already now Cl₂ equipment does not work, water metering questionable
- Vegetation around building is water consuming, compare vegetation at Acria
- Conclusion: the advisor has his doubts about this treatment plant

17-11-03

33

Transport and Distribution (1)

- AC pipes has been replaced by AWSD
- Also many distribution pipes in the city by Warsay-Ekalo, but brings not much experience to AWSD
- Not many fire hydrants is advantage of AWSD
- Many valves, so it is possible to divide the city into separate zones – rationing

17-11-03

34

Transport and Distribution (2)

- Leak detection equipment supplied by SAUR-project, but not in use, because big attention for new pipes

ADVISE: still useful to measure before and after rehabilitation, it shows the result of the work

17-11-03

35

Transport and Distribution (3)

- French project used a mathematical model for calculation of network; is no longer available, but very useful for calculation diameters, flow of water etc.
- French project prepared computerized maps of the network; programme etc. no more available

17-11-03

36

Distribution and Connections

- Installing new connections and exchange of watermeters is a key issue
- personnel constraints and the way of working of Waysay-Ekalo (only in brigades) hampers an active approach

17-11-03

37

Lack of (skilled) personnel

- High level staff (Hydraulic eng./Chemists/ Electrical eng.) required
- Soldiers were trained and assisted in distribution
 - Military service in the company
 - Request for 150 new (Min. of Educ.)
 - ADVISE: use the capacity of higher educated soldiers to the full end; some of them have good academic education, but need guidance, support and encouragement

17-11-03

38

Groundwater

- I understood that a study exists on the use of groundwater around and in Asmara
- It is advisable to have a crash programme available in case of drought (inventory by a student/soldier guided by:
- Task for the Research and Planning group, see earlier sheet

17-11-03

39

Task 2

Have you got suggestions for a longer commitment of your country, may be in a project for some years

17-11-03

40

Continuation, longer project?

- I cannot say much, no promises
- I talked a lot with Mr. Ghebrekidan
- Also training is needed badly, not many people to be trained are available
- Training on the job is a solution
- In the next sheets some suggestions

17-11-03

41

Some suggestions

17-11-03

42

Subject no. 1 O & M

- Operation and Maintenance at treatment plants, Mai Nephi and Tokor
- Technical Assistance
- On the job training
- Missions of one month sponsored by NMCP, GON, etc. technical and chemical (the treatment process)

17-11-03

43

O & M at Treatment plants Subject no. 1

- Attention for improvement operations at the treatment plants
- Optimization of the process: Al-dosing, pH correction, jar tests to be performed,
- Preparing Operation Handbook if not available
- Preparing Maintenance System if not avail.

17-11-03

44

Treatment plants and boosters, Subject no. 1

- Instrumentation (water meters, turbidity, pH, dosing of chemicals, energy consumption, to measure the process as a base for improvement and efficiency
- Pumps running in the suitable range
- Energy saving by frequency converters

17-11-03

45

Subject no. 2 Piped Water in Imbaderho (1)

- Now no piped supply, by tanker only and some limited groundwater
- Village is the 3rd biggest in the country
- Around 5000 inhabitants; plan has been developed for extension of houses and agriculture

17-11-03

46

Subject no. 2 Piped Water in Imbaderho (2)

- Proposed priority project by AWSD
- P 43 from SAUR study:
pipeline 5000 m - 150 mm
- Procurement € 170,000 (1998)
- Local Works € 100,000 (1998)
- Further works in the village, distribution system, fountains, organization of fountain management € xxx,000

17-11-03

47

Subject no. 3 Improve Pumping Station(s)

- Many possibilities, see SAUR study
- To be determined
- Just examples and costs as mentioned by SAUR, but perhaps not all costs
- Stretta Vaudetto (excl. PS) mainly procurement € 657,000 (1998)
- Others like Mai Ciowet € 50,000 (1998)

17-11-03

48

Subject no. 4 Executing connections

- Make a gang (4 man) of Dutch plumbers install a number of watermeters during 3 times a month
- 360 man days + eventual equipment
- Including training of staff

17-11-00

49

Project no. 5 Assistance organization

- Assistance in the evaluation and execution of the 18 Actions, (chapter 5 of Institutional report SAUR)
- Assistance with the use and implementation of the MIS, Management Information System as described in the 9 performance indicators (chapter 2 of Institutional report SAUR)

17-11-00

50

Project no. 6 Public Relations

- Information about the importance for AWSD
- Preparing brochure on the company
- Brochure on tariff and connections
- Brochure on Water conservation

17-11-00

51

Mapping and calculation, Subject 7

- SAUR made computerized map; try to get the programmes and apply them
- SAUR used mathematical model for calculation network try to get the programmes and apply them

17-11-00

52

Solar disinfection – Subject 8

- Safe drinking water by disinfection in PET, plastic bottles
- Good instruction, leaflets are necessary
- Involvement of a NGO or other intermediates to reach the population that need it
- Health authorities should be involved

17-11-00

53

Supplying books etc. Subject 9

- Books on water and waste water treatment
- Books on design, management and maintenance of water supply systems
- Books on design, management and maintenance of drinkingwater and sewerage transport and distribution systems
- Books on computer applications

17-11-00

54

Mission of AWSD to conclude

- **Health, good quality of the water**
- **Education, staff and public on water**
- **Communication, at all levels**

17-11-09

33

Bert Roebert

Van: "Bert Roebert" <bert.roebert@hetnet.nl>
Aan: <AFD@intnet.dj>
CC: "j.wiederhold" <j.wiederhold@hccnet.nl>; <af@gemel.com.er>; "Hagos Gidey" <hag.gid@gemel.com.er>; "Ponti, Mirko-de" <mirko-de-ponti@minbuza.nl>
Verzonden: maandag 17 november 2003 12:49
Onderwerp: Asmara, Erytrée

Messieurs,

Je viens de venir de Asmara en Érytrée d'une mission pour le "Netherlands Management Co-operation Programme", NMCP. C'est une organisation qui met à disposition des entreprises petites et moyennes en tiers monde et l'Europe de l'Est des consultants en retraite indépendants volontaires sur presque tous les terrains de l'économie.

J'ai servi 30 ans dans le Management de la Service des Eaux d'Amsterdam Pays Bas comme Directeur Adjoint, responsable des travaux techniques, des opérations, des recherches, de la conservatoire des terrains naturelles et aussi des choses économiques. Cependant j'ai fait beaucoup des missions aux beaucoup de pays de tiers monde et l'Europe Moyenne et de l'Est pour conseiller sur les questions techniques, économiques et institutionnelles.

(Le NMCP et) la Compagnie des Eaux de Asmara (Asmara Water & Sewerage Department) m'a demandé d'étudier leur situation actuelle et de conseiller sur mes expériences. Peut-être il sera possible d'exécuter des petites projects avec l'aide des ONG's ou des autres institutions.

Naturellement j'ai vue les études de SAUR/BRL Ingénierie, les Rapports de 1998; les deux, Technique et Institutionnelle. Ce sont des Études, un Plan Directeur pour toute la provisionnement de l'eau potable, vraiment impressionantes. Aussi on a fait commencement avec l'exécution des travaux conseillés. On m'a dit qu'on cessé des activités au commencement de 2003.

Pour plus de clarté je voudrais dire qu'il n'y a pas raison de entendre que le Gouvernement des Pays Bas a l'intention de s'occuper avec le financement etc. de l'approvisionnement de l'eau potable ou de l'assainissement d'Asmara. On a des autres terrains d'activités comme l'éducation en la santé.

Je voudrais vous poser une question sur la suite éventuelle des activités. Est ce qu'il est prévu que les activités écrits dans les Rapport de BRL sont reprends?

