

**Afar Region Water, Mines and Energy  
Resources Development Bureau,  
MoWR (Ministry of Water Resources)  
&  
UNICEF (United Nations Children's Fund)**

**WOREDA BASED EMERGENCY WATER  
SUPPLY AND ENVIRONMENTAL HEALTH  
SITUATION ASSESSMENT IN AFAR  
REGION**

**Addis Ababa**

September 2003

## **Table of Contents**

<b><u>I. INTRODUCTION</u></b>	<b>1</b>
1.1 GENERAL	1
1.2 OBJECTIVE	3
1.3 ACCESSIBILITY	3
1.4 METHDOLOGY	3
1.5. GEOLOGY AND HYDROGEOLOGY	3
1.6 EXISTING WATER RESOURCES	4
1.7 DROUGHT IMPACT ON WATER SUPPLY RESOURCES	8
1.8 CHALLENGES ON WATER RESOURCE DEVELOPMENT	9
<b><u>II. FINDINGS OF THE ASSESSMENT</u></b>	<b>14</b>
2.1 ASSAYITA WOREDA	14
2.2 DUPTI WOREDA	16
2.3 ELIDAR WOREDA	19
2.4 AFAMBO WOREDA	21
2.5 CHIFRA WOREDA	23
2.6 MILE WOREDA	23
2.7 EREBTI WOREDA	26
2.8 ABALA WOREDA	28
2.9 MAGALE WOREDA	30
2.10 DALLOL WOREDA	32
2.11 KUNEBA WOREDA	33
2.12 BERHALE WOREDA	35
2.13 AFDERA WOREDA	37
2.14 AWASH FENTALE WOREDA	39
2.15 AMIBARA WOREDA	41
2.16 BUREMUDAITU WOREDA	43
2.17 GEWANE WOREDA	45
2.18 DULECHA WOREDA	46
2.19 ARGOBA SPECIAL WOREDA	48
2.20 AWRA WOREDA	50
2.21 EWA WOREDA	52
2.22 YALO WOREDA	53
2.23 TERU WOREDA	55
2.24 GULINA WOREDA	57
2.25 SEMU ROBE WOREDA	59
2.26 FURSI WOREDA	61
2.27 DEWE WOREDA	62
2.28 TELALAKE WOREDA	64
2.29 ARTUMA (DALIFAGI) WOREDA	66
<b><u>III. PLAN OF ACTION</u></b>	<b>68</b>
PHASE 1	69
PHASE 2	71
<b><u>IV. CONCLUSIONS AND RECOMMENDATION</u></b>	<b>76</b>
4.1 CONCLUSION	76
4.2 RECOMMENDATION	77
<b><u>V. REFERENCES</u></b>	<b>78</b>

# I. INTRODUCTION

## 1.1 General

Afar regional state is one of the nine regional states of Ethiopia located in the northeastern part of the country. It is bordered in the North by Eritrea and Tigray, in the south by Oromia, in the East by Djibouti and Somali Region and in the West by Amhara region. Afar region covering 10,086 Sq. Km of land, which stretches mainly along the Ethiopian rift valley from the central part of the rift valley to the shores of red Sea. Geographically it is bounded by 9°10'30" & 14°27' 29" North latitudes and 39°51'13" & 42°23'03" East longitudes. The altitude of the region varies from about 1500 m a.s.l. at the western rift escarpments to 120 meters below sea level in the Dankil depression in the north east. The average temperature varies from 20°C in the semi highland areas to 48°C in the lowlands.

Afar region is generally included in desert and semi desert agroecological zones, which is characterized by high temperature and low rainfall. The rainfall is bimodal throughout the region and the mean annual rainfall varies from 500 mm in the semi highland areas to less than 150 mm in the lowlands. The main rainy season "Karma" runs from July to August and the short rainy season "Saguma" runs from March to April.

Administratively the region is divided into 5 zones and 29 Woredas including a special Woreda of Argoba and 323 kebele administrations.

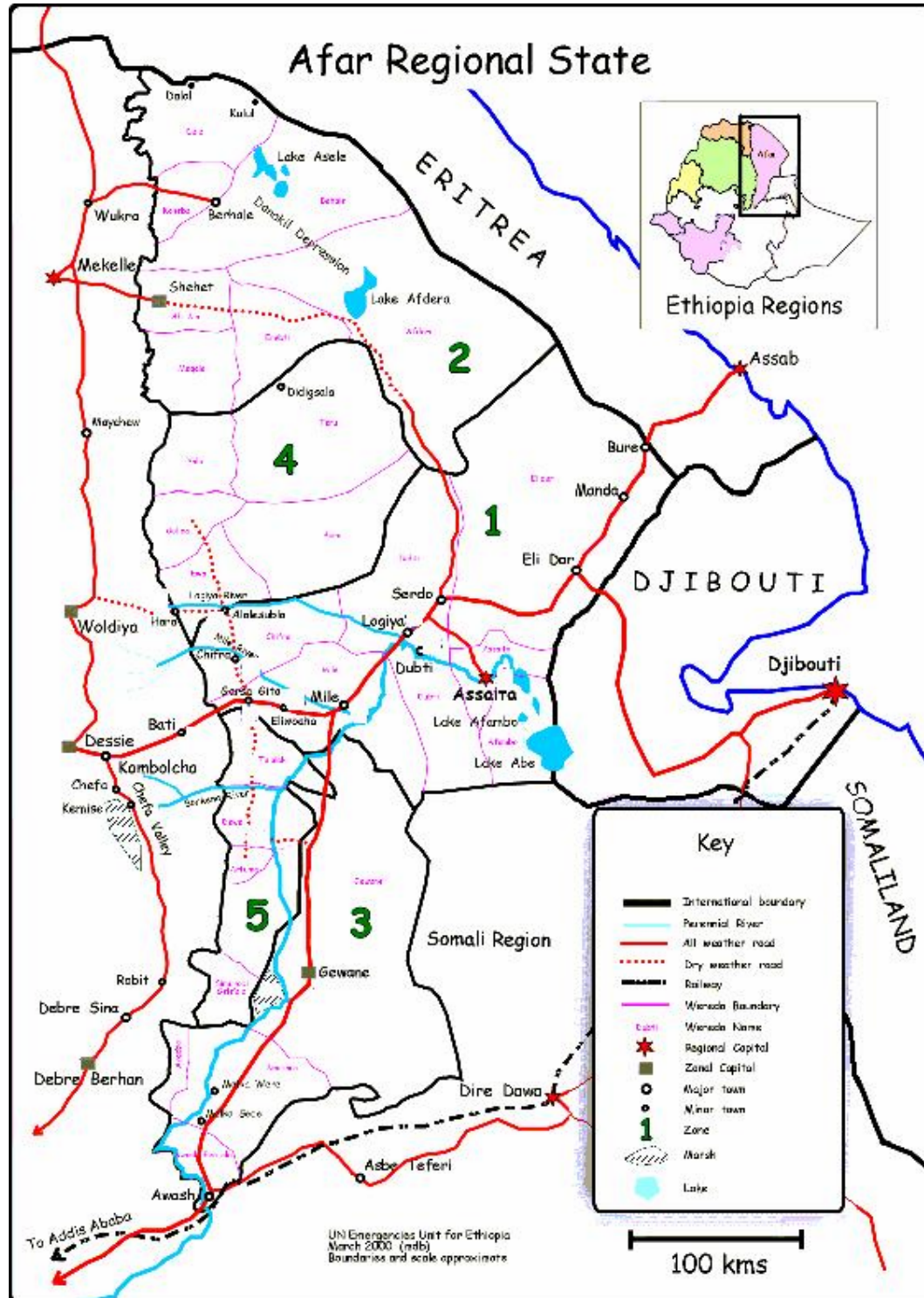
The total population of Afar Region estimated about 1,243,000, out of this total population 44% (547,000) is female and the rest 56%(696,000) is male. The regional population density is estimated to be 12 persons per sq. km of land (Central Statistical Authority, Abstract of year 2000).

Afar region, comprising the largest lowland areas of the country, 90% of the inhabitants are pastoralists, they are totally dependent on livestock production.

Potable water is the major problem in the region. The main water sources in the region are Awash, Mile, Gulina, Awra, Ewa rivers and unprotected hand dug wells. The developed schemes in the region are very few and are not also evenly distributed. The general water supply coverage in the region is below about 17%. The chronic shortage of water has an impact on health of population specifically on women and children, who have the responsibility to fetch it.

Access to health services is very low in the region only 28%, which is very low when it is compared with the national average of 50%. Lack of potable water together with less awareness for hygiene and sanitation practices resulted in large number of prevalence of water born diseases in the region.

Fig 1. Location Map of Afar Region



## 1.2. Objective

The main objective of the assessment are:

- to understand the general water supply situation in the region,
- to understand the effect of the drought to the water supply situation in the region,
- to identify Woredas and specific localities highly affected by the drought in respect to water scarcity and
- to prepare an action plan for emergency and long term response for different parts of the region.

## 1.3 Accessibility

The regional center, Assayita is accessible by a 50 km gravel road from the main Addis Djibouti asphalt road and almost all the Woreda and Zonal centers are also accessible either by gravel or dry season roads. However large part of the villages in the region are inaccessible. The main all season roads in the region are: Awash to Djibouti and Dicheto to Bure Asphalt Roads and Semera to Assayita, Semera to Dupiti, Mile to Kombolcha, Mile to Woldiya, Awash Arba to Melka Worer & Melka Sedi, Chifra to Alelesuela, Mekele to Abala, Agula to Berhale, Kassageta to Dalifagi and Shoa Robit to Kumam gravel roads.

## 1.4 Methodology

The following are the methods/procedures followed to come to the final result of the assessment in all the Woredas of the region:

- Revising the reports from different sources in order to understand the general drought effect on the water supply situation in the region.
- Discussion with Regional Water bureau in order to understand the general water supply situation and existing water sources in the region.
- Discussion with the regional and Zonal DPPB in order to identify Woredas highly affected by the drought in relation with water scarcity and existing interventions by different agencies.
- Discussion with the Woreda administrations in order to understand the water supply situation, drought impact and needs in each Woreda.
- Field visits in all the Woredas based on the data provided by each Woreda administrations.
- Inventory of water supply schemes in the region.
- Compilation of the findings of the field visits for each Woreda and preparation of an emergency and long term plan of action for water supply and Environmental health activities.

## 1.5 Geology and Hydrogeology

There are four main geologic units found in the region: Quaternary deposits, Pliocene to Miocene deposits, Mesozoic rocks and Precambrian rocks.

**Quaternary Deposits-** these are the dominant geologic units in the region which is comprised of recent basalts, evaporite deposits, alluvial deposits and lacustrine and elluvial deposits. Recent basalts are mainly found in the northeastern part of the region in Dupiti, Afdera and Elidar Woredas mainly between Serdo-Afdera and Dicheto to Bure areas. Evaporite deposits are mainly found in Afdera, Berhale and Dallol Woredas around Afdera and Asele lakes. Alluvial deposits are found through out the region, however large part of this deposits are found along Awash river valley extending from Awash Fentale Woreda from the south to Afambo Woreda to the northeast. Lacustrine deposits are mainly found in the central part of the region within the rift valley in Mile, Chifra and Telalck Woredas. Elluvial and colluvial deposits are mainly found in the western part of the region along the foot of the western escarpment.

**Pliocene to Miocene rocks** – This are the second largest rock groups in the region which are mainly comprised of weathered basalts and sandstone. Weathered basalts are mainly found along the western rift escarpment mainly in Zone 5 and Zone 4 areas, From Argoba special Woreda to the south extending to Megale Woreda to the north. Sandstones are found only in Berhale and Dallol Woredas extending from north of Lake Afdera to north of Lake Asele along the northeastern boarder of the region and between Berhale and Kuneba villages.

**Mesozoic Rocks** – This is comprised of limestone and sandstones of Mesozoic age which are found in a few localities in the region West of Abala, between Berhale and Kuneba and west of Dallol.

**Precambrian rocks** - This rock unit is comprised mainly of metamorphic rocks like slate and schist with some granite exposures. They are found only in Zone 2 of the region between Magale and Erebt villages and in some localities of Kuneba Woreda.

The ground water potential in the region varies from very poor to very high. High ground water potential is mainly found within the alluvial deposits along Awash, Mile, Awra and Ewa rivers. Very poor ground potential is the characteristic of recent basalts in the region like Elidar Woreda and the area between Serdo and Afdera. Moderate ground water potential areas are found within the fractured basalts and along some intermittent riverbanks.

Ground water quality in the region is generally poor in large parts of the region except in few localities in the semi highland parts of the region. High TDS, high temperature, high fluoride and high iron are the main ground water quality problems in the region.

## 1.6 Existing Water Resources

The major water resources in the region for human and livestock consumption are Awash, Mile, Awra, Ewa and Gulina rivers, traditional and developed wells, few springs in the semi highland areas and ponds.

In large part of Zone 1 and 3 the main water source are Awash River and developed schemes along the river equipped with different type of pumps. In Zone 1, 60 and in Zone 3, 49 developed schemes.

In Zone 2 the main water sources are seasonal rivers in the Zone and traditional wells along these streams, developed schemes in zone 2 are only four, which are all around Abala town. In the part of the zone near to the highland areas there are few springs serving the community.

In Zone 4 the main water sources are Awra, Gulina and Ewa rivers and traditional wells and water holes along these rivers. The developed schemes in the zone are only eight.

In Zone 5 the main water sources are Awash and Kebena rivers and other rivers flowing to Awash from the Eastern Amhara highlands like Borkena, Arsho & Dewe rivers. In addition to these traditional wells and springs are also contributing for the water supply in the Zone. In this zone the developed schemes are very few, only 11.

From the above description it is understood that the developed schemes in the region are very low only 132 schemes developed for a total population of 1,242,999. In addition to that about 33% of these developed schemes are non-functional and their distribution is uneven throughout the region (in Zone 1 and 3 the number of developed schemes are extremely higher than that of Zone 2, 4 and 5).