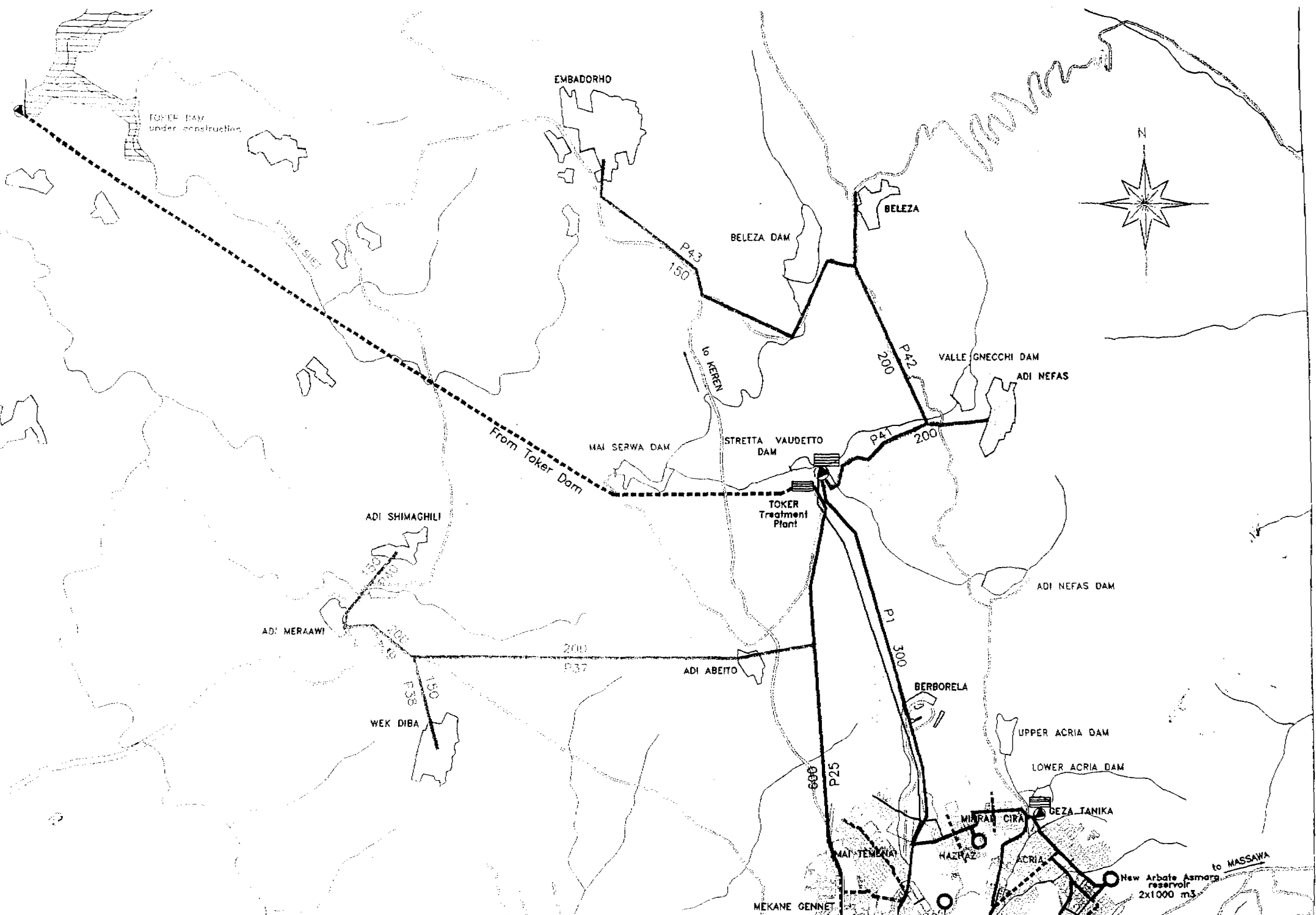
Je vous remercie déjà d'avance pour votre réponse.

Agréez, Messieurs l'expression de mes sentiments de haute considération,

Albert J. Roebert M.Sc.Min.E.
NMCP ingénieur consultant
Harp 17
2121 VX Bennebroek
Pays Bas.