The water supply coverage in the region is calculated as follows for each Woreda based on their population, number of developed schemes and some specific assumptions made for the region.

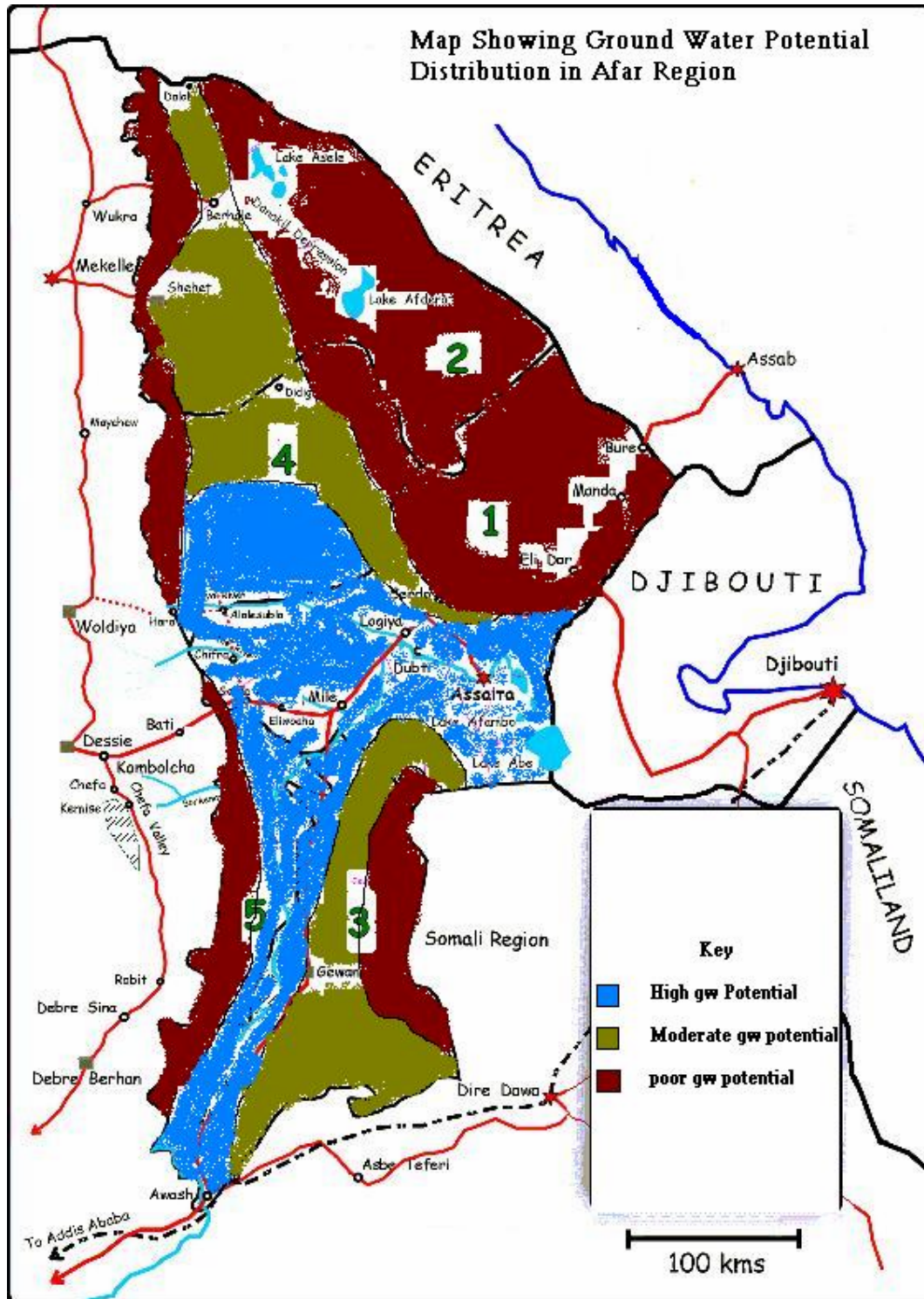
### Assumptions

The developed schemes in the region are assumed for a fixed number of beneficiaries as follows:

**Table 1.1 – Assumptions made for coverage calculation in Afar region**

Type of scheme	Maximum beneficiaries that can be served	Remark
A hand pump(HP)	600	Based on the beneficiary number the existing hand pumps in the region.
A Mono pump(MP)	2000	Based on the beneficiary number the existing mono pumps in the region.
A Submersible pump(SP)	3000	Based on the beneficiary number on rural schemes in the region.
A protected spring (PS)	3000	Based on the spring discharges in the region, which are mostly less than 1 l/s

Fig 2- Groundwater potential distribution in Afar Region



*Note- this map is made based on the geology, topography and existing borehole data in the region, which is aiming to show the general ground water availability in the region. It is not the result of detail hydrogeological study.*

**Table 1.2 - Water Supply Coverage by Woreda in Afar Region**

Woreda	Total population	Available Safe water sources	Benef. from all existing safe sources	Coverage in %	Non functional schemes	Benef. From Functional schemes	Current Coverage in %
Assayita	60,703	2 SP, 4 MP, 8 HP	21,800	35.9	2 MP,3 HP	15,200	25.0
Dupti	76,676	3 SP, 2 MP	16,000	20.9	1 MP,	14,000	18.3
Elidar	56,406	9 SP, 12 HP,	34,200	60.6	2 SP & 4 HP	25,800	45.7
Afambo	15,090	1 MP, 4 HP	4,400	29.2	1 MP	2,200	14.6
Chifra	81,845	2 SP, 1 MP	8,000	9.8	1 SP	5,000	6.1
Mile	79,004	5 SP, 2 MP, 3 HP	20,800	26.3	1 SP	17,800	22.5
Erebt	43,207	-	0	0	-	0	0
Abala	30,728	2 SP, 1 HP	6,600	21.5	1 HP	6,000	19.5
Magale	21,991	-	0	0	-	0	0
Dallol	52,585	-	0	0	-	0	0
Kuneba	41,550	1 PS	3,000	7.2	-	3,000	7.2
Berhale	37,304	-	0	0	-	0	0
Afdera	17,492	-	0	0	-	0	0
Awash Fentale	21,442	2 SP, 12 HP	13,200	61.6	1SP, 3 HP	8,400	39.2
Amibara	46,498	8 SP, 8 HP	28,800	61.9	1 SP, 5 HP	22,800	49.0
Buremudaitu	42,421	2 MP, 2 HP	5,200	12.3	2 HP	4,000	9.4
Gewane	32,162	2 SP, 2 MP, 4 HP	12,400	38.6	1 MP, 4 HP	8,000	24.9
Dulecha	16,881	1 SP, 6 HP	6,600	39.1	5 HP	3,600	21.3
Argoba	11,641	-	0	0	-	0	0
Awra	20,659	3 MP, 1 HP	6,600	32.0	2 MP	2,600	12.6
Ewa	39,272	1 SP	3,000	7.6	-	3,000	7.6



Gulina	19,119	1 SP, 1 MP	5,000	26.1	-	5,000	26.1
Teru	39,522	-	0	0	-	0	0
Yalo	22,895	1 MP	2,000	8.7	1 MP	0	0
Semu Robe	55,412	1 MP, 1 HP	2,600	4.7	1 HP	2,000	3.6
Fursi	71,303	1 MP, 1 HP	2,600	3.7	-	2,600	3.7
Artuma	51,768	1 SP	3,000	5.8	-	3,000	5.8
Dewe	64,122	1 SP, 1 HP	3,600	5.6	-	3,600	5.6
Telalack	73,301	2 SP, 2 HP	7,200	10.2	2 HP	6,000	8.2
<b>Total</b>	<b>1,242,999</b>	44 SP, 21 MP, 66 HP, 1 PS	<b>216,600</b>	<b>17.4</b>		<b>165,600</b>	<b>13.3</b>

**Note-** The above coverage calculation is some how realistic in general terms, however, it might not be the actual coverage in the ground due to the following reasons.

1. Due to uneven distribution of schemes. Example in Elidar Woreda (most of the schemes are concentrated in some places and they are mainly owned by the military, no even distribution). Therefore the actual coverage is less than the calculated.
2. Unavailability of populations in the towns which was not possible to make a separate calculation for towns and rural areas. For example in Assayita and Dupiti Woredas the existing schemes in the towns are benefiting more than the estimated number of 3,000 people. Therefore, the actual coverage will be greater than the calculated one in the table.

**Table 1.3 - Summary of Developed Schemes in the Region**

Type of scheme	Total Number	Functional		Non functional	
		Number	%	Number	%
Scheme equipped with submersible pumps	44	38	86	6	14
Scheme equipped with mono pumps	21	13	62	8	38
Hand pumps	66	36	54.5	30	45.5
Protected spring	1	1	100	0	0
<b>Total</b>	<b>132</b>	<b>88</b>	<b>66.7</b>	<b>44</b>	<b>33.3</b>

**Table 1.4 - Developed Water Supply Schemes Distribution by Zone**

Zone	Number of Developed schemes	Percent from the total
Zone 1	60	45.5
Zone 2	4	3
Zone 3	49	37.2
Zone 4	8	6
Zone 5	11	8.3
<b>Total</b>	<b>132</b>	<b>100</b>

### 1.7 Drought Impact on Water Supply Resources

Afar region in general is drought prone and the recurrent drought occurrences result in the heavy losses of livestock, the most important economic source and livelihood sector of the Afar community. The main reason for drought is absence and/or lack of rain and uneven distribution in the region. As a result the existing water resources are dried up and have no any accessible water sources which resulted in the migration of the people from one Woreda to the other and also out of the region to adjacent Oromia, Amhara and Tigray regions due to the problem of water.

Although the drought effect on the water supply resources is observed in all the Woredas of the region the extent is different from Woreda to Woreda.

In Zone 1 the highly affected Woredas are northern part of Assayita Woreda in Guyah, Simbillata and Handug localities this is mainly due to the decrease and changing the course of Awash river, which have not been reaching to the villages through the canals. In Dupiti Woreda the highly affected areas are the area between Serdo to Afdera road, Serdo, Bergele, Guyah and Guluble villages, which are mainly due to the drying of ponds with out staying the usual service period which created unusual movement of people for fetching water. In Elidar Woreda the highly affected areas are the area between Dicheto to Bure, in the rural areas this is due to early drying of ponds. However in the towns the problem is related with unavailability of water resources, which make the population dependent on water tankering.

In Zone 2 the highly affected Woredas are Berhale, Afdera and Erebt, almost all parts of the three Woredas are affected by the drought due to drying of rivers coming from the highlands unusually and lack of rain to refill the ponds and to recharge the traditional wells.

In Zone 3 the drought effect on the water supply situation is relatively low however in Buremudaitu and Gewane Woredas the effect is observed this is mainly due to the decreasing of Awash River and nonfunctioning of many schemes.

In Zone 4 the drought effect is very high in Yalo and Teru Woredas due to drying of rivers coming from the highlands unusually and lack of rain to refill the ponds and to recharge the traditional wells.

In Zone 5 the drought effect is relatively low the highly affected Woreda is Semu Robe, which is mainly drying of rivers flowing from the highlands due to lack of rainfall.

Therefore, the drought effect on water supply resources is very high in 10 Woredas of the region and made about 50,000 people dependant on water tankering for the last 6 months.

The following table shows people critically affected by the drought, who have been dependant on water tankering:

**Table 1.5 - Population Dependant on Water Tankering for the last 6 months by Woreda**

<b>Woreda</b>	<b>Beneficiaries</b>	<b>Number of trucks Deployed</b>	<b>Implementing Agencies</b>
Assayita	3,470	2	World vision
Dupti	8,910	5	World Vision & APDA
Elidar	9,600	5	NACID & APDA
Berhale	8,086	2	World Vision
Erebt	3,800	1	Regional DPPB
Buremudaitu	1,200	1	MoWR
Teru	4,900	1	Regional DPPB
Yalo	3,350	1	Regional DPPB
Semu Robe	5,600	1	World Vision
<b>Total</b>	<b>49,916</b>	<b>19</b>	

The prevalence of water born diseases is high in the region. From the cases registered in 42 health institutions from the region in the period between September 2002 to February 2003, Directly water and sanitation related disease cases comprise 26 %. Water related diseases including malaria comprising 52 % of the total cases in the region. Table 1.7 shows the total patients attending the 42 health institutions in the region by disease type.

### **1.8 Challenges for Water supply Development**

#### **1. Unfavorable hydrogeological conditions**

Fresh basalts, which are poorly weathered and fractured, characterize large part of the region and mountainous nature of topography along the western rift escarpment of the region made limited ground water availability in feasible depths. In addition to that in the lowland areas with high ground water potential formations have poor ground water qualities due to high TDS, high fluoride and high iron content in the water, which are also limited the water resource development in the region.

#### **2. Poor accessibility**

Poor accessibility of large part of the region is also one of the major challenges for water supply resource development in the region.

#### **3. Low Capacity**

Poor capacity of the regional water bureau in relation with human resource and logistics for new water resource development and maintenance of existing schemes together with unavailability of NGO's working in the sector in large part of the region limited the water supply development.

**Table 1.7 - Six months (September 2002 to February 2003) Major Disease Prevalence in 42 Health Institutions of Afar Region**

Type of Disease	Total	Remark
Measles	8	
Mangiest	0	
Malaria	18187	
Fever of unknown origin	5043	
Hepatitis	0	Water & Sanitation related
Leprosy	31	
Skin Disease	4600	Water & Sanitation related
Other skin diseases	2902	
Cholera	220	Water & Sanitation related
Diarrhea	7532	Water & Sanitation related
Gastritis	2760	
Other Intestinal diseases	1932	Water & Sanitation related
Common cold	2352	
Tonsillitis	1056	
Whooping cough(Pertusis)	177	
TB(pulmonary)	343	
Other TB	7801	
STD	360	
Eye disease	1040	Water & Sanitation related
Ear disease	624	
tooth & gum disease	351	
Abortion	7	
Pregnancy complication	21	
Delivery complication	14	
Post natal complication	5	
Neonatal injury	2	
Low birth weight	21	
Malnutrition	471	
Anemia	2554	
Intestinal parasites	804	Water & Sanitation related
Goiter	260	Water & Sanitation related
Arthritis	1075	
Hypertension	110	
Psychosis	7	
<b>Total</b>	<b>62,670</b>	

Fig 3 – Effect of Drought on Water Supply Resources in Afar Region

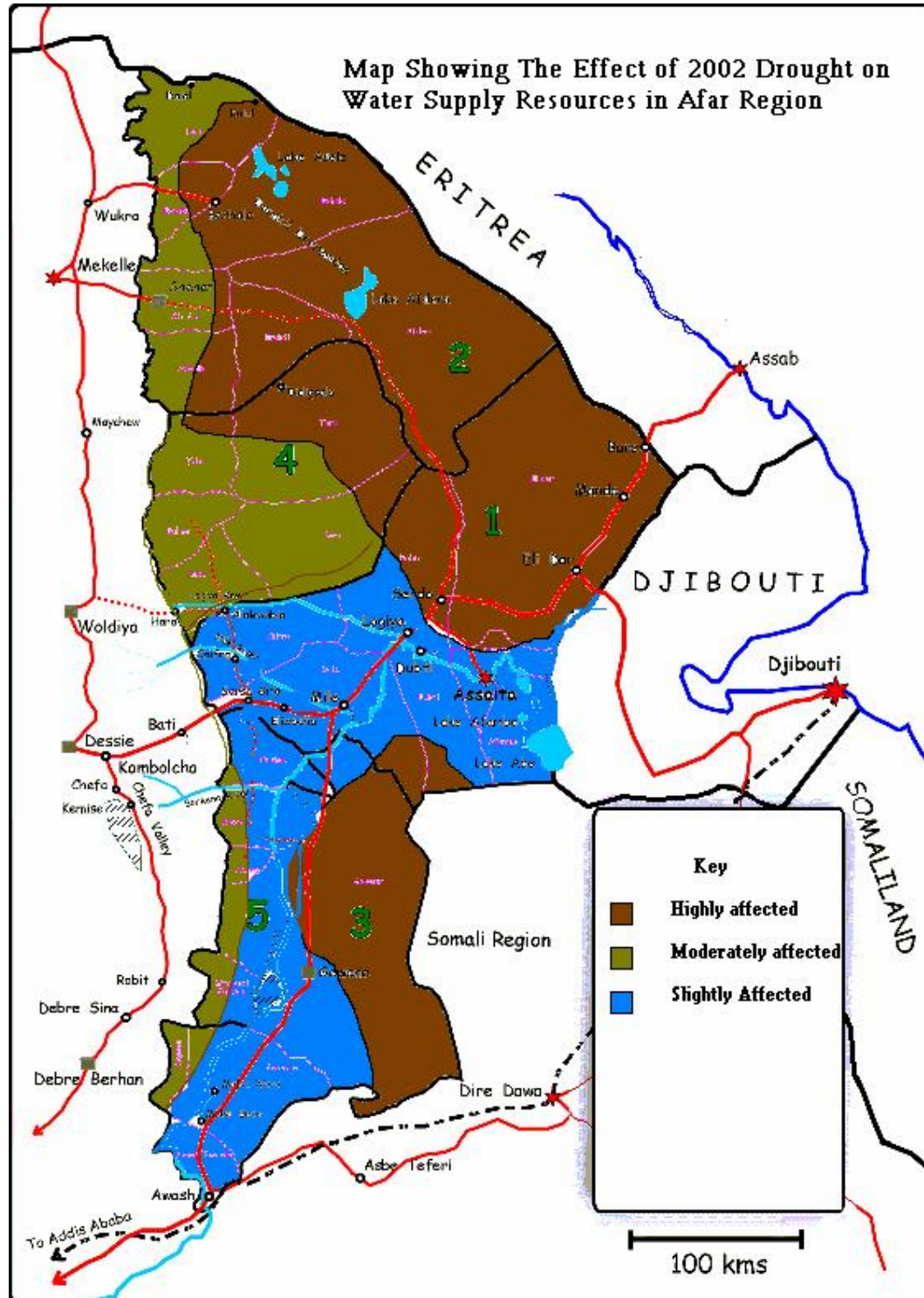
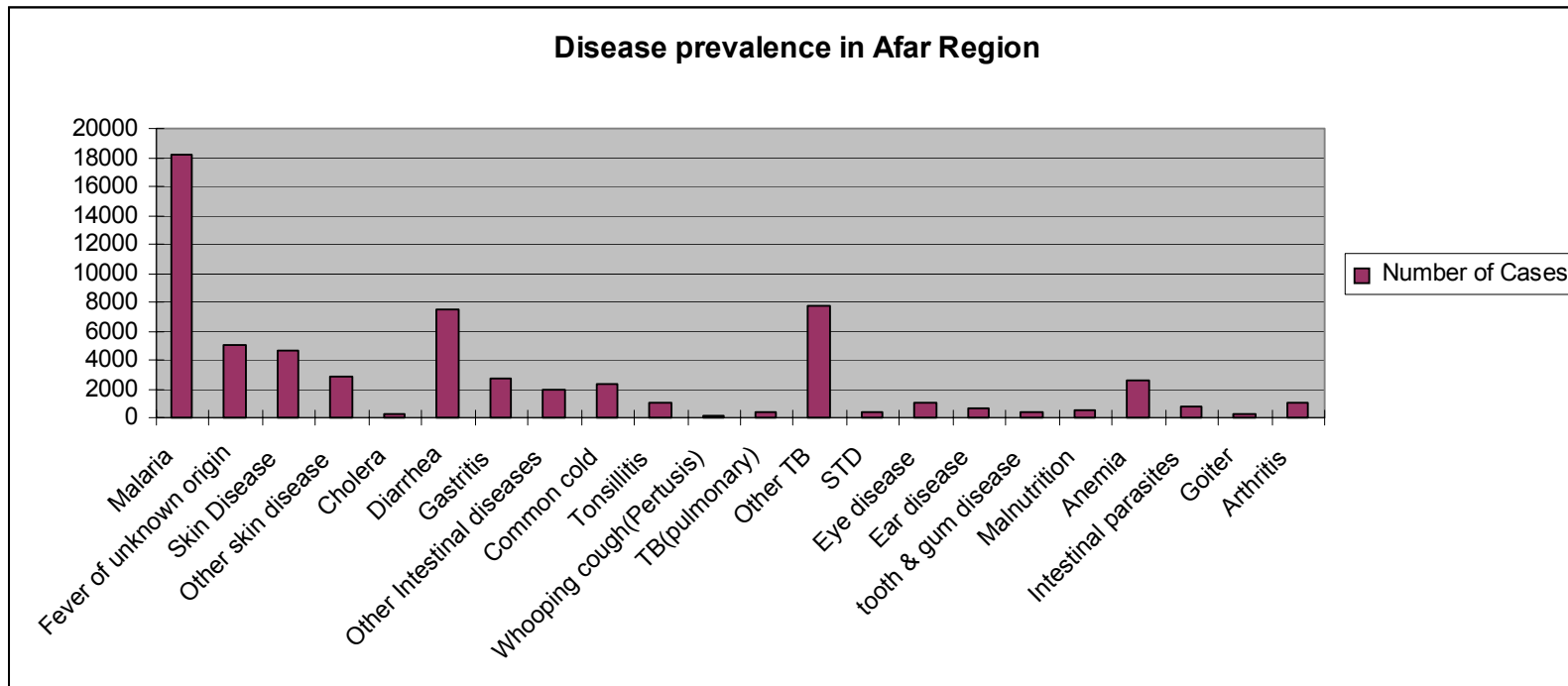




Fig 4. A graph showing the frequency of 24 major disease cases in the region



## II. FINDINGS OF WOREDA BASED ASSESSMENT

### 2.1. Assayita Woreda

#### I. General Information

**Zone:** 1

**Total Population of the Woreda:** 60,703

**Total Number of PA's:** 13

**Accessibility:** The Woreda center is accessible by all season gravel road from the Asphalt road, Addis to Djibouti and large part of the Woreda also accessible by a dry weather road from Assayita town.

**Geomorphology, Geology and Hydrogeology:** The area is exclusively characterized by flat topography. The average altitude in the area is 400 m a.s.l. Geologically large part of the Woreda is characterized by alluvial deposits with basaltic lava flow exposures in few localities. The ground water potential in the Woreda is generally very high, however in large part of the area the ground water have poor quality (high salinity, high iron and high temperature).

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agropastoralists in the area along the Awash River.

**List of major NGO's assisting Water and Sanitation in the area:** ACF (Action Contra Faim), World Vision and NACID.

#### List of Kebeles in the Woreda

No.	List of PA's	Total population	Existing water Source
1	Assayita 01	11261	Assayita Water supply scheme
2	Assayita 02	6402	Assayita Water supply scheme
3	Galifagi	4396	Awash river
4	Romitu	3941	Awash river
5	Karmuda	2297	A hand dug well and Awash river
6	Hinile	2577	A hand dug well and Water tankering
7	Gahertu	7171	Awash river (Currently Water tankering)
8	Handug	3017	Awash river
9	Berga	1893	Berga hand dug well, Berga scheme and Awash river
10	Wuamule	3165	Awash river
11	Korodora	2827	Awash river
12	Ahaile	9344	Awash river
13	Gelalu	2412	Awash river

#### List of Schools in the Woreda

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Mohammed Alifre high school	12 <sup>th</sup>	Have water	Have latrine
2	Simbille school	8 <sup>th</sup>	Have water	Have latrine
3	Ewkete Chora	8 <sup>th</sup>	Have water	Have latrine
4	Galifagi school	4 <sup>th</sup>	Awash river	Have latrine
5	Hinile School	4 <sup>th</sup>	A hand pump in the compound	No latrine
6	Handug School	4 <sup>th</sup>	Currently tankering	No latrine
7	Berga School	4 <sup>th</sup>	Berga hand pump	No latrine
8	Wanis(Korodora) school	4 <sup>th</sup>	Awash river	No latrine
9	Hamiltoli school	6 <sup>th</sup>	Have water	Have latrine
10	Hinille Bording school	4 <sup>th</sup>	Have water	Have latrine



**Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Assayita Health Center	Functional	Have water	Have sanitation facilities
2	Galifagi	Functional	No any except Awash river	A pit latrine in the compound
3	Hinile	New not started	A hand dug well	A pit latrine in the compound
4	Handug	Functional	No any except Awash river	A pit latrine in the compound
5	Berga	Functional	Berga Hand pump	A pit latrine in the compound
6	Ahaile	Non Functional	No any except Awash river	A pit latrine in the compound

**II. Water Supply Condition****Existing water source**

The main water sources in the area for human and livestock consumption in the Woreda are:

- Assayita water supply scheme
- Eight shallow wells equipped with different pumping systems
- Five Hand dug wells
- Traditional wells
- Awash river

**Drought Impact on water supply situation and displacement**

The 2002 drought in the region has been resulted, drying of traditional and hand dug wells, dropping of the water table of hand dug wells and decreasing of the discharge of Awash river in the Woreda which made more than 5000 people dependant on water tankering in the Woreda. Although, the drought effect in the Woreda is high on water supply resources there was no any displacement of people from the Woreda to other places due to water problem but there was large amount of internal displacement within the Woreda. This is mainly due to the availability of other sources in the Woreda and due to fast response by governmental and non governmental agencies (mainly UNICEF) for water tankering to the highly affected localities.

**Current Intervention (New construction, Rehabilitation & Tankering)**

UNICEF with world Vision is planned to drill six shallow wells in Gahertu, Hamiltoli, Karaguda, Romaitu, Handug and Galifagi villages.

Rehabilitation of Berga 1, Berga and Boqaitu schemes by UNICEF and rehabilitation of other five schemes by World vision.

There is water tankering from September 2002 to Date by UNICEF funds through World Vision by two trucks with a capacity of 13,000 lt. each two trips per day from Assayita town to Gahertu kebele, 8 to 25 km far from the water source.

**Recommended Activities**

- Developing of new shallow wells
- Rehabilitation of non functional water schemes
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Gahertu, Handug, Galifagi, Ahaile and Karmuda.

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities in the rural areas except communal and individual sanitation facilities in Assayita town.

#### **Current Intervention**

UNICEF with world Vision planned to construct two school latrines in Handug and Hamiltoli schools.

No any intervention on the sanitation sector and no any WASHE committees available in the rural areas of the Woreda except water committees in some places where water supply schemes are available.

#### **Recommended Activities**

- Construction of three school latrines in Berga, Hinile, and Koradora villages.
- Water supply facilities and training on hygiene
- Construction of 2 communal latrines and two solid waste disposal pits in Assayita town.

## **2.2. Dupiti Woreda**

### **I. General Information**

**Zone:** 1

**Total Population of the Woreda:** 76,676

**Total Number of PA's:** 17

**Accessibility:** The Woreda center is accessible by all season gravel road from the Asphalt road, Addis to Djibouti and large part of the Woreda also accessible by a dry weather road from Dupiti town.

**Geomorphology, Geology and Hydrogeology:** The area is exclusively characterized by flat topography. The average altitude in the area is 400 m a.s.l. Geologically large part of the Woreda is characterized by alluvial deposits with basaltic lava flow exposures in few localities. The ground water potential in the Woreda is generally very high, however in large part of the area the ground water have poor quality (high salinity, high iron and high temperature, in some localities steam wells are also found).

**Mode of life:** The population in the Woreda is pastoral with very few agro-pastorals in the area along the Awash River.