bert.roebert@hetnet.nl

tel. +31 23 5848 055
fax. +31 23 5848 059



TOKOR DAM
under construction

EMBADORHO

BELEZA

BELEZA DAM

P43
150

6
KEREK

P42
200

VALLE GNECCHI DAM

ADI NEFAS

From Tokor Dam

MAI SERWA DAM

STRETTA VAUDETTO DAM

P41
200

ADI SHIMACHILI

TOKOR
Treatment
Plant

ADI NEFAS DAM

ADI MERAAWI

2000
P37

ADI ABEITO

P1
300

WEK DIBA

P38
150

BERBORELA

UPPER ACRIA DAM

LOWER ACRIA DAM

MURRA CIRA

BEZA TANIKA

MAI TEMENAI

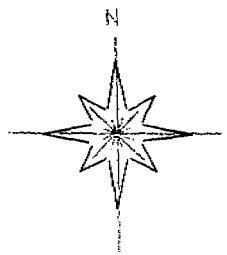
HAZRAZ

ACRIA

MEKANE GENNET

New Arbata Asmara
reservoir
2x1000 m³

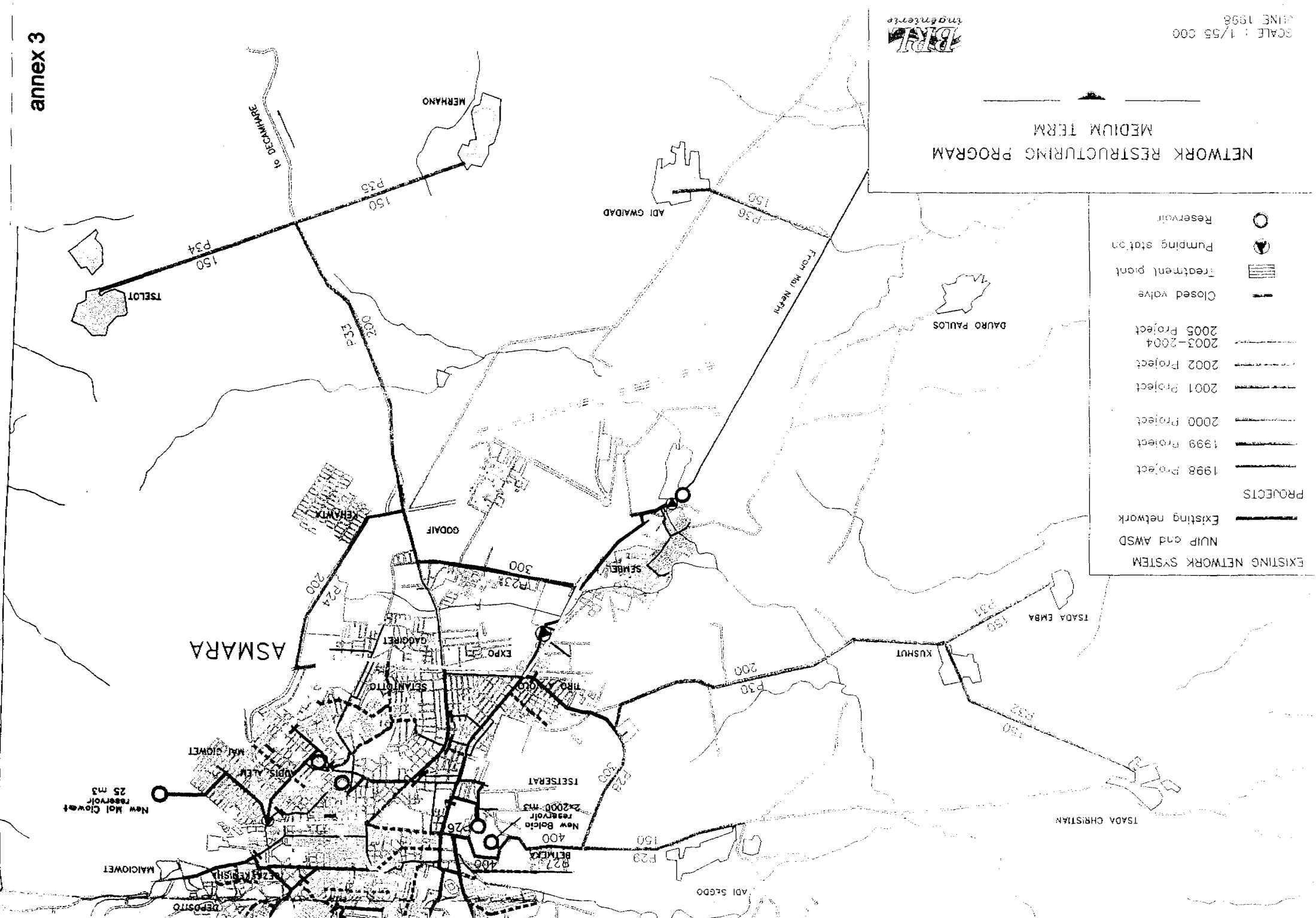
to MASSAWA





NETWORK RESTRUCTURING PROGRAM
MEDIUM TERM

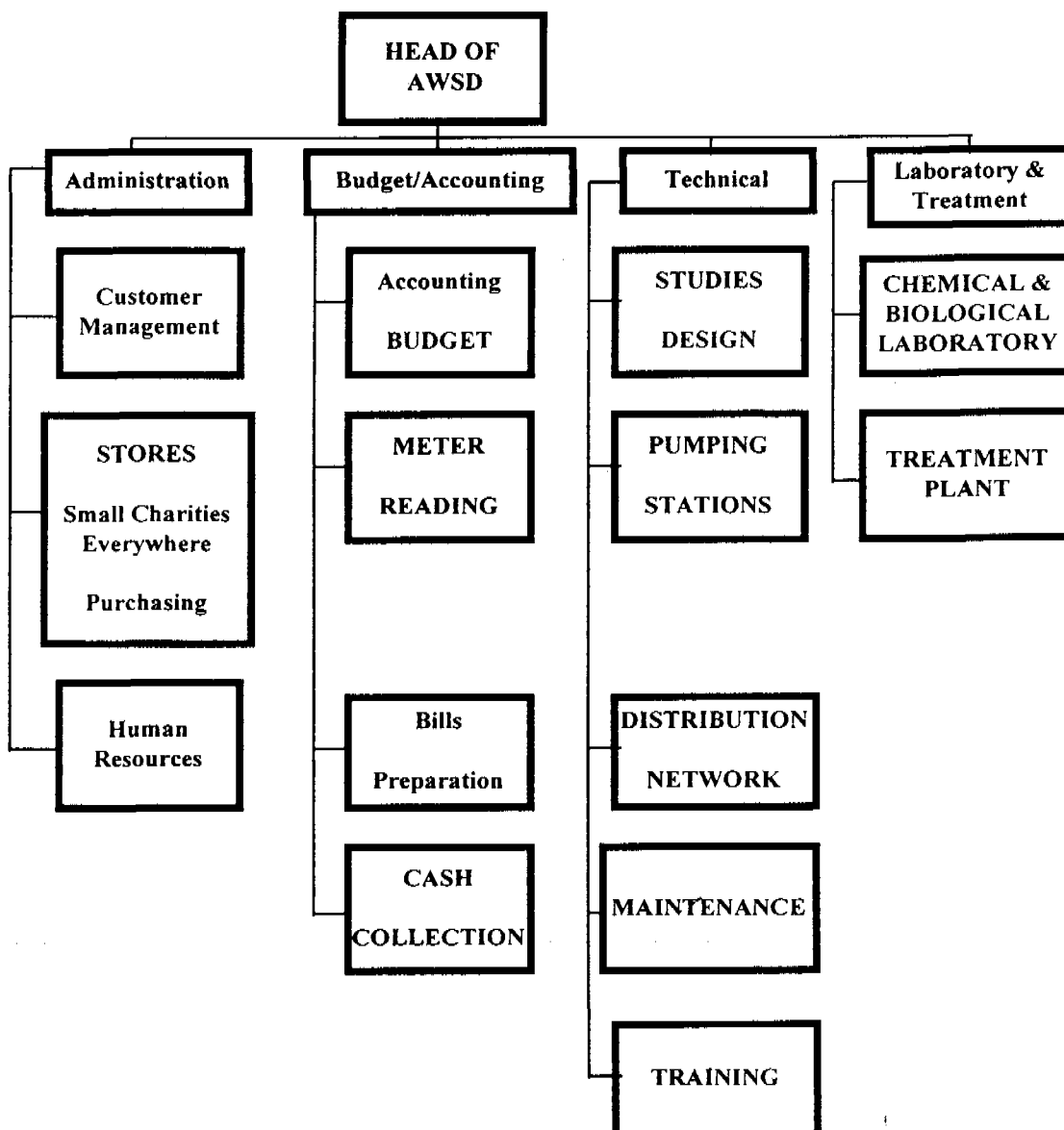
EXISTING NETWORK SYSTEM	
Existing network	
NUP and AWS/D	
PROJECTS	
1998 Project	
1999 Project	
2000 Project	
2001 Project	
2002 Project	
2003-2004	
2005 Project	
Closed valve	
Treatment plant	
Pumping station	
Reservoir	



1.2.1 Organisation Chart: Staff

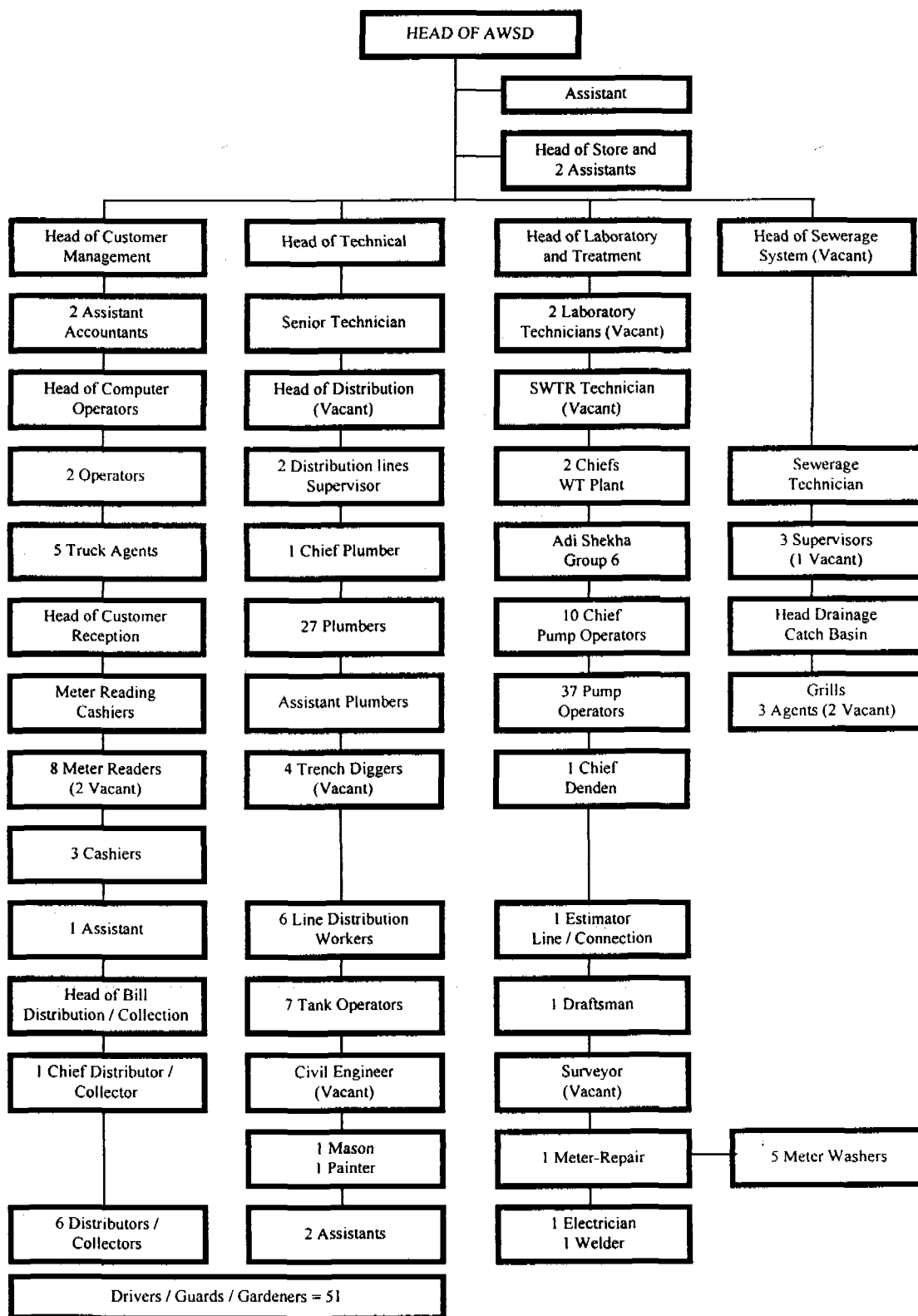
AWSD was operating several years ago with the following organisation chart, which is still the official organisation chart:

Figure 1.1: Organisation chart

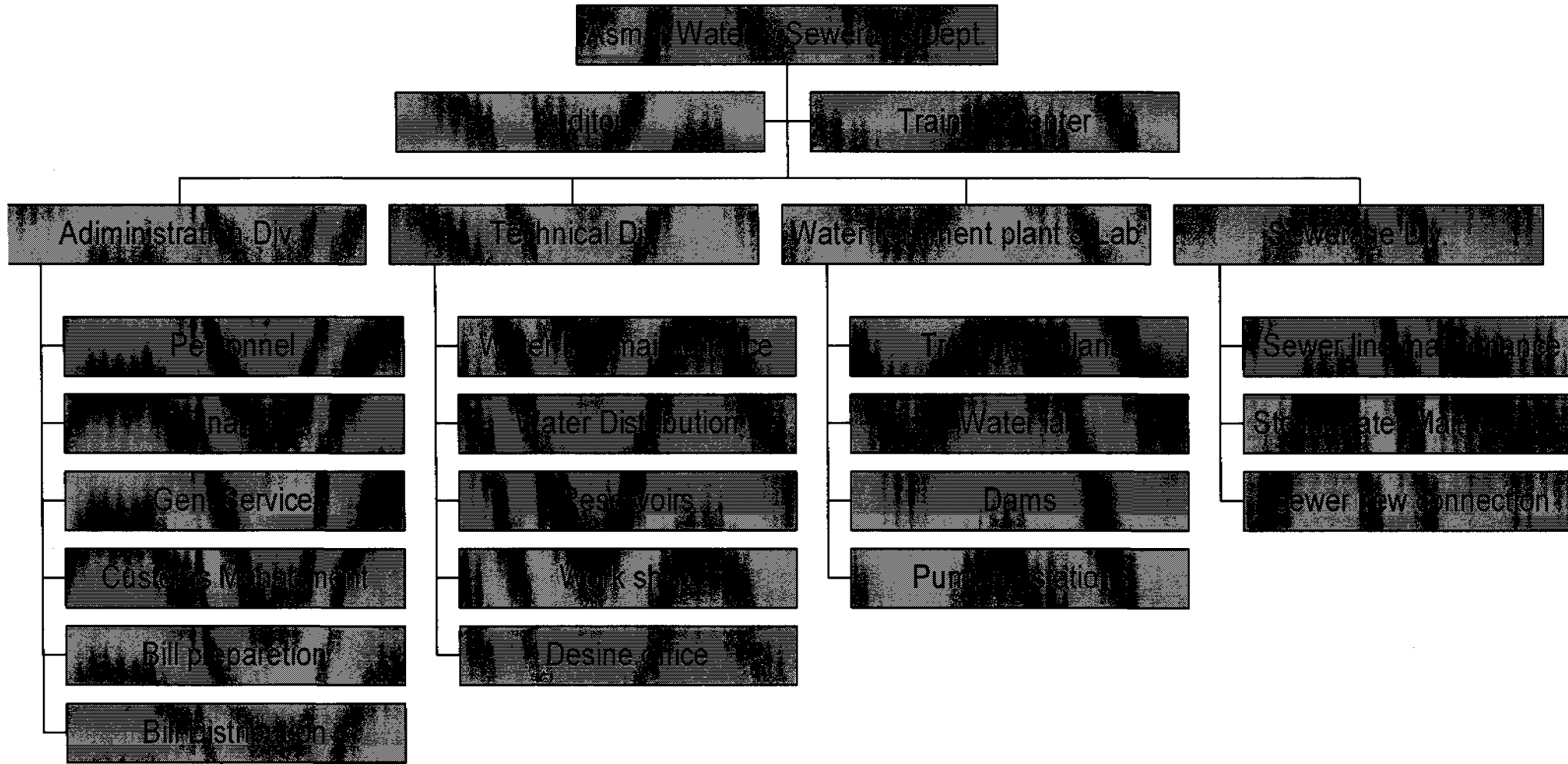


At the time of the current study the organisation chart is as follows: (This organisation chart is not official and includes permanent and contract personnel).

Figure 1.1. (b): Organisation chart (permanent + contracts)



Asmara Water And Sewerage Department



The total number of staff is 366 according to the July Payroll.

Some key positions are vacant:

- Technical section:
 - 1 Head of Distribution Network
 - 1 Civil Engineer
 - 1 Surveyor
- Water Treatment:
 - 2 Laboratory Technicians
 - 4 Water Treatment Technicians
- Sewerage:
 - 1 Head of Technical Section

The different categories of workers are split as follows:

Category	In post	Vacancies
Executives	2	3
Technicians or Clerks	40	7
Professional Workers	285	
Others (drivers, guards, ...)	39	

1.2.2 Main Functions - management style

We must acknowledge that, although of prime importance for the City, AWSO is only a department of the Technical Services of the Town's administration.

To make things more difficult, AWSO's Head office is located 3 km from Town Hall offices, in the Technical Buildings. This is the cause of time consuming commuting. On the other hand, this location is convenient in other ways:

- Central location and easy to extend,
- Town's garage available,
- Large central warehouse premises,
- Easy car parking for customers,
- Easy communication network, but quiet roads.

As a department of the Towns Administration, AWSO is not supposed to run any other function than the technical (including storage) and the customer management.

INSTITUTIONAL AND ORGANISATIONAL STRENGTHENING COSTS

COMPONENTS (YEARS 1998 - 2000)	Cost estimates in French francs		
	LOCAL	FOREIGN	TOTAL
FOREIGN COMPONENT			
Procurement : Systems, equipment and tools			
1. Supply and installation of computer software, including : • Accounting system • Human resources • Warehousing • Interface between the existing billing and new accounting system		250.000	250.000
2. Supply and installation of hardware inc. Air freight : • Accounting system • Human resources • Warehousing • Customer management • Office hardware inc. Software (Spreadsheet, word processor etc.)		1.000.000	1.000.000
3. Operations equipment and tools inc. Shipping :		400.000	400.000
4. Workshop equipment inc. Shipping • Mechanical • Electrical • Garage		500.000	500.000
5. Laboratory equipment, inc. Air freight : • Central laboratory including microbiology • 2 treatment plant laboratories		600.000	600.000
6. Training centre equipment including full scale models, inc. Shipping : • Hydraulic systems • Electrical, mechanical and automation		200.000	200.000
7. Network management & leakage survey : • replacement of 17 000 meters • Procurement (bulk meters) • Leakage equipment • Valves and other equipment		1.000.000	1.000.000
Total procurement		8 410.000	8 310.000
Overseas technical support and supervision			
8. Implementation/supervision of institutional changes 9 man-months • Organisation and procedures in • Operating equipment/laboratories short missions		1.050.000	1.050.000
9. Training centre : • Establishment 2,5 months • Training of trainers in Europe 2 for 2 months		265.000	265.000
10. Computer software training : 2 weeks		400.000	400.000
11. Leakage survey & network management support 5 man-months		100.000	100.000
Total Technical Assistance		600.000	600.000
LOCAL COMPONENTS :			
Works and supply			
12. Building refurbishment/construction work	400.000		400.000
13. Vehicles, inc. Shipping (4 light vans) :	360.000		360.000
15. Office furniture and fittings :	100.000		100.000
16. Replacement of 17 000 meters	425.000		425.000
17. Customer survey (AWSD input)	50.000		50.000
18. Leakage survey (AWSD input)	150.000		150.000
Local technical support :			
19. Accounting and customer management software training	200.000		200.000
Total local components	1.685.000		1.685.000
TOTAL for the Institutional and Organisational component	1.685.000	10 825.000	12 510.000

INSTITUTIONAL AND ORGANISATIONAL PROGRAMME

COMPONENTS (YEARS 1998 - 2000)	ACTIONS
FOREIGN COMPONENT	
Procurement : Systems, equipment and tools	
1. Supply and installation of computer software, including : <ul style="list-style-type: none"> • Accounting system • Human resources • Warehousing • Interface between the existing billing and new accounting system 	P2 ; P3 ; P4 ; P5 ; P7 ; P10 ; P12
2. Supply and installation of hardware inc. Air freight : <ul style="list-style-type: none"> • Accounting system • Human resources • Warehousing • Customer management • Office hardware inc. Software (Spreadsheet, word processor etc.) 	P2 ; P3 ; P4 ; P5 ; P7 ; P10 ; P12
3. Operations equipment and tools inc. Shipping :	P14 ; P16 ; P17
4. Workshop equipment inc. Shipping <ul style="list-style-type: none"> • Mechanical • Electrical • Garage 	P6
5. Laboratory equipment, inc. Air freight : <ul style="list-style-type: none"> • Central laboratory including microbiology • 2 treatment plant laboratories 	P17
6. Training centre equipment including full scale models, inc. Shipping : <ul style="list-style-type: none"> • Hydraulic systems • Electrical, mechanical and automation 	P9
7. Network management & leakage survey : <ul style="list-style-type: none"> • replacement of 17 000 meters • Procurement (bulk meters) • Leakage equipment • Valves and other equipment 	P18
Overseas technical support and supervision	
8. Implementation/supervision of institutional changes 9 man-months <ul style="list-style-type: none"> • Organisation and procedures in • Operating equipment/laboratories short missions 	
9. Training centre : <ul style="list-style-type: none"> • Establishment 2,5 months • Training of trainers in Europe 2 for 2 months 	
10. Computer software training :	2 weeks
11. Leakage survey & network management support	5 man-months
LOCAL COMPONENTS :	
Works and supply	
12. Building refurbishment/construction work	P1 ; P6
13. Vehicles, inc. Shipping (4 light vans) :	P14
15. Office furniture and fittings :	P4
16. Replacement of 17 000 meters	P14
17. Customer survey (AWSD input)	P15
18. Leakage survey (AWSD input)	P18
Local technical support :	
19. Accounting and customer management software training	P3 P10 P12 ; P13