**List of major NGO's assisting Water and Sanitation in the area:** ACF (Action Contra Faim), World Vision and APDA.

#### **List of Kebeles in the Woreda**

<b>No.</b>	<b>List of PA's</b>	<b>Total population</b>	<b>Existing water Source</b>
1	Dupiti 01	12064	Dupiti water supply scheme
2	Beyhale	5054	Awash river (a motorized scheme under reh. By UNICEF).
3	Debele & Halimel	2648	Awash river
4	Ayrolet & Gebelayitu	3964	Awash river
5	Bebeleta & Korele	2610	Awash river
6	Halkise & Aredu	5676	Awash river
7	Detebahre 01	2521	Detebahri water supply scheme and Awash river
8	Megenta	3462	Awash river
9	Tangaye Kuma	2675	Awash river
10	Gumudale & Gaydaro	1817	Awash river
11	Logiya 01	3699	Logiya water supply scheme
12	Gegaro & Bedsue	3478	Ponds and traditional wells
13	Daba & Degeba	5431	Ponds and traditional wells

14	Saha & Musuli	5338	Traditional wells
15	Serdo	3354	Ponds in the rainy season(Water tankering by UNICEF through APDA).
16	Kore & Agobole	8541	Ponds in the rainy season(Water tankering by UNICEF through APDA).
17	Guyah Special Kebele	4345	Ponds in the rainy season (Water tankering by UNICEF through World vision).

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Dupti high school	12 <sup>th</sup> grade	Have water extension	Have latrine
2	Awash Shelko junior (Dupti)	8 <sup>th</sup> grade	Have water extension	Have latrine
3	Plantation Junior (Dupti)	8 <sup>th</sup> grade	Have water extension	Have latrine
4	Logiya	8 <sup>th</sup> grade	No water extension	Have latrine
5	Beyhale 1	4 <sup>th</sup> grade	No water	No latrine
6	Beyhale 2	4 <sup>th</sup> grade	No water	No latrine
7	Serdo	4 <sup>th</sup> grade	No water	No latrine
8	Gebelayitu 1	6 <sup>th</sup> grade	No water	No latrine
9	Gebelayitu 2	8 <sup>th</sup> grade	No water	No latrine
10	Boyra (Gebelayitu)	4 <sup>th</sup> grade	No water	No latrine
11	Halikse & Aredu	6 <sup>th</sup> grade	No water	Have latrine
12	Dete Bahre	8 <sup>th</sup> grade	No water	Have latrine
13	Megenta 1	4 <sup>th</sup> grade	No water	No latrine
14	Megenta 2	4 <sup>th</sup> grade	No water	No latrine
15	Lahgo (Halikse & Aredu)	4 <sup>th</sup> grade	No water	Have latrine
16	Bebeleta	4 <sup>th</sup> grade	No water	No latrine
17	Guyah	4 <sup>th</sup> grade	No water	Have latrine
18	Debele & Hanibere	4 <sup>th</sup> grade	No water	No latrine

#### **Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Dupti Hospital	Functional	Have water	Have sanitation facilities
2	Dupti Clinic	Functional	No water extension	No latrine
3	Logiya Clinic	Functional	Have water	Have latrine
4	Beyhale health post	Functional	No water	Have latrine
5	Detebahre Clinic	Functional	No water	Have latrine
6	Serdo Health post	Functional	No water	Have latrine
7	Tegye Kuma health post	Functional	No water	Have latrine
8	Halikse & Ardedu health post	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

The main water sources in the Woreda for domestic and livestock consumption are:

- Dupti, Logiya, Detbahri and Alisa Genetu water supply schemes
- Awash river
- Traditional wells
- Many Ponds
- Water tankering

### **Drought Impact on water supply situation and displacement**

The effect of the drought in the Woreda is very high especially in the northern part of the Woreda around Serdo, Guyah and Gulubile localities which made all the ponds to dry before their usual service months due to the shortage of rain to fill them. In addition to that area drying of traditional wells and ponds, decreasing of the discharge of Awash River were also another effects of the drought in the water resources of the Woreda. Although there was large number of internal displacement within the Woreda there was no any displacement of people out of the Woreda due to water problem, which is mainly due to the fast humanitarian response in the Woreda by water tankering before moving from their settlement..

### **Current Intervention (New construction, Rehabilitation & Tankering)**

Rehabilitation of Beyhale is undergoing by UNICEF with MoWR and planned to drill two shallow well in Megenta and Alisa Genetu schools and also planned to make extension lines into Detbahri and Logiya primary schools. Construction of three Birkas in Serdo kebele, Kore area by APDA were also completed through UNICEF funds.

There have been water tankering from September 2002 to Date by UNICEF funds through World Vision and APDA by five truck with a capacity of 13,000 lt. each one trip per day from Logiya and Dupti towns to Serdo, Bergele, Soma, Guyah and Gulbule villages, 50 to 125 km far from the water source.

### **Recommended Activities**

- Developing of new wells
- Construction of improved ponds in places where drilling is not feasible.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Guyah, Serdo, Kore & Agobole and Saha & Musuli.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the rural areas except communal and individual sanitation facilities in Dupti and Logiya towns.

### **Current Intervention**

UNICEF with world Vision planned to construct four school latrines with washing facilities in Alisa Genetu, Megenta, Detebahri and Logiya primary schools.

No any WASHE committees available in the rural areas of the Woreda except water committees in some places where water supply schemes are available.

### **Recommended Activities**

- Construction of Eight school latrines in Beyhale 1, Beyhale 2, Serdo, Gebelayitu 1, Gebelayitu 2, Boyra, Bebeleta and Debele & Hanibare schools.
- Construction of one latrine for Beyhale health post.
- Construction of 4 communal latrines and two solid waste disposal pits in Dupti and Logiya towns.
- Supply of sanitation facilities, training and hygiene education

## **2.3. Elidar Woreda**

### **I. General Information**

**Zone:** 1

**Total Population of the Woreda:** 56,406

**Total Number of PA's:** 18

**Accessibility:** The Woreda center is accessible by all season asphalt road, in a very poor condition, from Dicheto and large part of the Woreda also accessible by gravel and asphalt roads.

**Geomorphology, Geology and Hydrogeology:** The area characterized partly by rugged and partly by flat topography. The average altitude in the area is 480 m a.s.l. Geologically large part of the Woreda is characterized by recent basalt with some alluvial deposits along river cuts and low altitude areas. The ground water potential in the Woreda is generally very poor, except in very few localities within the grabens have good water potentials in shallow and deep depths. In addition to that the ground water quality is very poor (very high salinity and high temperature).

**Mode of life:** All the population in the rural areas of the Woreda are pastoral with many people in the towns, who are living with different economic activities.

**List of major NGO's assisting Water and Sanitation in the area:** NACID through UNICEF funds and APDA.

#### **List of Kebeles in the Woreda**

<b>No.</b>	<b>List of PA's</b>	<b>Total population</b>	<b>Existing water Source</b>
1	Wuha Lemat	912	Water transported by tankers from Logiya
2	Dicheto	1882	Water transported by tankers from Logiya and a seasonal river in the town.(a borehole drilled but due to very low yield it is abandoned)
3	Galafi	1613	Galafi Motorized scheme
4	Elidar	2755	Seven hand pumps in the town (Currently most are not functional) and a seasonal river.
5	Dobi	6239	Dobi hand pump
6	Hiluma Tikubu	1475	From ponds in Elidar kebele and Djibouti.
7	Gebelti	1374	From ponds in Elidar kebele and Djibouti.
8	Emano	7548	Emano hot spring
9	Meska	6417	Ponds in the rainy season and Emano spring in dry season (5 hours travel)
10	Abea	5297	Ponds in the rainy season and no water source in the dry season.
11	Suela	2638	Suela motorized scheme
12	Manda	2371	Water transported by trucks from Suela
13	Bure	2602	Water transported by trucks from Suela
14	Adigino	1151	Water transported by trucks from Suela
15	Dabu	1107	Water transported by trucks from Suela (people displace to Bure b/c of Ethio- Ertrian war)
16	Alebona	1848	Ponds in the rainy season and no water source in the dry season
17	Akule	8326	Ponds in the rainy season and no water source in the dry season
18	Lamasen	849	Water transported by trucks from Suela (people displace to Bure b/c of Ethio- Ertrian war)

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Bure	4 <sup>th</sup> grade	No water	No latrine
2	Manda	6 <sup>th</sup> grade	No water	Have latrine
3	Elidar	8 <sup>th</sup> grade	No water	No latrine
4	Dicheto	8 <sup>th</sup> grade	No water	Have latrine
5	Wuha Lemat	4 <sup>th</sup> grade	No water	No latrine
6	Galafi	4 <sup>th</sup> grade	Have water	Have latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Elidar health center	Functional	No water	Have latrine
2	Manda health post	Functional	No water	Have latrine
3	Bure health post	New not started	No water	Have latrine
4	Bure old clinic	Functional	No water	No latrine
5	Suela clinic		No water	Have latrine
6	Dicheto health post	Functional	No water	Have latrine
7	Galafi clinic	Functional	Have water	Have latrine

**II. Water Supply Condition****Existing water source (for human and livestock)**

- Suela and Galafi motorized schemes
- Seven Elidar hand pumps
- Dobe hand pump
- Emano spring
- Many Ponds
- Water tankering

**Drought Impact on water supply situation and displacement**

The effect of drought in the Woreda is very high, the whole area between Dicheto and Bure are affected, which is due to the drying of ponds and traditional wells. Some of the shallow wells in Elidar town also dried up. However there was no any displacement from the Woreda to other places due to water problem since there was a fast response of water supply intervention by tankering.

**Current Intervention (New construction, Rehabilitation & Tankering)**

Rehabilitation of Suela motorized scheme and Elidar hand pumps are planned by UNICEF with the MoWR. Installation of two steel reservoirs of 20,000 lt. capacity each in Bure and Manda by NACID through UNICEF funds.

There have been water tankering from September 2002 to Date by UNICEF funds through NACID and by Glimmer of Hope funds through Regional Water Bureau, to Manda and Bure from Suela 10 and 40 Kms respectively by 4 trucks 13,000 lt. each two trips per day. In addition to that there is water tankering by German Agro Action Funds through APDA by two truck with a capacity of 13,000 lt. each one trip per day from Suela to Gebelti, Elidar and Dobe Kebeles, 20 to 85 km far from the water source.

**Recommended Activities**

- Construction of improved ponds in selected places.
- Detain Hydrogeological and geophysical investigation for deep well drilling.
- Extension line work from Suela to Manda with booster pumps(10 km)
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Lamasen, Dabu, Aleben Agume, and Akule.

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities in the rural areas except communal and individual sanitation facilities in towns; Elidar, Dicheto, Galafi, Suela, Manda and Bure.

#### **Current Intervention**

UNICEF through NACID constructed two communal latrines and two solid waste disposal pits in Bure and Manda.

No any WASHE committees available in the rural areas of the Woreda except water committees in some places where water supply schemes are available.

#### **Recommended Activities**

- Construction of three school latrines in Bure, Elidar and Wuha Lemat schools.
- Construction of one latrine for Bure old clinic.
- Construction of 6 communal latrines in Elidar, Dicheto, Galafi, Suela, Manda and Bure.
- Construction of four solid waste disposal pits in Elidar, Dicheto, Galafi and Suela.
- Supply of sanitation facilities, training and hygiene education

### **2.4. Afambo Woreda**

#### **I. General Information**

**Zone:** 1

**Total Population of the Woreda:** 15,090

**Total Number of PA's:** 7

**Accessibility:** The Woreda center is accessible by all season gravel road from Assayita town and part of the Woreda is accessible by a dry weather road from the Woreda center.

**Geomorphology, Geology and Hydrogeology:** The area is exclusively characterized by flat topography. The average altitude in the area is 380 m a.s.l. Geologically almost all part of the Woreda is characterized by alluvial deposits. The ground water potential in the Woreda is generally very high, however in large part of the area the ground water in deep wells have poor quality (high salinity and high iron).

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agro-pastorals in the area along the Awash River.

**List of major NGO's assisting Water and Sanitation in the area:** ACF (Action Contra Faim) and NACID.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Alesa Bolo	3357	Awash river and a hand dug well
2	Humadoita	2671	Awash river and a hand dug well
3	Mego	2381	Awash river and a hand dug well
4	Deka	1661	Awash river
5	Ourogabo	2575	Awash river
6	Genete	1810	Awash river
7	Harisa	635	Awash river

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Humadoita (Keberito Bolo) school	4 <sup>th</sup> grade	Awash river and a hand dug well in the village	No latrine
2	Mego(Boha) School	4 <sup>th</sup> grade	Awash river	No latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Alesa Bolo	Functional	No any except Awash river	A pit latrine in the compound

**II. Water Supply Condition****Existing water source (for human and livestock)**

- four hand dug wells equipped with hand pumps.
- Awash river

**Drought Impact on water supply situation and displacement**

In this Woreda the drought affected the population mainly due to the decreasing of Awash River discharge, which is the main source of water in the Woreda. As a result of these the hand dug wells along the river bank was dried up for few month between August to December 2002. However there was no any displacement from the Woreda due to water problem.

**Current Intervention (New construction, Rehabilitation & Tankering)**

UNICEF with NACID constructed four hand dug wells in Alesa Bolo, Humadoita, Hadi Buri villages and in Mego School. In addition to that ACF also constructing three hand dug wells in the same villages.

There was water tankering from November 2002 to January 2003 by UNICEF funds through NACID by one truck with a capacity of 13,000 lt. two trips per day from Assayita town to Afambo Woreda, 16 to 28 km far from the water source.

**Recommended Activities**

- Developing of shallow wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Deka, Genete, Ourgubi and Harisa

**III. Sanitation and Hygiene****Existing Sanitation facilities**

No any sanitation facilities in the Woreda.

**Current Intervention**

UNICEF with world Vision planned to construct two school latrines in Humadoita and Mego schools.

**Recommended Activities**

- Construction of one communal latrine and one solid waste disposal pit in the Woreda center
- Water supply facilities and training on hygiene



## 2.5. Chifra Woreda

### I. General Information

Zone: 1

Total Population of the Woreda: 81,845

Total Number of PA's: 19

**Accessibility:** The Woreda center is accessible by all season gravel road from Mile and large part of the Woreda also accessible by a dry weather road from Chifra town.

**Geomorphology, Geology and Hydrogeology:** The area is dominantly characterized by flat topography. The average altitude in the area is 960 m a.s.l. Geologically large part of the Woreda is characterized by alluvial deposits with some basaltic lava flow and lacustrine deposits. The ground water potential in the Woreda is generally high along Mile River and in places where thick alluvial deposits are occurred.

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agro-pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** LWF (Lutheran World Federation) is the only NGO working in the area in the sector.

#### List of Kebeles in the Woreda

No.	List of PA's	Total population	Existing water Source
1	Chifra 01	1887	Chifra town water supply scheme
2	Taboy	4047	Mile river
3	Geriro Wekelu	5046	Mile and Wekela rivers
4	Jara and Kontona	4764	Mile river and spring in the area
5	Akigura and Asgoma	4069	Mile river and spring in the area
6	Tibedha and Afuma	5028	Mile river
7	Mesgid	3852	Mile river (BH drilled but not yet functional)
8	Tegeri	3851	Mile river and spring in the area
9	Tebele	5077	Mile river
10	Asamai	5703	Mile river
11	Adare	4202	Mile river and Halsaya spring
12	Gergera	3256	Mile river
13	Meglala	3058	Wama river
14	Anderkelo	4496	Chali spring and Anderkelo scheme
15	Gelali Kelo	4213	Chali spring
16	Wama and Anderkelo	5192	Wama river
17	Semseme and Hado	4913	Wantu spring and Wama river
18	Wanaba and Robele	4532	Wama river
19	Amuli and Dentabelo	4659	Wama river

#### List of Schools in the Woreda

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Chifra	8 <sup>th</sup> grade	Chifra water scheme	Have latrine
2	Mesgid	4 <sup>th</sup> grade	No water	Have latrine
3	Anderkelo	4 <sup>th</sup> grade	Anderkelo water scheme	Have latrine
4	Wama and Anderkelo	4 <sup>th</sup> grade	No water	Have latrine
5	Jara and Kontona	4 <sup>th</sup> grade	No water	Have latrine
6	Asami	Without building	No water	No latrine

#### Health service in the Woreda

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
-----	----------------------------	-----------------------	--------------	---------------------

1	Chifra health center	Functional	Have water from Chifra scheme	Have latrine
2	Mesgid health post	Functional	No water	Have latrine
3	Wama & Anderkelo Clinic	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Chifra water supply scheme
- Anderkelo water supply scheme
- Five Springs (Chali, Wantu, Halsaya,...)
- Mile, Wama and Wekele rivers

### **Drought Impact on water supply situation and displacement**

In this Woreda the drought effect was not extensive, however it was reduced the discharge of the rivers passing through the Woreda. This was one of the Woredas of settlement during the sever drought season since it has large pastoral land and Mile river also passing through the Woreda. From these Woreda there was no any displacement observed due to water problem.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

UNICEF with MoWR rehabilitating and improving the water supply scheme in Chifra town.

### **Recommended Activities**

- Developing of new shallow and deep wells
- Protection and development of the five springs in the Woreda
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem are Jara & Kontona, Tivedha & Aftuma, Wanaba & Robele and Gergera.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the rural areas except very few individual latrines in Chifra town.

### **Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the rural areas of the Woreda except a water committee in Chifra town.

### **Recommended Activities**

- Construction of two communal latrines and one solid waste disposal pit in Chifra town.
- Water supply facilities and training on hygiene

## **2.6. Mile Woreda**

### **I. General Information**

Zone: 1  
Total Population of the Woreda: 79,004  
Total Number of PA's: 18

**Accessibility:** The Woreda center is accessible by the main Addis - Djibouti asphalt road and large part of the Woreda also accessible by gravel and dry weather roads from Mile town.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by flat topography with some volcanic hills and ridges. The average altitude in the area is 650 m a.s.l. Geologically large part of the Woreda is characterized by basaltic lava flows and lacustrine deposits with some alluvial deposits. The ground water potential in the Woreda is generally high with acceptable quality and depth.

**Mode of life:** The rural population in the Woreda is exclusively pastoral.

**List of major NGO's assisting Water and Sanitation in the area:** ACF (Action Contra Faim) and LWF (Lutheran world Federation).

**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Mile 01	2636	Mile water scheme
2	Bekere Dare & Able Dera	2367	Gefora motorized scheme
3	Hinti Megeyta & Hidisa	3380	Gefora motorized scheme and Harsis hand pump
4	Harsis & Bedaleu	998	Harsis hand pump & Harsis motorized scheme
5	Gasiue & Lase	3717	Harsis hand pump & Awash river
6	Senase & Kusurtu	4375	Geleha motorized pump
7	Deile & Geraro	5665	Mile Agricultural Development motorized scheme
8	Kailu & Asmahammed Kudi	6881	Awash river
9	Geraro & Anaekelu	5757	Awash and Mile rivers
10	Adaitu 01	1872	Adaitu motorized scheme
11	Adaitu & Abeko	5665	Awash river
12	Dekika & Busedima	5929	Awash river
13	Burtele & Gega	4020	Mile river and water holes in seasonal streams
14	Jeli & Burka	7981	Gona motorized scheme and traditional hand dug wells
15	Wuantu & Fursa	7473	Kassageta scheme and Wantu spring
16	Seiule & Hado	4307	Mile river and traditional wells
17	Warseno & Hormati	4357	Traditional wells
18	Eliwuha 01	1624	Eliwuha motorized scheme

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Mile	8 <sup>th</sup> grade	Have water extension	Have latrine
2	Kassageta	4 <sup>th</sup> grade	Have water (no extension)	Have latrine
3	Harsis	4 <sup>th</sup> grade	Have water (no extension)	Have latrine
4	Gefora	4 <sup>th</sup> grade	Have water (no extension)	Have latrine
5	Berso	4 <sup>th</sup> grade	No water	No latrine
6	Geleha	4 <sup>th</sup> grade	Have water (non functional)	Have latrine
7	Werenso	4 <sup>th</sup> grade	No water	Have latrine
8	Eliwuha	8 <sup>th</sup> grade	Have water	Have latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Mile Clinic	Functional	Have water	Have latrine
2	Harsis Clinic	Functional	Have water	Have latrine
3	Eliwuha Clinic	Functional	Have water	Have latrine
4	Kassageta Health post	Functional	Have water	Have latrine
5	Geliha Health post	Functional	Have water(non functional)	Have latrine
6	Berso Health post	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Mile, Gefora, Harsis, Geleha, Gona, Adaitu, Kassageta and Eliwuha water supply schemes
- Awash and Mile rivers
- Traditional wells and water holes
- Wantu spring

### **Drought Impact on water supply situation and displacement**

The 2002 drought in the Woreda resulted in drying of water holes, decreasing the discharge of Awash and Mile rivers and decreasing the water level of traditional wells. As a result there was a displacement of people from the Woreda to adjacent Woredas of Amhara region from August to December 2002.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

The only current intervention in the Woreda is rehabilitation of Harsis and Kassageta water supply schemes, which are undergoing by UNICEF with MoWR.

### **Recommended Activities**

- Developing of new shallow and deep wells
- Rehabilitation of Geleha water supply scheme and road construction well
- Developing and protection of Wantu spring.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Burtele & Gega, Dekika & Busedima, Jeli & Burka, Seiule & Hado and Hinti Megeyta & Hidisa.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the rural areas except communal and individual sanitation facilities in Mile town.

### **Current Intervention**

No any intervention in the sanitation sector.

No any WASHE committees available in the rural areas of the Woreda except water committees in some places where water supply schemes are available.

### **Recommended Activities**

- Construction of one school latrine in Berso school
- Construction of 2 communal latrines and two solid waste disposal pits in Mile town.
- Supply of sanitation facilities, training on hygiene education

## **2.7. Erebti Woreda**

### **I. General Information**

Zone: 2

Total Population of the Woreda: 43,207

Total Number of PA's: 13

**Accessibility:** The Woreda center is accessible by gravel road from Abala however, large part of the Woreda is not accessible.

**Geomorphology, Geology and Hydrogeology:** The area is exclusively characterized by rugged topography with some flat area in the eastern part of the Woreda. The average altitude in the area is 1100 m a.s.l. Geologically large part of the Woreda is characterized by basalt with many exposures of metamorphic rocks like shist and gneiss. The ground water potential in the Woreda is generally low, however there are localities that can be good source of ground water mainly in the eastern part of the Woreda.

**Mode of life:** The population in the Woreda is exclusively pastoral.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.

**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Alita	5755	Ponds and water collected from the geysers in the area
2	Haiten	2548	Awra river in the rainy season
3	Fiato	3414	Traditional well in Harodele
4	Undergolo	3236	Traditional well in Harodele
5	Bahri	2564	Traditional well in Harodele
6	Harodele	3029	Traditional well in Harodele
7	Albo	2181	Water holes from Erebt river in rainy season
8	Erebt	2581	Erebt river
9	Gerbina	3444	Water holes from Erebt river in rainy season
10	Adu	2453	Erebt river
11	Lade	2981	Lelehi river & Eyta river
12	Inbile	3325	Lelehi river
13	Daligoso	5695	Lelehi river

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Erebt	4 <sup>th</sup> grade	No water	Have latrine
2	Bahri	4 <sup>th</sup> grade	No water	Have latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Erebt	Functional	No water	Have latrine (poor condition)

**II. Water Supply Condition**

**Existing water source (for human and livestock)**

- Erebt and Lelhe rivers
- Haradola traditional well
- Awra river
- Ponds

**Drought Impact on water supply situation and displacement**

The effect of the drought in the Woreda is very high, Erebt and Lelhe rivers, which are the main water sources of the Woreda are dried up in large parts of the Woreda. In addition to that the water holes within these river beds also dried up and large part of the population in the Woreda moved to Erebt village, which has still the discharge of the river.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

There have been water tankering from November to December 2002 and from May to Date by UNICEF funds through LWF and Regional DPPB by one truck with a capacity of 13,000 lt. one trip per day from Erebt river to Bahri, Haradola and Albo, 20 to 45 km far from the water source.

### **Recommended Activities**

- Developing of new wells
- Construction of improved ponds in places where drilling is not feasible.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Bahri, Albo, Gerbina and Adu.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda and no any WASHE committees.

### **Current Intervention**

No any intervention in the sanitation and hygiene sector in the Woreda.

### **Recommended Activities**

- Construction of one latrine for Erebt health post.
- Construction of two communal latrines and one solid waste disposal pit in Erebt
- Supply of sanitation facilities, training and hygiene education

## **2.8. Abala Woreda**

### **I. General Information**

**Zone:** 2

**Total Population of the Woreda:** 30,728

**Total Number of PA's:** 11

**Accessibility:** The Woreda center is accessible by gravel road from Mekele and large part of the Woreda is also accessible by dry weather road.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography with some flat area in the eastern part of the Woreda. The average altitude in the area is 1420 m a.s.l. Geologically large part of the Woreda is characterized by limestone and alluvial deposits with some basalt exposures. The ground water potential in the Woreda is generally high with acceptable quality.

**Mode of life:** The population in the Woreda is mainly pastoral with some agro-pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** REST is the only NGO working in the area.

### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Wuhdete	4168	Abala town water supply scheme
2	Wakri Gubi	2022	Abala town water supply scheme
3	Adi Hermele	3107	Shugala river
4	Geliso	2421	Lahowal river and ponds

5	Haridale	2379	Tewaleh river
6	Unda Asangola	2949	Nekelida river
7	Keda Asangola	2703	Abala river
8	Harkudi	2176	Extension from Abala water supply scheme
9	Hidimo	913	Abala town water supply scheme
10	Wasama	5760	Wasama river
11	Adokulu	2131	Adokulu river

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Adi Hermele	4 <sup>th</sup> grade	No water	Have latrine
2	Wuhdete Secondary	10 <sup>th</sup> grade	Have water	Have latrine
3	Wuhdete primary	6 <sup>th</sup> grade	Have water	Have latrine
4	Wukri Gubi	4 <sup>th</sup> grade	No water	No latrine
5	Geliso	4 <sup>th</sup> grade	No water	Have latrine
6	Haridale	4 <sup>th</sup> grade	No water	Have latrine
7	Harkudi	4 <sup>th</sup> grade	Have water	Have latrine
8	Keda Asangola	4 <sup>th</sup> grade	No water	Have latrine
9	Wasama	4 <sup>th</sup> grade	No water(no school building)	No latrine
10	Adokulu	4 <sup>th</sup> grade	No water(no school building)	No latrine

#### **Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Wuhdete health center	Functional	Have water	Have latrine
2	Geliso	Functional	No water	Have latrine
3	Haridala	Functional	No water	Have latrine
4	Keda Asangola	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Abala water supply scheme
- Shugala, Lahowat, Tewaleh, Nekelida, Abala, Wasama and Adokulu rivers.
- Few ponds

### **Drought Impact on water supply situation and displacement**

In this Woreda there was no big impact of drought, but two rivers(Lehawat and Gera Eida) have been dried up in their down stream coarse, which affected the water supply in the Woreda. However there was no any displacement from the Woreda to other places due to water problem.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

The only intervention in the area is drilling of three wells by REST, which are completed in Adi Hermele, Haridale and Adokulu Kebeles.

### **Recommended Activities**

- Developing of new wells
- Rehabilitation of Hidimo well.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Wasama (Gube village), Geliso and Keda Asangola.

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities in the rural part of the Woreda and no any WASHE committees.

#### **Current Intervention**

No any intervention in the sanitation and hygiene sector in the Woreda. However, construction of one communal latrine and one solid waste disposal pit in Abala town are planned by UNICEF 1995 EFY budget.

#### **Recommended Activities**

- Construction of one school latrine in Wukri Gubi school.
- Construction of two communal latrines and one solid waste disposal pit in Abala town
- Supply of sanitation facilities, training and hygiene education

## **2.9. Magale Woreda**

### **I. General Information**

**Zone:** 2

**Total Population of the Woreda:** 21,991

**Total Number of PA's:** 8

**Accessibility:** The Woreda center is poorly accessible by dry season road form Abala and large part of the Woreda is also non accessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography with some flat areas in the northern part of the Woreda. The average altitude in the area is 1220 m a.s.l. Geologically large part of the Woreda is characterized by granite and basaltic lava flows with some alluvial deposits. The ground water potential in the Woreda is general low to moderate.