PHASE TWO PROGRAMME OF AWSD

	Components	AFD	AWSD	TOTAL
1	Net work management			
1.1	Replacement of 10,000 water meter	2,058,000.00	200,000.00	2,258,000.00
1.2	Lab Equipments	650,000.00	50000.00	700,000.00
1.3	2 Trucks for Transport of pipe			
	Pumps and chemicals	2,000,000.00		2,000,000.00
2	Supervision	200,000.00		200,000.00
3	Plants and Hydrallie work Rehabilitation			
3.1	Mai Serwa Pumping Station	356,225.00	10,000.00	366,225.00
3.2	Stretta Lake	358,750.00	50,000.00	408,750.00
3.3	Stretta Vaudetts	5,112,400.00	270,000.00	5,382,400.00
3.4	Mai Cihowet Pumping station	330,025.00	10,000.00	340,025.00
3.5	Existing Reservoir	429,450.00	20,000.00	449,450.00
3.6	New Reservoir	5,625,672.00	409,963.00	6,035,635.00
3.7	ASSEMBLY COST	856,668.00		
4	Net Work Restrcturation			
4.1	Primary Net Work			
	P,26, P2, P20, P23, P27, P29, P24, P30, P28, P36, P37, P11, P21,	14,542,538.00	7,501,861.00	22,044,399.00
4.2	Complement of Crash Program P8	203,223.00	256,598.00	459,821.00
4.3	Secondary Net Work			
	S1, S2, S4, S5, S6, S7, S8, S9, S10, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23,	4,128,670.00	1,529,241.00	5,657,911.00
4.4	Old Pipe Resplacement	820,138.00	1,068,112.00	1,888,250.00
	TOTAL	37,671,759.00	11,375,775.00	48,190,866.00
5	Empineering of (3&4)	2,234,028.00		
6	Supervision of (3&4)	558,507.00		
7	Contigence	2,792,535.00		
	GRAND TOTAL	43,256,829.00	11,375,775.00	54,632,604.00

4.1 Primary Net Work

No	Designation	diameter in mm	length in m	procurement cost in FRF	local cost in FRF	total in FRF
P26	Stadium - Forto Balcia reservoir (new)	400.00	1,200.00	1,368,000.00	321,623.00	1,689,623.00
P2	Imbatekera - mia temenai bridge	200.00	900.00	281,385.00	355,289.00	636,674.00
P20	Godaif - Mendefera Decamhere crossroad	300.00	700.00	402,220.00	327,456.00	729,676.00
P21	Kehawta - Mendefera Decamhere crossroad	200.00	1,300.00	406,445.00	513,196.00	919,641.00
P23	Sembel housing - Textile factory	300.00	2,000.00	1,149,200.00	443,639.00	1,592,839.00
P27	Forto Balcia reservoir -Betmeka	400.00	1,500.00	1,710,000.00	402,028.00	2,112,028.00
P29	Adi Segdo	150.00	2,000.00	473,200.00	279,201.00	752,401.00
P24	Asmara Brewery -ring road Kehawta	200.00	1,550.00	484,608.00	273,100.00	757,708.00
P28	West belt (tsetserat)	300.00	1,500.00	861,900.00	332,729.00	1,194,629.00
P30	Kusht	200.00	5,000.00	1,563,250.00	880,968.00	2,444,218.00
P36	Adi Guaidad	150.00	2,300.00	544,180.00	321,082.00	865,262.00
P37	Toker line - Adi Abieto - Wek Diba road	200.00	5,000.00	1,563,250.00	880,968.00	2,444,218.00
P31	Tsada Emba	150.00	1,500.00	354,900.00	209,401.00	564,301.00
P32	Tsada Christian	150.00	3,000.00	709,800.00	418,802.00	1,128,602.00
P33	Decamhere road	200.00	4,000.00	1,250,600.00	704,774.00	1,955,374.00
P34	Tselot	150.00	2,500.00	591,500.00	349,002.00	940,502.00
P35	Merhano	150.00	2,500.00	591,500.00	349,002.00	940,502.00
P38	Wek Diba	150.00	1,000.00	236,600.00	139,601.00	376,201.00
	total			14,542,538.00	7,501,861.00	22,044,399.00