**Mode of life:** The population in the Woreda are mainly pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** REST is the only NGO working in the area.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Adu	2721	Laenleh warm spring and Magale river
2	Tonsa	2668	Tonsa river
3	Faro	2320	Water holes from Faro stream
4	Gimirida	2854	Laenbuye river
5	Lemo	4068	Wantebu spring(very saline)
6	Boboysh	2283	Traditional wells
7	Hida	3804	Endeta & Makebush rivers
8	Aradu	1274	Endeta & Makebush rivers

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Adu	4 <sup>th</sup> grade	No water	Have latrine
2	Tonsa	4 <sup>th</sup> grade	No water	Have latrine
3	Harori	4 <sup>th</sup> grade	No water	Have latrine



4	Faro	4 <sup>th</sup> grade	No water (no any building)	No latrine
5	Hida	4 <sup>th</sup> grade	No water (no any building)	No latrine

#### **Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Adu clinic	Functional	No water	Have latrine
2	Tonsa Health post	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Laenleh warm spring and Wantebu spring
- Magale, Tonsa, Faro, Laen Buye, Endeta and Makebush rivers
- Traditional wells

### **Drought Impact on water supply situation and displacement**

The effect of the drought in the Woreda is high, Faro and Laen Buye rivers (the main water sources in the Woreda) dried-up in large parts of the Woreda and decreasing the discharge of springs and traditional wells were also observed. As a result, there was a displacement from the Woreda to Abala and Yalo Woreda of Afar region and adjacent Woredas of Tigray region from August to December 2002 due to the problem of water.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

The only intervention in the area is drilling of one wells by REST in Faro Kebele.

### **Recommended Activities**

- Developing of new wells
- Developing, protection and piping of Laenleh spring.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Boboyish, Gimirida, Aradu and Lemo.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda and no any WASHE committees.

### **Current Intervention**

No any intervention in the sanitation and hygiene sector in the Woreda.

### **Recommended Activities**

- Construction of one communal latrine and one solid waste disposal pit in Adu village (Woreda center)
- Supply of sanitation facilities, training and hygiene education

## 2.10. Dallol Woreda

### I. General Information

Zone: 2

Total Population of the Woreda: 52,585

Total Number of PA's: 13

**Accessibility:** The Woreda center is accessible by dry season road from Berhale and large part of the Woreda is non accessible.

**Geomorphology, Geology and Hydrogeology:** The area is characterized partly by flat and partly by rugged topographies. The average altitude in the area is 910 m a.s.l. Geologically large part of the Woreda is characterized by recent basalt, sandstone and evaporite deposits (halite & gypsum) with some alluvial deposits. The ground water potential in the Woreda is generally poor in respect to quality and quantity, however in few localities along the rivers there is a possibility to get good ground water reservoir.

**Mode of life:** The population in the Woreda are mainly pastoral with some agro-pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.

#### List of Kebeles in the Woreda

No.	List of PA's	Total population	Existing water Source
1	Bedere Mile	2960	Ragele river
2	Beda Admuru	4119	Ragele river
3	Lehasgedi	3821	Lehasgedi river (only in rainy season)
4	Gereset & Bahaitu	3521	Traditional wells
5	Elifan & Kuluni	3742	Traditional wells
6	Simbilili	3429	Gebela river
7	Adiku	5607	Traditional wells (only in the rainy season)
8	Asagara	6038	Water transported by camel from Adiku traditional well.
9	Berhe	4151	A spring in the village
10	Adaro	3669	A spring in the village
11	Sebiba	3287	A spring in the village(very low discharge)
12	Mao	4814	Water holes in Graru stream
13	Aynedib	3427	Tibina river

#### List of Schools in the Woreda

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Adiku	8 <sup>th</sup> grade	No water	Have latrine
2	Beda Amuru	4 <sup>th</sup> grade	No water	No latrine
3	Lehasgedi	4 <sup>th</sup> grade	No water(no school building)	No latrine
4	Gereset & Bahaita	4 <sup>th</sup> grade	No water(no school building)	No latrine
5	Elifan & kulini	4 <sup>th</sup> grade	No water(no school building)	No latrine
6	Simbilili	4 <sup>th</sup> grade	No water(no school building)	No latrine
7	Asagara	4 <sup>th</sup> grade	No water(no desks)	No latrine
8	Berhe	4 <sup>th</sup> grade	No water(no school building)	No latrine
9	Adaro	4 <sup>th</sup> grade	No water(no school building)	No latrine
10	Sebiba	4 <sup>th</sup> grade	No water(no desks)	No latrine
11	Mao	4 <sup>th</sup> grade	No water	Have latrine
12	Aynedib	4 <sup>th</sup> grade	No water	Have latrine

#### Health service in the Woreda

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Adiku clinic	Functional	No water	Have latrine

2	Simbilili Health post	Functional	No water	Have latrine
3	Mao health post	Functional	No water	Have latrine
4	Beduamuru health post	New not started	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Traditional wells
- Ragele, Lehasgedi, Gebela and Tibina rivers
- Few springs

### **Drought Impact on water supply situation and displacement**

Although the drought effect in the Woreda observed by drying of Adiku traditional well and Lehasgedi, Asagera and Torich rivers and by decreasing of the discharge of many springs, there was no any displacement from the Woreda to other places due to water problem. The movement has been within the Woreda.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

The only intervention in the area is planning for drilling of four wells in Adequa, Ayshet, Bada and Aynedeb villages by the regional Water bureau, RaDO and ESRDF.

### **Recommended Activities**

- Developing of new wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Lasaged, Asagara and Eifin.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda and no any WASHE committees.

### **Current Intervention**

No any intervention in the sanitation and hygiene sector in the Woreda.

### **Recommended Activities**

- Construction of three school latrines in Bada Amuru, Asagara and Sebiba schools.
- Construction of one communal latrine and one solid waste disposal pit in Adiku village (Woreda center).
- Supply of sanitation facilities, training and hygiene education

## **2.11. Kuneba Woreda**

### **I. General Information**

**Zone:** 2

**Total Population of the Woreda:** 41,550

**Total Number of PA's:** 7

**Accessibility:** The Woreda center is poorly accessible by dry season road from Berhale however, large part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography. The average altitude in the area is 1220 m a.s.l. Geologically large part of the Woreda is characterized by Precambrian rocks like schist & gneiss with some sandstone and alluvial deposits. The ground water potential in the Woreda is generally poor, however in few localities along the rivers there is a possibility to get ground water reservoirs.

**Mode of life:** The population in the Woreda is mainly pastoral with some agro-pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.

**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Kuneba & Belbel	8323	A protected spring in Wahadis and Kendelo & Belbel rivers
2	Alehing	4163	Wahadis river ( 4 hours travel)
3	Wahadis	3996	Wahadis river
4	Adede & Feresdege	6341	Wahadis river (4 hours travel)
5	Guha & Kedahra	8427	Water transported by camel from Wahadis river
6	Fisho	4990	Fisho river
7	Ruhe & Edegahan	5311	Wahadis river (5 hours travel)

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Kuneba	8 <sup>th</sup> grade	No water	Have latrine(poor condition)
2	Wahadis	4 <sup>th</sup> grade	No water	No latrine
3	Endedo	4 <sup>th</sup> grade	No water	No latrine
4	Belbele	4 <sup>th</sup> grade	No water	Have latrine
5	Fersdege	4 <sup>th</sup> grade	No water	Have latrine
6	Alehina	4 <sup>th</sup> grade	No water(no school building)	No latrine
7	Guha & Kedahru	4 <sup>th</sup> grade	No water(no school building)	No latrine
8	Fisho	4 <sup>th</sup> grade	No water(no school building)	No latrine
9	Ruhe & Edegahan	4 <sup>th</sup> grade	No water(no school building)	No latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Wahadis clinic	Functional	No water	Have latrine
2	Fersdeghi Health post	Functional	No water	Have latrine

**II. Water Supply Condition**

**Existing water source (for human and livestock)**

- Wahadis springs
- Wahadis, Belbel, Kendelo and Fisho rivers

**Drought Impact on water supply situation and displacement**

Decreasing of the discharge of Wahadis springs and all the rivers in the Woreda are the effects of the drought in the Woreda. Wahadis spring is the water source for about half of the population in the Woreda and the decreasing of its discharge made the community to wait one full day to get their turn for collecting water. However, there was no any displacement from the Woreda to other places due to water problem.

**Current Intervention (New construction, Rehabilitation & Tankering)**

The only intervention in the area is planning for drilling of three wells in Edeghanu, Belbel and Fersdege Villages by the regional Water bureau.

During the period of October to December 2002 there was a water tankering by UNICEF funds through MoWR one trip per day by one truck of 16,000 lt. capacity from Bilbil river to Alehina, Wurehdiganu and Fersdege villages(12 to 26 km far from the distribution points).

#### **Recommended Activities**

- Rehabilitation, development and improving of a protected Wahadis spring.
- Developing of new shallow wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

#### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Rahe & Edegahun, Adede Fersdege, Alehina and Wahadis.

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda and no any WASHE committees.

#### **Current Intervention**

No any intervention in the sanitation and hygiene sector in the Woreda.

#### **Recommended Activities**

- Construction of four school latrines in Wahadis, Endedo and Kuneba schools.
- Construction of one communal latrine and one solid waste disposal pit in Kuneba village (Woreda center).
- Supply of sanitation facilities, training and hygiene education

## **2.12. Berhale Woreda**

### **I. General Information**

**Zone:** 2

**Total Population of the Woreda:** 37,304

**Total Number of PA's:** 9

**Accessibility:** The Woreda center is accessible by a gravel road from Agula and large part of the Woreda is poorly accessible by dry weather roads.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography. The average altitude in the area is 720 m a.s.l. Geologically large part of the Woreda is characterized by basalt, limestone and sandstone hills and ridges with some evaporite deposit exposures of gypsum and halite. The ground water potential in the Woreda is generally poor except along the big streams in the Woreda, which have good ground water potentials with good yield and acceptable chemical qualities.

**Mode of life:** The population in the Woreda are exclusively pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** Italian Cooperazion Water project (Italian Embassy assistance) and World Vision Water tankering (through UNICEF assistance).

**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Berhale 01	3106	Water holes in Nemele river
2	Seba & Demale	3923	Demele and Seba rivers
3	Kora	5754	Nemele river
4	Daer	2965	Traditional wells (in the rainy season) and Nemele river
5	Bure	7771	Watmete & Dertagela rivers
6	Ala	6824	Entibedehe river (only in the rainy season) & Water tankering
7	Lela Ala	4222	Lela Ala river (only in the rainy season) & water tankering
8	Gubene	1289	Daretagela river (only in the rainy season)
9	Sarae	1449	Lela ala river (one full day trip)

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Berhale Junior	8 <sup>th</sup> grade	No water	Have latrine
2	Berhale Elementary	4 <sup>th</sup> grade	No water	Have latrine
3	Demale	4 <sup>th</sup> grade	No water	Have latrine
4	Daer	4 <sup>th</sup> grade	No water	Have latrine
5	Bure	4 <sup>th</sup> grade	No water	No latrine
6	Shaye Gube	4 <sup>th</sup> grade	No water	Have latrine
7	Adoe	4 <sup>th</sup> grade	No water	Have latrine
8	Kora	4 <sup>th</sup> grade	No water(no school building)	No latrine
9	Asgubi	4 <sup>th</sup> grade	No water(no school building)	No latrine
10	Guben	4 <sup>th</sup> grade	No water(no school building)	No latrine
11	Sarea	4 <sup>th</sup> grade	No water(no school building)	No latrine

**Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Berhale Clinic	Functional	No water	No latrine
2	Demele Health post	Functional	No water	Have latrine
3	Humedela health post	Functional	No water	Have latrine
4	Daer health post	Functional	No water	Have latrine
5	Adae health post	Functional	No water	Have latrine
6	Guben health post	Functional	No water	Have latrine
7	Shaye Gubi health post	Functional	No water	Have latrine
8	Germoyite health post	Functional	No water	Have latrine

**II. Water Supply Condition****Existing water source (for human and livestock)**

- A hand dug well in Nemele river bed
- Demele, Seba, Nemele, Watmete, Dertagela, Entibedehe, Lela Ala rivers
- Ponds & rain water collection reservoirs
- Water tankering

**Drought Impact on water supply situation and displacement**

Almost all the rivers in the Woreda are seasonal and they used to dry in the Sever dry seasons. However in 2002 due to the drought most of the rivers and ponds are dried during the rainy season of July & August 2002 and

stay dry up to December 2002. In addition to that the traditional wells in the Woreda also decreased their discharges very much.

Due to the effect of the drought from August to December 2002 the people in the Woreda were displaced and moved to Abala and Erebtu Woredas for fetching water.

#### **Current Intervention (New construction, Rehabilitation & Tankering)**

The current intervention in the sector in the Woreda are Water supply scheme construction for Berhale town by the Italian Cooperazion(Italian embassy), Water tankering by World Vision by UNICEF funds for 3 villages two trips per day by 13,000 lt. capacity truck for Lela Ala, Ala and Kore villages.

In addition to the above activities the regional water bureau has planned to drill two wells in Dear and Hamedela villages.

#### **Recommended Activities**

- Water tankering until the planned drilling and construction activities completed.
- Developing of new shallow and deep wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

#### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Sarea, Gubene, Daer and Kora.

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda and no any WASHE committees.

#### **Current Intervention**

No any intervention in the sanitation and hygiene sector in the Woreda.

#### **Recommended Activities**

- Construction of one school latrine in Bure school.
- Construction of two communal latrines and one solid waste disposal pit in Berhale town (Woreda center).
- Supply of sanitation facilities, training and hygiene education

## **2.13. Afdera Woreda**

### **I. General Information**

**Zone:** 2

**Total Population of the Woreda:** 17,492

**Total Number of PA's:** 9

**Accessibility:** The Woreda center is accessible by all season gravel road from the Asphalt road, Addis to Djibouti at Serdo. However the other part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by flat topography and basaltic hills. The average altitude in the area is -20 m b.s.l. Geologically large part of the Woreda is characterized by recent basalts with some alluvial deposits. The ground water potential in the Woreda is generally poor except in the northwestern part of the Woreda, which have good ground water potential at shallow depths even if the water quality is very poor(high salinity).

**Mode of life:** Almost exclusively the population in the Woreda are pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** no any NGO working in the area.

**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Alganda	2318	Afdera springs
2	Adyera	3809	Traditional wells
3	Kusrawad	1252	Traditional wells
4	Yaibaye	1163	Traditional wells
5	Haytrouwa	2753	Traditional wells
6	Argele	1621	Traditional wells
7	Namagube	2380	Traditional wells
8	Dabure	1307	Traditional wells
9	Harsuma	889	Traditional wells

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Alganda school	4 <sup>th</sup> grade	Hot Springs in Afdera lake shore	No any

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Alganda	Functional	Hot Springs at the shore of Lake Afdera	A pit latrine in the compound

**II. Water Supply Condition**

**Existing water source (for human and livestock)**

- More than seven traditional wells
- Three hot springs in Lake Afdera shore

**Drought Impact on water supply situation and displacement**

In this Woreda the main water sources are traditional wells which were affected by the drought and almost all the wells were dropped their water table and the community forced to dig deep to get water. In some places it was difficult to get the water by deepening traditional wells and the community was forced to migrate into adjacent Woredas of the region like Berhale and Erebt.

**Current Intervention (New construction, Rehabilitation & Tankering)**

There was water tankering from End of January to May 2003 by UNICEF funds through NACID and Glimmer of Hope funds through Regional Water Bureau by two truck with a capacity of 13,000 lt. each one trip per day from Afdera springs to the road to Serdo 2.5 to 80 km far from the water source.

The regional water bureau planned to construct a water supply system for Alganda from the spring.

**Recommended Activities**

- Developing of shallow wells in northwestern part of the Woreda (access road is needed)
- Protection, development and pipeline work from Afdera springs for Alganda village, Woreda center.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Alganda, Haytruowa, Argele, Adeyra and Namagube



### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda.

#### **Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda.

#### **Recommended Activities**

- Construction of four communal latrines and one solid disposal pit in Alganda (Woreda center and resident of many salt producing workers).
- Water supply facilities and training on hygiene

### **2.14. Awash Fentale Woreda**

#### **I. General Information**

**Zone:** 3

**Total Population of the Woreda:** 21,442

**Total Number of PA's:** 6

**Accessibility:** The Woreda center is accessible by asphalt road from Addis and almost all the Woreda is also accessible by a dry weather road from Awash town.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by flat topography. The average altitude in the area is 960 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and lacustrine deposits with some basalt exposures along the gorges and hills in few localities. The ground water potential in the Woreda is generally high, however in large part of the area the ground water have poor quality (high salinity and high temperature).

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agro-pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** Oxfam GB and CARE Ethiopia.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Awash 01	8730	Awash water supply scheme
2	Dudube 01	2011	Dudube water supply scheme
3	Deho	1823	Harita Ela Artesian well
4	Sabure	6164	6 Hand dug wells and Bulga river
5	Boloyita	1324	4 Hand dug wells
6	Kebena	1390	5 Hand dug wells and Kebena river

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Awash high school	12 <sup>th</sup> grade	No water extension	Have latrine
2	Awash Elementary school	8 <sup>th</sup> grade	Have water extension	No latrine
3	Deho school	4 <sup>th</sup> grade	No water	No latrine
4	Alibete (Sabure)	6 <sup>th</sup> grade	No water (Have hand pump in the village)	Have latrine
5	Sabure	8 <sup>th</sup> grade	No water	Have latrine
6	Boloyita	4 <sup>th</sup> grade	No water (Have hand pump in the village)	Have latrine
7	Kebena	6 <sup>th</sup> grade	No water (Have hand pump in the village)	Have latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Awash health center	Functional	No water extension	Have latrine
2	Deho clinic	Functional	No water	No latrine
3	Sabure Clinic	Functional	No water	No latrine
4	Kevena Clinic	Functional	No water	No latrine

**II. Water Supply Condition****Existing water source (for human and livestock)**

- Awash and Dudube water supply scheme
- Fifteen Hand dug wells
- Harita ela artesian well
- Kevena and Bulga rivers

**Drought Impact on water supply situation and displacement**

In this Woreda the large effect of drought was observed by drying of Kevena River, which is unusual in the recent years of the river. In addition to that Bulga river decreasing its discharges and most of the hand dug wells dropping their water tables. As a result, there was displacement of people to Amibara and Dulecha woredas during the severe drought seasons.

**Current Intervention (New construction, Rehabilitation & Tankering)**

Drilling of one well is undergoing by the regional Water bureau in the Woreda.

Rehabilitation of Dudube scheme by Oxfam GB, and rehabilitation of Alibete, Harita ela and Deho scheme planned by UNICEF with the MoWR.

**Recommended Activities**

- Developing of new wells
- Rehabilitation of non functional water schemes (4 hand dug wells in Hadiyaburu and Boloyita villages).
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Deho, Dudube and Boloyita.

**III. Sanitation and Hygiene****Existing Sanitation facilities**

No any sanitation facilities in the rural areas except communal and individual sanitation facilities in Awash town.

**Current Intervention**

Oxfam GB is working on Water and sanitation in the Woreda including hygiene training.

There are water committees in some places where water supply schemes are available.

**Recommended Activities**

- Construction of two school and three clinic latrines in the Woreda.
- Water supply facilities and training on hygiene
- Construction of 2 communal latrines and two solid waste disposal pits in Awash town.

## 2.15. Amibara Woreda

### I. General Information

**Zone:** 3

**Total Population of the Woreda:** 46,498

**Total Number of PA's:** 15

**Accessibility:** The Woreda center is accessible by a gravel road from the main Awash to Gewane asphalt road and large part of the Woreda is also accessible by a dry weather road from the Woreda center (Melka Worer).

**Geomorphology, Geology and Hydrogeology:** The area is dominantly characterized by flat topography. The average altitude in the area is 800 m a.s.l. Geologically large part of the Woreda is characterized by alluvial deposits with some basalt exposures in few localities. The ground water potential in the Woreda is generally very high, however in large part of the area the ground water have poor quality (high salinity and high temperature). For example hand dug wells in Angelele, Delile and Asoba have very saline water and the community is not willing to use them.

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agro-pastorals along Awash River. In this Woreda there are many commercial farms including a state farm.

**List of major NGO's assisting Water and Sanitation in the area:** Oxfam GB and CARE Ethiopia.

#### List of Kebeles in the Woreda

No.	List of PA's	Total population	Existing water Source
1	Kurkura	1329	Kurkura water supply scheme
2	Arba	4742	Awash Arba water supply scheme
3	Melka Sedi	7671	Melka Sedi Water supply scheme
4	Eable	853	Water transported from Halesemele by state farm tanker
5	Halesemele	1675	Halesemele Water supply scheme
6	Bedule Ale	1978	Bedule Ale water supply scheme
7	Serkemu	4986	Two water supply schemes in the area
8	Melka Worer 01	6593	Melka water supply scheme in the area
9	Badamu	2529	Traditional wells
10	Bonta	3207	Awash river (Hambash scheme is under reh. By UNICEF).
11	Gedi Aro	2138	Gediaro motorized scheme
12	Asoba	1451	Awash river
13	Angelele	3025	Awash river and Angelele hand pump
14	Haledebe	2603	Haledebe motorized scheme
15	Gelisa	1719	Awash river.

#### List of Schools in the Woreda

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Kurkura	New	No water extension	Have latrine
2	Awash Arba	8 <sup>th</sup>	Have water extension	Have latrine
3	Melka Sedi	8 <sup>th</sup>	Have water extension	Have latrine
4	Halesemele	6 <sup>th</sup>	Have water extension	Have latrine
5	Bedule Ale	4 <sup>th</sup>	No water extension	No latrine
6	Serkemu	4 <sup>th</sup>	Have water	Have latrine
7	Melka Worer	8 <sup>th</sup>	Have water extension	Have latrine
8	Sheleko (Badamu)	8 <sup>th</sup>	No water	Have latrine
9	Bonta	4 <sup>th</sup>	No water	Have latrine
10	Hambash (Gedi Aro)	4 <sup>th</sup>	No water	Have latrine
11	Asoba	4 <sup>th</sup>	No water	Have latrine

12	Hali Debe	4 <sup>th</sup>	Have water	Have latrine
13	Halidegi (Serkemu)	4 <sup>th</sup>	Have water	Have latrine
14	Gelisa	4 <sup>th</sup>	No water	Have latrine
15	Lusi High school	12 <sup>th</sup>	Have water	Have latrine

#### **Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Kurkura health post	Functional	No water extension	Have latrine
2	Arba Clinic	Functional	Have water	Have latrine
3	Melka Sedi Clinic	Functional	Have water	Have latrine
4	Melka Worer Health center	Functional	Have water	Have latrine
5	Badamu clinic	Functional	No water	Have latrine
6	Bonta Clinic	Functional	No water	No latrine
7	Asoba Clinic	Functional	No water	Have latrine
8	Halidebe Clinic	Functional	Have water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Kurkura, Awash Arba, Melka Sedi , Halesemele, Bedule Ale, Melk Worer, Gedi Aro, Haledebe and two other motorized water supply schemes
- Traditional wells
- Awash river
- Angelele hand pump

### **Drought Impact on water supply situation and displacement**

The main effect of the drought in Amibara Woreda is due to the decreasing of Awash river discharge, which made to dry few hand dug wells along the river. However there was no any displacement from the Woreda due to water problem.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

Rehabilitation of Hambash and Kirensa schemes by UNICEF and rehabilitation of Kurkura, Andido and Oudel Esa schemes by Oxfam GB.

### **Recommended Activities**

- Developing of new wells
- Rehabilitation of non functional hand dug well in Kleat and a river intake scheme in Sheleko villages.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Gelisa, Eable, Badamu and Asoba.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the rural areas except communal and individual sanitation facilities in Melka Worer, Melka Sedi, Awash Arba towns.

### **Current Intervention**

Oxfam GB is working on Water and sanitation in the Woreda including hygiene training.

There are water committees in some places where water supply schemes are available.

### **Recommended Activities**

- Construction of one school latrine in Bedule Ale and one clinic latrine in Bonta villages.
- Construction of 5 communal latrines in Melka Sedi, Melka Worer, Awash Arba, Hambash, and Sheleko villages and two solid waste disposal pits in Awash Arba town.
- Water supply facilities, establishment and training of WASHE committees and hygiene education.

## **2.16. Buremudaitu Woreda**

### **I. General Information**

**Zone:** 3

**Total Population of the Woreda:** 42,421

**Total Number of PA's:** 15

**Accessibility:** The Woreda center is accessible by a gravel road from the main asphalt road, Awash to Gewane at Miticka and large part of the Woreda is also accessible by a dry weather road from the Woreda center (Debele).

**Geomorphology, Geology and Hydrogeology:** The area is dominantly characterized by flat topography. The average altitude in the area is 710 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and lacustrine deposits. The ground water potential in the Woreda is generally very high and characterized by many artesian wells from confined aquifers, however in the area the ground water have poor quality (high salinity and high temperature).

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agro-pastorals along Awash River. In this Woreda there are few commercial farms.

**List of major NGO's assisting Water and Sanitation in the area:** Oxfam GB is the only NGO working in the Woreda in the Water and sanitation sector.

### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Debele	2011	Debele Water supply scheme, artesian well (Under Reh. By Oxfam GB)
2	Gefrem	1640	Gefrem Water Supply Scheme, artesian well (it is in the plan of UNICEF reh.)
3	Kodaye	3751	Awash river (there is a non functional hand pump)
4	Beida Foro	2321	Awash river (there is a non functional hand pump)
5	Wayina Hara	1810	Awash river
6	Hangege	845	Awash river and Arsho river
7	Moro Buri	2316	Awash river
8	Dengele Geta	4038	Arsho river
9	Derebto	3647	Arsho river
10	Burka	2926	Arsho river
11	Tutle	2744	Pond
12	Adegele	2758	Pond
13	Diara	3240	Ataye river
14	Adelalita	5014	Buri lake
15	Buri	3360	Awash river and Buri lake

### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Gefrem	8 <sup>th</sup> grade	Have water	Have latrine
2	Hangege	4 <sup>th</sup> grade	No water	Have latrine
3	Gelisa	4 <sup>th</sup>	No water	Have latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Gefrem Clinic	functional	No water extension	Have latrine
2	Debel Clinic	functional	No water extension	Have latrine

**II. Water Supply Condition****Existing water source (for human and livestock)**

- Gefrem and Debele artesian wells
- Awash, Arsho and Ataye rivers
- Buri lake
- Many ponds

**Drought Impact on water supply situation and displacement**

The drought impact to the water supply resources in the Woreda is low in large parts of the Woreda except around Gelalu village, which is affected by drying of ponds around the village. In addition to that Awash and Arsho river discharges were also decreased and Ataye river was dried up in Tutle and Adgele Kebeles of the Woreda. However, there was no any displacement from the Woreda due to water problem.

**Current Intervention (New construction, Rehabilitation & Tankering)**

Rehabilitation of Debele scheme by Oxfam GB and rehabilitation plan of Gefrem scheme by UNICEF.

There was water tankering from September 2002 to Mid July 2003 by UNICEF funds through MoWR by one truck with a capacity of 16,000 lt. one trip per day from Miticka to Gelalu village, 11 km far from the water source.

**Recommended Activities**

- Developing of new wells
- Rehabilitation of non functional hand pumps in Kodaye and Beida Foro.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Hangege, Diara, Tutle, Burka and Wayina Hara.

**III. Sanitation and Hygiene****Existing Sanitation facilities**

No any sanitation facilities in the Woreda except the pit latrines in the two schools and two clinics in the Woreda.