Asmara Water & Sewerage Department

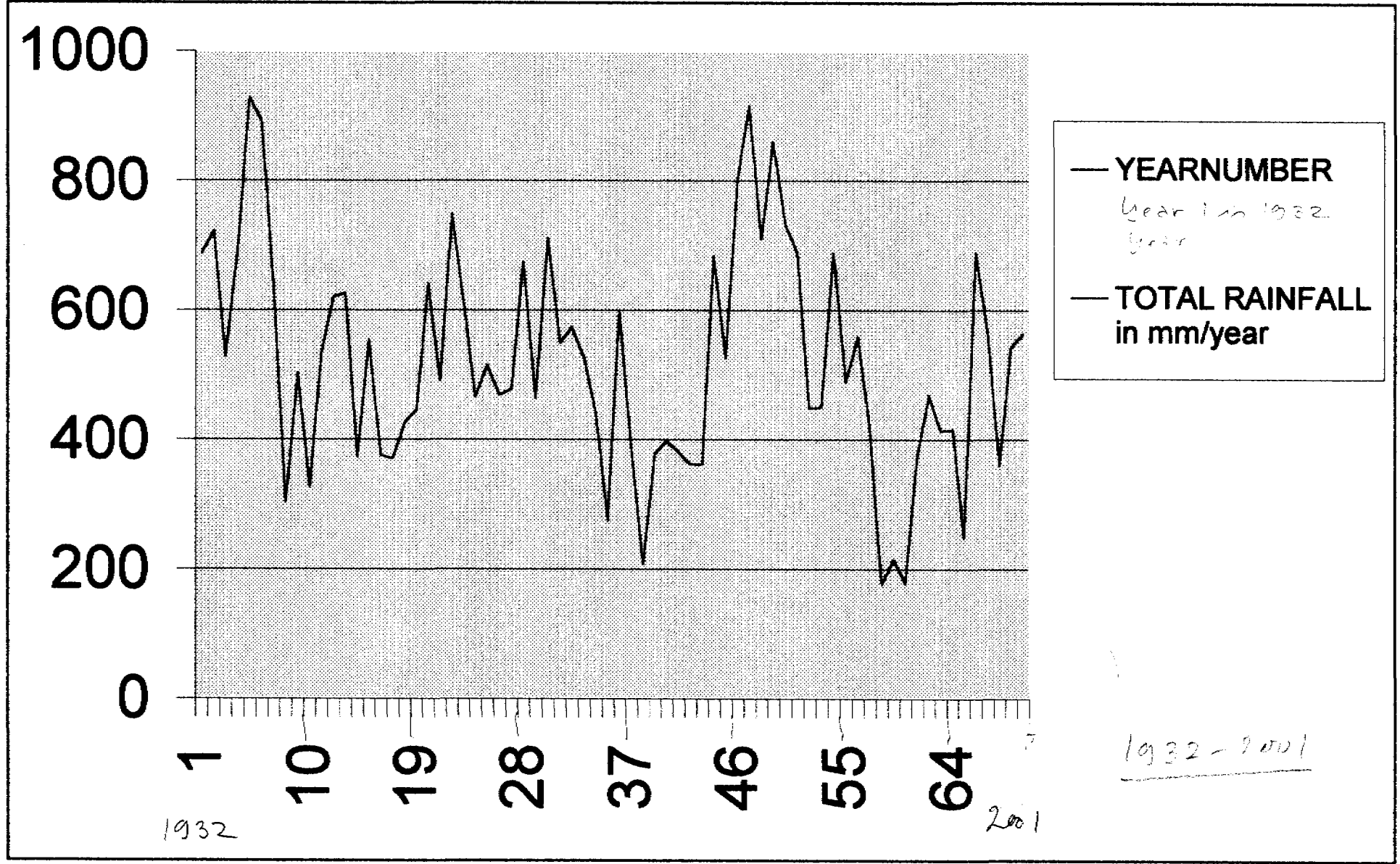
Tariff Line Listing

Line ID	Name	Description	Min.	Max.	Rate	Account	Last Updated	Last Updated on
Tariff Name :		111999 September 2001						
AWD - Awsd Tanker		111999 September 2001						
AWD	Awsd Tankers		0	9,999	10.00	CONS	Kariuki	11 Mar 2002 11:34
CON - New Contract		111999 September 2001						
NOT	Connection fee Out of Town				2,100.00	CNFE	Kariuki	11 Mar 2002 11:48
NTW	Connection fee within Town				1,500.00	CNFE	Kariuki	11 Mar 2002 11:52
TRF	Transfer / Change of Name				170.00	CNFE	admin	17 Aug 2002 08:41
DEP - Deposits		111999 September 2001						
DOM	Deposit - Domestic				100.00	DEPO	admin	16 Aug 2002 16:01
IND	Deposit - Industrial				1,500.00	DEPO	admin	16 Aug 2002 16:02
TNK	Deposit - Tanker				1,500.00	DEPO	admin	13 Aug 2002 09:16
DOM - Domestic		111999 September 2001						
L01	Domestic Minimum of @20 nfa		0	6	3.33	CONS	Kariuki	13 Mar 2002 10:17
L02	Domestic Cons < 30		6	30	3.00	CONS	Kariuki	13 Mar 2002 10:26
L03	Domestic Cons >30 and <50		30	50	4.00	CONS	Kariuki	11 Mar 2002 11:39
L04	Domestic Cons >50		50	9,999	5.00	CONS	sa	30 Oct 2003 09:27
IND - Industrial		111999 September 2001						
L01	Minimum of @20 nfa		0	6	5.00	CONS	admin	22 Aug 2002 09:17
L02	Industrial		6	9,999	5.00	CONS	admin	22 Aug 2002 09:18
INS - Institutional Tanker		111999 September 2001						
INS	Institutional Tankers		0	9,999	7.50	CONS	Kariuki	11 Mar 2002 11:35
LVY - Levy		111999 September 2001						
STD	Stamp Duty				0.20	SDUT	Kariuki	11 Mar 2002 11:36
MIS - Miscellaneous		111999 September 2001						
MIS	Miscellaneous Services				200.00	MISC	Kariuki	11 Mar 2002 11:36
MTR - Meter Rent		111999 September 2001						
015	Meter rent, upto 15mm		0	15	1.00	MRE	Kariuki	11 Mar 2002 11:36
020	Meter rent size from 15-20mm		16	20	1.00	MRE	Kariuki	11 Mar 2002 11:36
025	Meter rent size form 20-25mm		21	25	1.00	MRE	Kariuki	11 Mar 2002 11:36
038	Meter rent 25<size<38		26	38	1.00	MRE	Kariuki	11 Mar 2002 11:37
Par - Paradizo		111999 September 2001						
L02	I1		0	3	1.00	CONS	sa	30 Oct 2003 09:30
Par	L2		4	6	2.00	CONS	sa	30 Oct 2003 09:31

Asmara Water & Sewerage Department

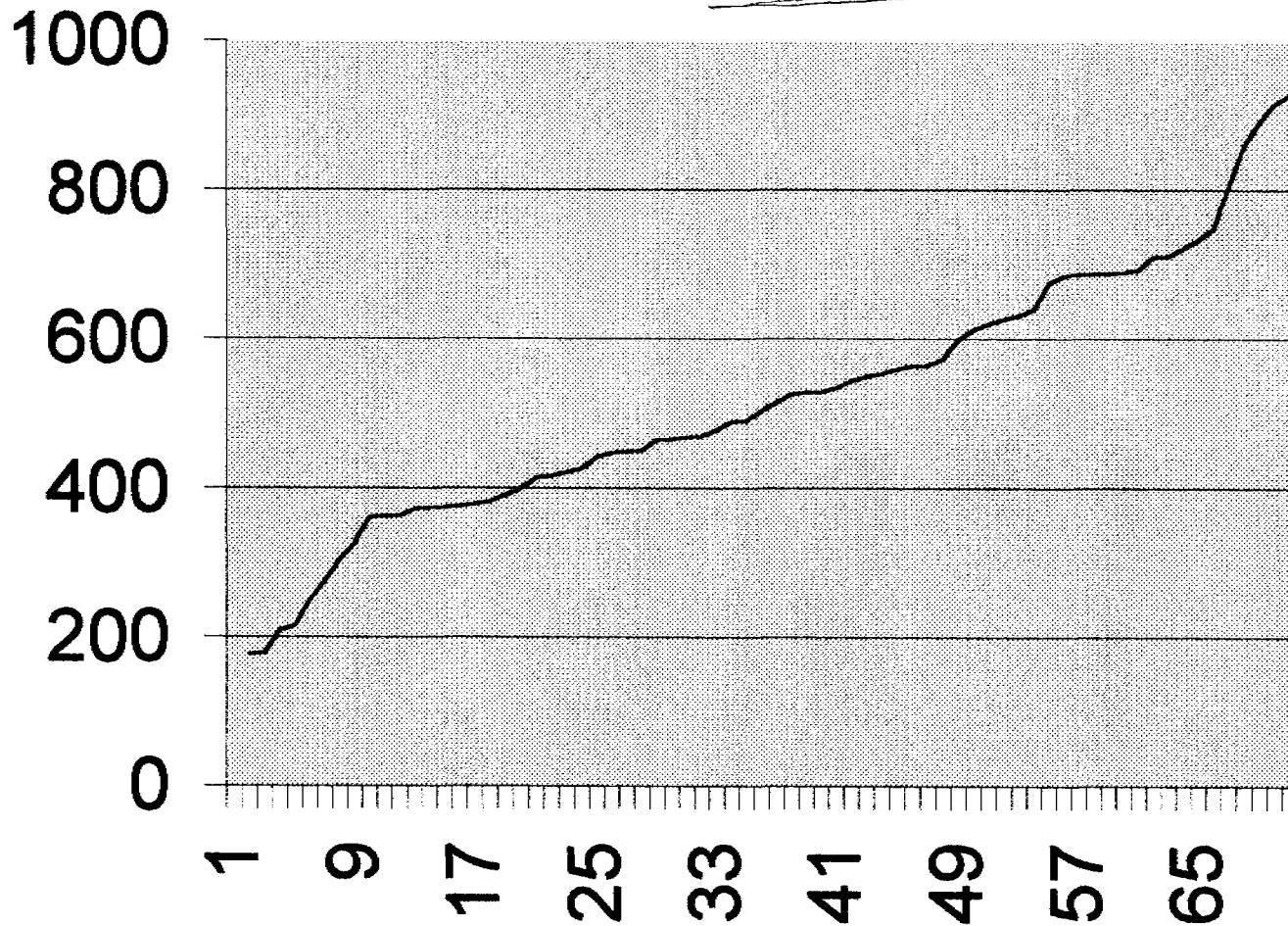
Tariff Line Listing

Line ID	Name	Description	Min.	Max.	Rate	Account	Last Updated	Last Updated on
PTY - Penalties							111999 September 2001	
PTY	Penalty for Late Payment				15.00	PENT	Kariuki	11 Mar 2002 11:37
PVT - Private Tankers							111999 September 2001	
PVT	Private Tankers		0	9,999	1.20	CONS	Kariuki	11 Mar 2002 11:37
SRV - Services							111999 September 2001	
COR	Disconnection on request				200.00	MSER	Kariuki	11 Mar 2002 11:37
MTC	Meter Change				500.00	MSER	Kariuki	11 Mar 2002 11:37
MTR	Meter Repair				500.00	MSER	Kariuki	11 Mar 2002 11:38
MTS	Special meter reading				200.00	MSER	Kariuki	11 Mar 2002 11:38
MTT	Testing of meter				500.00	MSER	Kariuki	11 Mar 2002 11:38
TOD	Normal Reconnection				500.00	MSER	Kariuki	11 Mar 2002 11:38
TOR	Other Reconnection				200.00	MSER	Kariuki	11 Mar 2002 11:38
SWR - Sewerage							111999 September 2001	
SWR	Sewerage				10.00	SEW	Kariuki	11 Mar 2002 11:38
WSD - AWSD Extra							111999 September 2001	
WSD	AWSD Extra		0	9,999	15.00	CONS	kariuki	19 Sep 2002 17:25
----- 111999 September 2001 -----								



TOTAL RAINFALL in mm/year

1932 - 2001



$\frac{20}{7.2} \times 100\% = 2.8\%$
6000 mm

— TOTAL RAINFALL in mm/year

50% dry year 503 mm
10% 275 mm

mm/year rainfall data



ፕረዚደንት ኢሳይያስ አፈወርቂ፣ ንልኡኽ ኢማራት አዘራረቡ



ፕረዚደንት ኢሳይያስ

ፕረዚደንት ኢሳይያስ አፈወርቂ፣ አቡ-መንበር ትካል ወደባት፣ ጉምሩክን ነጻ ጠን ዳባይ ሱልጣን ቢን ሰሊም ንዝመርሖ ልኡኽ ኢማራት፣ ትማሊ ምሽት ኣብ ኦሪቲ ደንደን ተቐቢሉ ኣዘራረቡ።

ኣብቲ ርክብ፣ ክልቲኦም ወገናት፣ ኣብ መንጎ ኤርትራን ኢማራትን ብተፈሕ፣ ምስ ዳባይ ደማ ብፍላይ፣ ኣብ ወደባት፣ ነጻዞባ፣ ንግድን መንግሥቱን ኪግበር ብዛዕባ ገበአል ምትሕግጋዝ ዓሚቕ ስተ ኣካዩዶም።

እዚ ልኡኽ ኢማራት ኣብ ኤርትራ ዝገብሮ ዘሎ ዑደት፣ መቐጸልታ ናይቲ ኣብ መንጎ ኤርትራን ዳባይን ዝተጀመረ ርክባት ኮይኑ፣ ኣብ ምልውዋጥ ተሞክሮን ወፍርን ከካይድኦ ንገበአል ምትሕግጋዝ ዳባይ ኣካዩዶ ጸኒሖዮ።

እዚ ኣብ-መንበር ትካል ወደባት፣ ጉምሩክን ነጻ ጠን ዳባይ ሱልጣን ቢን ሰሊም ንዝመርሖ 10 ኣባላት ዘለውዎ ልኡኽ ኢማራት፣ ትማልን ብቅድሚያ ትማልን ኣብ ወደባት ዓሰብን ባጽዕን ከምኡውን ኣብ ደቡት ዳባይ ዑደት ኣካዩዶ።

ፕረዚደንት ኢሳይያስ አፈወርቂ፣ ኣብ ወርሒ ሓምለ 2003፣ ኣብ ዳባይ ኣብ ዘድሖ ምብጻሕ ሰራሕተኛ ምስ ወራሽ ዓራት ዳባይን ሚኒስተር ምክልኪል ኢማራትን ኣገሪኽ መሓመድ ቢን ራሽድ፣ ከምኡውን ዝተፈላለዩ ሰባ-ሰልጣንን ሓለፍቲ ናይ ዝተፈላለዩ ፕሮጀክትታትን ትካላትን ተራሽቡ፣ ኣብ ክልተኣይ ዝምድና ክተኣታቱ ብዛዕባ ገምጋሚ ኣሰራርሓ ከምዝተየን፣ ኣብ ኣገደስቲ ቁጠላዊ ቦታታት ከምዝበጸሑን ዝገከሮ።

ፕረዚደንት ኢሳይያስ አፈወርቂ ኣብ ዘባ ጋሽ-ባርካ ዝካየድ ዘሎ ንጥፈታት ሕርሻ ተዓዘቡ

ኣገዳሲ ሓበሬታ ብዛዕባ ዕደላን ኣጠቓቕማን ማይ ከተማ ኣስመራ

ባርንታ (አ.ዲ.ኤ)፡- ፕረዚደንት ኢሳይያስ አፈወርቅ፣ አብ ዞባ ጋሽ-ባርካ ካካዶድ ዘሉ ንጥፊታት ሕርሻን ኣብቲ ዞባ ኣብ ዝመጸእ ግመት ኪሰላ ስል ተወጢኑ ዘሉ መደባት ሕርሻን ንምግብ፡ ብላ፣ 57 ስዳር ኣብ ንሉሳ ዞባታት ተሰይዖ፡ ገሉጅ፡ ሃይኪታን መገሉን ዑደት ኣካዱዱ።

ፕረዚደንት ኢሳይያስ ብኣመሓዳሪ ዞባ ጋሽ-ባርካ ኣቶ መሓበሎ ኑርሑሲንን ኣለፍቲ ሚኒስትሪ ሕርሻ ናይቲ ዞባን ኣካዳሚ ስራሕ ኩባንያ ሰገንን ተሰንዩ ዑደቱ ብገሉሳ ዞባ ገሉጅ-ገርሰት ዝተባህሰ ስታ ብምፍላም፡ ብዘላገንያ ህንጻ ሰገን ምቅርራብት ተወዳኢ ኣብዚ ቀረባ ጊዜ ክሰራሕ ተሓሲቡ ዘሉ ልዕሊ 3 ሽሕ ሂኪታር መራት ዘልምዕ ዝክኣል ዲጋ ተግባሩ ብደራሲቲ ናብ ዓላግድር ኣግሮ ኢንዱስትሪ ብምምራሕ ብኣለፍ ቲቲ ትካል ብዛዕባ ኣብዚ ግመት ዘዘ ዝተሓርሰ መራትን ክነታት ዘራእትን መግለጺ ተዋሂብዎ።

ኣለፍቲ ዓላግድር ኣግሮ ኢንዱስትሪ ኣብ መግለጺ እምነት ዓመት ዘለ ልዕ 500 ሂኪታር ስምዕም ተዘራራድ ተጻጺዶ ኣብ መስርሕ ምንጋፍ ከምዝርከብ፡ ከምኡውን 3 ሽሕ ሂኪታር ጠጥብ 400 ሂኪታር ዕቶን፡ 250 ሂኪታር ድማ መሽላ ተዘራራድ፡ ብምትሕብብር ኣባላት ኣይልታት ምክልኻል ኣርትራ ደዕጻድ ከምዘሉ ንፕረዚደንት ኢሳይያስ ገሊጾምዎ። ብዘይካዚ፡ መግቢ ኣንስሳን ፈሓምን እተፍሪ ፋብሪካ ብምትካል ሉምዘበን ከምፈተኑ ስርሓ ከም ዝጀመረትን፡ ኣብ ሰዓት 10 ኩንታል መግቢ ኣንስሳ ከተፍሪ ከምእትኸኣልን ኣብሰሪዮምዎ።

ፕረዚደንት ኢሳይያስ ዑደቱ ብምቕጻል፡ ኣብቲ ብዓባይቲ ትካላት፡ ማለት ማእከር ሕርሻ ባርካን ማእከር ሕርሻ ጋሽን፡ ከምኡውን ብኣይልታት ምክልኻል ልጅትራ ዝልምዕ ዘሉ ፕሮጀክት ሕርሻ ዓድ ዑመር ብምኻድ ኣብ ዝተገ

ዘበሉ፡ ኣብዚ ግመት ዘዘ ትካል ሕርሻ ባርካ 1,000 ሂኪታር ጠጥብ 1,500 ሂኪታር መሽላ ዘራራድ ኣቲ ስምዕም ተጻጺዶ ይን ገፍ፡ ከምዘሉ፡ ጠጥ ድማ ብኣባላት ኣይልታት ምክልኻል ኣርትራ ይእረ ምህላወ ገሊጾምዎ። ማእከር ሕርሻ ጋሽ ድማ 1,000 ሂኪታር ስም ስም፡ 40 ሂኪታር ባፍና፡ 50 ሂኪታር ድማ ለግንን ኣራገሽን ዘራራድ ከምዘሉ፡ ከብቲ ንምሰባሕ ድማ መደብ ከምዘለዎ እቶም ኣለፍቲ ኣረጋጊዮ።

ብዘይካዚ፡ ፕረዚደንት ኢሳይያስ ኣብ ኣለቡ-ገሉሳ ዞባ ሃይኪታ ብሚኒስትሪ ሕርሻ ዝተሰርሐ መእለዩ ውሕጅን ብእሉ ዝልምዕ 600 ሂኪታር መሽላን ብእሉ፡ ኣብ ንሉሳ ዞባ መገሉውን፡ ተርኪና ኣብ ዝተባህለ ስታ ብሚኒስትሪ ሕርሻ ዝተሰርሐ መእለዩ ውሕጅን ብእሉ ዝልምዕ 300 ሂኪታር መሽላን ተግቢቡ።

ፕረዚደንት ኢሳይያስ ኣብ ዑደቲ ነቲ ኣብ ከተማ ተሰይዖ፡ ኣብ ዝሓለፈ ወርሒ ኣምላ ፋባ ጋሽ ብምፍልሎ ኣብቲ ክገቢ ኣብ ዝርከብ ሕርሻ ንዘጋ ጠመ ዕንወት ድሕሪ ምርኣይ፡ ተመሳሳሊ ኣደጋ ዝኸደጋጎም ብዛዕባ ክውሰዱ ዘለዎም ሰገን-ታት፡ ምስ ከምልኮቶም ኣለፍቲ ናይቲ ዞባ ተመደቡ።

ኣብ መዓለታ ፕረዚደንት ኢሳይያስ ነቲ ብምምሕዳር ዞባ ጋሽ ባርካ ኣብ ከተማ ባርካ፡ ዝሰራሕ ዘሉ መቐበሊ ኣጋይሽን ኣብታ ከተማ ብኩባንያ ህንጻ ሰገን ዝሰራሕ ዘሉ ኣብ ምዝም ዝርከብ መወከሲ ሆስፒታልን ብምብጻሕ፡ እቲ ስራሕ ብእሰም ዘሉ ደረጃ ብቐረባ ተግቢቡ።

ፕረዚደንት ኢሳይያስ፡ ኣብ ዝሓለፈ ወርሒ ሰነ፡ ነዚ ኣብ መስርሕ ዝነበረ ፕሮጀክት ንምክትታል ኣብ ዞባ ጋሽ-ባርካ ተመሳሳሊ ዑደት ኣካዱዱ ከምዝነበረ ይዘከር።

ተቐልቂሎ ዘቐረጸሎ ብምንባር፡ ደርቂ ዝተለወጀሎ ግመት ኢዩ ኒሩ። ናይ 2003-ውን ዋሳኪ ዘራእትን ቀለብ ጥሪት ዝኸውን ሳዕርን ዘብቐለ ደሓን ዓቕንን ዝርግሙን ዝነበሮ ዝኖብ ዝረኸበ ኣንተነበሪ፡ ብፍላይ ኣብ ክገቢ ኣለመራ፡ ውሑድን ኣውሓዙ ዲጋታት ዝቐልብን ኣይነበረን። ክንዲ ዝኸነ፡ ዲጋታት ቶኮርን ማይ ነፍሕን፡ ብሰለሰተ ሚትርን ኣደ ሚትርን ፈረቓን ጥራይ ኢዩን ወሰኽ ገይረን። እዚ ውሑድ ትሕዝቶ ምስተን ዝተረፋ ንኣሽቱ ዲጋታት (ማይ ስርዓት ዓዲ ሸኻን ማይ ኣንበላን) ኢዘነላ ዘለዎ ማይ ተደሚሩ ምስ መዓልታዊ ሃልኪ ክጸጸር ከሉ፡ ምሕደራ ማይ ከተማና ውሕሶል ኣተጻፍላን ጥንቑቕ ኣጠቓቕማን ከህልዎ ኣብ ዝድርኽ ኩነታት ምህላውና ይሕብር።

ካልእ ከበርህ ዘለዎ ከተማ ከተማ ከገገን ኣተጻፍላን ማይ ንቐጠባዊ ዓቕሚ ተጠቓሚ ህዝብን ትካላትን ብኣደ ወገን፡ ዝተፈለለዩ ንሃልኪን ዋጋን ዝጸልፍ ረቐቐ-ታት (ወሰኽ ዋጋታት ነጻዲን ኢሌክትሪክን፡ ክከበሩ ምዝርጋሕ መስመራት ማይን ረሳሕ ፈሰሲን ወዘተ) ከእ ቦቲ ካልእ፡ ኣብ ግምት እእትዩ ዝተሰለሱ፡ ከምኡውን ብኣዋናዊ መጽናዕትን ምክትታልን ዘይመገብሩን ብምንባር፡ ዝውሃብ ኣገልግሎት ማይን ዝኸፈሎ ዋጋን ተመጣጣኒ ኮይኑ ኣይጸገሩን።

እዚ ሃንፍዚ ተጻጻዩ ወፍሪ ልምዓት ማይ ከተማና ካብ ኣገልግሎት ማይ ብዝርከብ ኣታዊ ውሑሳን ቀጻልን ክኸውን፡ ካብ ኣደ ስዳር 2003 ጀሚሩ፡ ስርዓተ-ዕደላን ዋጋታትን ኣገልግሎት ማይ ብዘኖት ተኸፋፍሎ፡ በዚ ዝሰዕ ብ ኣገባብ ኣብ ግብሪ ኪውዕል ተመዲቡ ከምዘሉ ንሕብር።

1. መመሓየሽ ዋጋታት ማይ ከተማ ኣለመራ ብዞን ንኪዩቢክ ሚተር (5 ፊሎት)

ዓይነት	1ይ ዞን	2ይ ዞን	3ይ ዞን	ትካላት
ቆጻሪ	5.00	5.00	5.00	10.00
መገቢ	50.00	40.00	30.00	50.00
1-10 ኪዩቢክ ሚ	5.00 (1.00 ንፊሎት)	4.00 (0.80 ንፊሎት)	3.00 (0.60 ንፊሎት)	15.00 (3.00 ንፊሎት)
11-20 ኪዩቢክ ሚ	7.50 (1.50 ንፊሎት)	5.00 (1.00 ንፊሎት)	4.00 (0.80 ንፊሎት)	20.00 (4.00 ንፊሎት)
21-30 ኪዩቢክ ሚ	10.00 (2.00 ንፊሎት)	7.50 (1.50 ንፊሎት)	5.00 (1.00 ንፊሎት)	20.00
31-50 ኪዩቢክ ሚ	15.00 (3.00 ንፊሎት)	10.00 (2.00 ንፊሎት)	7.50 (1.50 ንፊሎት)	20.00
ካብ 51 ንላዕሊ	20.00 (4.00 ንፊሎት)	15.00 (3.00 ንፊሎት)	10.00 (2.00 ንፊሎት)	

2. ብጣት ዝዕደል ማይ (ዋጋ ማይ ብዘይ መነጻዘዝ)

ብጣት ዝዕደል ዝሰተ ማይ	1.50 ንኪዩቢክ ሚተር (0.30 ናቶ ንፊሎት)
ንመንግስታዊ / ብሕጋዊ ትካላት	12.00 ንኪዩቢክ ሚተር (2.45 ናቶ ንፊሎት)
ንህንጻ ስራሕ (ካብ ዓለታት)	8.00 ንኪዩቢክ ሚተር (1.6 ናቶ ንፊሎት)

መወከሲ/ኣብራታ

- ቀዳማይ ዞን (ምምሕዳራት ግእክል ከተማ፣ ገዛ ባንዳ፣ ቲራሸሎ፣ ፓራዲዞን ብምሉኡ) (ምምሕዳራት ዕዳጋ ኣሙብ፣ ጸጸራት፣ ገጀሪት ከፋሉ)
- ካልኣይ ዞን (ምምሕዳራት ሰምበል፣ ማይ ተመናይ ብምልኡ) (ምምሕዳራት ጸጸራት፣ ገጀሪት፣ ዕደጋ-ኣሙብ፣ ኣባሻውል፣ ኣኸሪያ ጎዳይፍ ከፋሉ)
- ሳልሳይ ዞን (ምምሕዳራት ኣርባዕተ ኣለመራ፣ ብምሉኡ) (ምምሕዳራት ኣኸርያን ኣባሻውልን ከፋሉ)

መተሓሳስቢ

- * ግበይቲ ኣህለኻቲ ማይ ዝኸነፍ ኢንዱስትሪያዊ ትካላት፡ ካብ ዝተጸረዩ መስመራት ማይ ከተማና ፍቕድ ኣይኮነን። ምስ ክፍሊ ማይ ብምርድዳል ዝተጠቀሙ ዓለታት ክፍለዮሉን ወይ ክኹዕታ ክፍቀደሉን ይኸኣል።
- * እዚ ዝሰዕበ ተግባራት ብሕገ ዘሕትት ስለዝኸነ፡ ህዝቢ ንውሕስት ዝሰተ ማይ ዘለዎ ኣገዳስነት ተረዲኡ ሕጊ ንዝጥሕሱ ሰዓት ግንብ ክብልን ተኸታቲሎ ኣብ ሕጊ ከብጸሕን ይሕተት።
- ብመስመር ዝዕደል ዝተጸረየን (ከሎ-ጌትፍ) ማይ፡ ንህንጻዊ ስራሕ፡ ንምሕጸብ መካይን፡ ካንቸሎ-ታትን ከምኡውን ብዘይገደብ ንኣሕምልትን ኣትክልትን ምጥቃም ክልኩል ኣይዩ።
- ኣብ ኣገልግሎት ህዝቢ ዝተመደቦ ባጣት፡ ብዘይካ ካብቲ ዝተጸረየ ማይ ካብ ዝኸነ ዘይተፈቐደ ዓለታት ምዕዳል ኣይፍቀድን።
- ኣብ ናይ ግሊ ኣባይቲ ዝርከቡ ዓለታት ዋጋንቶም ናይ መንግስቲ ምጂኑ ተፈሊጡ፡ ብዘይ ፍቕድ ምምሕዳር ከተማ ንንግዳዊ ተግባራት ከውዕልዎ ክልኩል ኣይዩ።
- ወንጌቲ ባጣት ንህዝቢ ክዕደልዎ ዝተጠቀሙ ማይ፡ ካብ ዝተፈቐደሎም ከባቢታትን መዓላን ወጻኢ ክዕ ድሉ ፍቕድ ኣይኮነን። ህዝብን ትካላት መንግስትን ከም ሕጊ ዝጥሕሱ ኣብ ምቕጻርን ኣብ ሕጊ ኣብ ምቕራብን ክደጋገፉ ይሕተቱ።

ኣብ ዋጋ ነጻዲ ዝግበር ወሽኽ ዮለን

ኮርፖሬሽን ነጻዲ ኤርትራ፡ ነቲ ኣብ ዝሓለፈ ክልተ መዓልታት “ዋጋ ነጻዲ ክውሸዮ” ብዝበል መሰረት ዘይብሉ ባለ-ብሌው፡ ኣብ መዕደሊታት ነጻዲ ዝተራእዩ ዘዩድሊ ሪጋ ኣመልኪቲ ኣብ ዝሃዕ ሓበሬታ፡ ኣብ ነጻዲ ናይ ዋጋ ወሽኽ ዮለን ናይ ኣቕርቦት ሕጻሪት ከምዘዩሉ ኣረጋጊዱ።