**Current Intervention**

Oxfam GB is working on Water and sanitation in the Woreda including hygiene training.

There are water committees in Debele and Geferm villages.

**Recommended Activities**

- Construction of two communal latrines in Debele and Gefrem.
- Construction of two solid waste disposal pits one in Gefrem and one in Debele.
- Water supply facilities, establishment and training of WASHE committees and hygiene education.

## **2.17. Gewane Woreda**

### **I. General Information**

**Zone:** 3

**Total Population of the Woreda:** 32,162

**Total Number of PA's:** 10

**Accessibility:** The Woreda center is accessible by the main Awash to Mile asphalt road and large part of the Woreda is also accessible by a dry weather road from the Woreda center (Old Gewane).

**Geomorphology, Geology and Hydrogeology:** The area is dominantly characterized by flat topography. The average altitude in the area is 720 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and lacustrine deposits with fissural basalt exposures. The ground water potential in the Woreda is generally very high and characterized by many artesian wells from confined aquifers, however in the area the ground water have poor quality (high salinity and high temperature).

**Mode of life:** Dominantly the population in the Woreda is pastorals with some agro-pastorals along Awash River. In this Woreda there are few commercial farms.

**List of major NGO's assisting Water and Sanitation in the area:** Oxfam GB is the only NGO working in the Woreda in the Water and sanitation sector.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Gewane 01	8575	Gewane and Walgeli Water supply schemes
2	Meticka 02	1230	Meticka water supply scheme and Meticka hot springs
3	Beieda	2271	Adimegala artesian well and Awash river
4	Adbarure	4007	Awash river
5	Brefolo	2649	Awash river (There is a non functional hand pump in Didboelwha).
6	Ourafita	3858	Awash river
7	Eyeroli	2414	Two hand pumps (one non functional) and Awash river
8	Geliela Dora	2712	Awash river (There is a non functional hand pump in Eaoliela).
9	Gebya Bura	2717	Awash river
10	Hadami Buri	1730	Awash river

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Gewane	10 <sup>th</sup> grade	Have water extension	Have latrine
2	Meticka	6 <sup>th</sup> grade	No water	Have latrine
3	Amasa Buri (Brefolo)	4 <sup>th</sup> grade	No water	No latrine
4	Neina Tahiro (Gewane)	4 <sup>th</sup> grade	No water	Have latrine
5	Entiadota (Ourafita)	4 <sup>th</sup> grade	No water	No latrine
6	Geliela Dora	4 <sup>th</sup> grade	No water	No latrine

#### **Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Gewane health center	Functional	No water extension	Have latrine
2	Meticka Clinic	Functional	No water	Have latrine
3	Beida Kesele (Guest house) Clinic	Functional	No water	No latrine
4	Geliela Dora health post	Functional	No water	No latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Gewane, Walgeli and Meticka motorized schemes
- Meticka hot springs and Adimegala artesian well
- Awash river
- Eyrolie hand pump
- Traditional hand dug wells

### **Drought Impact on water supply situation and displacement**

The drought impact in this Woreda was observed by decreasing of Awash River and drying of few hand dug wells along the river. However, there was no any displacement from the Woreda due to water problem.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

Rehabilitation of Walgeli scheme by Oxfam GB and rehabilitation plan of Adimegala artesian well by UNICEF.

### **Recommended Activities**

- Developing of new wells
- Rehabilitation of non functional hand pumps in Eaoliela, Eyeroli and Didboelwha.
- Maintenance of the pipeline and water point in Gewane Junior school.
- Pipeline work from Meticka scheme to the school.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Gebya Bora, Gelila Dora, Adbarure and Beieda.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the rural areas of the Woreda except individual latrines in Gewane and Meticka towns.

### **Current Intervention**

Oxfam GB is working on Water and sanitation in the Woreda including hygiene training. There are water committees in Gewane and Meticka.

### **Recommended Activities**

- Construction of four communal latrines two in Old Gewane and two in Meticka.
- Construction of two solid waste disposal pits one in Gewane and one in Meticka.
- Construction of two school latrines in Gelila Dora and Entiadota schools.
- Construction of two latrines for Guest house clinic and Geliela Daro health post.
- Water supply facilities, establishment and training of WASHE committees and hygiene education.

## **2.18. Dulecha Woreda**

### **I. General Information**

Zone: 3

Total Population of the Woreda: 16,881

Total Number of PA's: 11



**Accessibility:** The Woreda center is accessible from two side one is from Melka Werer and the other is from Debre Brehane through Argoba and large part of the Woreda is also accessible by dry season roads from the Woreda center.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by flat topography except the Western part, which is characterized by rugged topography. The average altitude in the area is 1080 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and lacustrine deposits with some basalt exposures. The ground water potential in the Woreda is generally high. However the quality is very poor due to high salinity in the area.

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agro-pastorals along Awash river.

**List of major NGO's assisting Water and Sanitation in the area:** Oxfam GB is the only NGO studying in the Woreda for Water and sanitation projects.

**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Dulecha	816	Dulecha water scheme
2	Kefise	788	Edelei hand dug well(non functional) and Gachene river
3	Dire	624	Gachene river
4	Burtele	1500	Burtele hand dug well (non functional), Gachene river and Awash river.
5	Hugube	1750	Hugube hand dug well (non functional) and Awash river
6	Tirtira	1872	Mulhuli spring (two hours travel)
7	Gebu Hafe	1944	Aware spring and Koki river
8	Asbehari	2064	Lei Hado lake(two hours travel)
9	Bolehamo	1244	Bolehamo hand dug well (non functional) and Awash river
10	Sagento	1833	Sagento two hand dug wells(one non functional), Kebena river and Awash river
11	Durufili	2446	Kebena river

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Dulecha	8 <sup>th</sup> grade	No water extension	Have latrine
2	Dire	4 <sup>th</sup> grade	No water	Have latrine
3	Hugube	4 <sup>th</sup> grade	No water	Have latrine

**Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Dulecha health center	New not started	No water extension	Have latrine
2	Dulecha clinic	Functional	No water extension	Have latrine
3	Hugube health post	Functional	No water	No latrine
4	Sagento health post	Functional	No water	Have latrine
5	Bolehamo health post	New not started	No water	Have latrine

**II. Water Supply Condition**

**Existing water source (for human and livestock)**

- Dulecha motorized scheme
- Six Hand dug wells equipped with hand pumps (5 hand pumps are non functional the community using by bucket and rope)

- Mulhuli and Aware springs
- Gachene, Kebena and Awash rivers
- Lei Hado lake

#### **Drought Impact on water supply situation and displacement**

The effect of the drought in the Woreda is observed by drying of Gachene river and many hand dug wells in the Woreda. In addition to that the main water source in the Woreda, Awash River has been decreasing its discharges unusually. As a result the population in the Woreda migrated to Amibara Woreda at the time of the severe drought period (August to December 2002) for fetching water for their consumption and their cattle.

#### **Current Intervention (New construction, Rehabilitation & Tankering)**

No any current intervention in the sector however, Oxfam GB is studying the area for Water and sanitation project.

#### **Recommended Activities**

- Rehabilitation of non functional hand dug wells in the Woreda
- Extension and rehabilitation work for Dulecha scheme
- Developing of new wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

#### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Tirtira, Asbehari, Durufilli, Gerbu Hafe.

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda and no any WASHE committees.

#### **Current Intervention**

Oxfam GB is studying the area for Water and sanitation project but not yet started.

#### **Recommended Activities**

- Construction of one pit latrine for Hugube health post
- Construction of one communal latrine and one solid waste disposal pits for Dulecha village (Woreda center).
- Water supply facilities, establishment and training of WASHE committees and hygiene education.

## **2.19. Argoba Special Woreda**

### **I. General Information**

**Zone:** 3

**Total Population of the Woreda:** 11,641

**Total Number of PA's:** 13

**Accessibility:** The Woreda center is accessible from two side one is from Melka Werer and the other is from Debre Brehane through Ankobre, however, large part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography. The average altitude in the area is 1340 m a.s.l. Geologically large part of the Woreda is characterized by basalt with

some lacustrine deposits and ignimbrites. The ground water potential in the Woreda is generally poor. However there is a possibility of getting ground water reservoirs along the big streams in the area.

**Mode of life:** Dominantly the population in the Woreda are agro-pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the Woreda in the Water and sanitation sector.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Gachene	824	Gachene river (a borehole drilled but not yet started)
2	Sofiager	942	Pond in the rainy season and Selendegese spring in the dry season (two hours travel)
3	Abali	657	Pond in the rainy season and Tinfeta in the dry season (three hours travel)
4	Laye Metekleya	1154	Pond in the rainy season and Tinfeta in the dry season (three hours travel)
5	Tache Metekleya	896	Pond in the rainy season and Tinfeta in the dry season (three hours travel)
6	Bilu	662	Bilu Zere river and pond
7	Chisa	965	Kebena river and pond in the rainy season
8	Debreko	725	Debereko spring
9	Kocka	516	Kocka spring
10	Goze	1220	Small springs in the rainy season & Loliy Melka river in dry season
11	Horckamba	1115	Galo spring and Lomy river
12	Geberoché	1570	Pond and Meinso river
13	Chano	395	Meinso river

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Gachene	6 <sup>th</sup> grade	No water	Have latrine
2	Metekleya	4 <sup>th</sup> grade	No water	Have latrine
3	Bilu	4 <sup>th</sup> grade	No water	Have latrine
4	Cheno	4 <sup>th</sup> grade	No water	Have latrine
5	Goze	4 <sup>th</sup> grade	No water(no building)	No latrine

#### **Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Gachene health post	Functional	No water	Have latrine
2	Metekleya health post	Functional	No water	Have latrine
3	Bilu health post	New not started	No water	Have latrine
4	Cheno health post	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Gachene, Tinfetu, Bilu Zere, Lomy, Meinso and Kebena rivers
- Selendegese, Deberko, Kocka, Galo and other small springs
- Many Ponds (only for few months after the rainy season)

### **Drought Impact on water supply situation and displacement**

The effect of the drought in the Woreda is observed by drying of ponds, many rivers and springs and decreasing of the discharge of all the rest rivers and springs in the Woreda. However, there was no any displacement of people from the Woreda to other places due to the problem of water.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

The only current intervention in the water sector is a borehole drilled by Afar ESRDF in Gachene village before one year but pump and generator installations was not yet made.

### **Recommended Activities**

- Protection and development of springs
- Developing of new wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Sofi Ager, Laye Metekleya, Tache Metekleya, Chisa and Geberoche.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda and no any WASHE committees.

### **Current Intervention**

No any intervention in the Woreda in the sanitation sector.

### **Recommended Activities**

- Construction of two communal latrines and one solid waste disposal pit for Gachene village (Woreda center).
- Water supply facilities, establishment and training of WASHE committees and hygiene education.

## **2.20. Awra Woreda**

### **I. General Information**

**Zone:** 4

**Total Population of the Woreda:** 20,659

**Total Number of PA's:** 10

**Accessibility:** The Woreda center is accessible by a dry weather road both from Calewan and Chifra and large part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is exclusively characterized by flat topography. The average altitude in the area is 950 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and elluvial deposits with some basaltic lava flows. The ground water potential in the Woreda is generally very high along Awra River, with acceptable quality.

**Mode of life:** almost all the population in the Woreda is pastoral.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area in the sector.

### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Deryitu	2470	Awra motorized scheme
2	Harsmeridora	1053	Awra river
3	Lekuma	1695	Awra river

4	Aliberi Mesgid	2794	A hand pump in the village
5	Hida	2291	Awra river (there are two non functional wells)
6	Lekora	1592	Awra river
7	Debel	1022	Awra river (a borehole drilled by the Regional Water Bureau but sealed, due to unknown reason).
8	Finto & Asela	3544	Traditional well
9	Worikoma	1763	Ewa and Awra rivers
10	Hidelu	2434	Awra river

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Deryitu	4 <sup>th</sup> grade	No water extension	No latrine
2	Lekora	New	No water	Have latrine
3	Hida	4 <sup>th</sup> grade	No water	Have latrine
4	Harsmeridora	4 <sup>th</sup> grade	No water	Have latrine

#### **Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Deryitu	Functional	No water extension	Have latrine
2	Hida	Functional	No water	No latrine
3	Harsmeridora	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Awra motorized scheme
- Mesgid hand pump
- Awra river
- Traditional wells

### **Drought Impact on water supply situation and displacement**

Drying of Awra river and drying of traditional wells in Finto and Asele villages are the main drought effects in the Woreda which created a displacement of people to Mile and Chifra Woredas in the severe drought seasons of 2002.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

UNICEF with MoWR and Regional Water bureau planned to drill one well in Harsmeridora.

### **Recommended Activities**

- Developing of new wells
- Rehabilitation of two non functional Hida water schemes.
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Lekora, Hidela, Finto & Asele and Harsmeridora.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda.

### Current Intervention

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda except water committees in some places where water supply schemes are available.

### Recommended Activities

- Construction of one school latrine in Deryitu village.
- Construction of one communal latrine in the Woreda center.
- Supply of sanitation facilities, training and hygiene education

## 2.21. Ewa Woreda

### I. General Information

Zone: 4

Total Population of the Woreda: 39,272

Total Number of PA's: 10

**Accessibility:** The Woreda center is accessible by all season gravel road from Chifra and large part of the Woreda also accessible by a dry weather road.

**Geomorphology, Geology and Hydrogeology:** The area is exclusively characterized by flat topography. The average altitude in the area is 1080 m a.s.l. Geologically large part of the Woreda is characterized by alluvial deposits with some basaltic lava flows. The ground water potential in the Woreda is generally high mainly along Ewa River, with acceptable quality.

**Mode of life:** almost all the population in the Woreda is pastoral with very few Agro-pastorals in the western coarse of Ewa river.

**List of major NGO's assisting Water and Sanitation in the area:** No NGO working in the area in the sector.

#### List of Kebeles in the Woreda

No.	List of PA's	Total population	Existing water Source
1	Bolo Tomo	3326	Allel Suela motorized scheme and Ewa river
2	Andegna Badule	4153	Ewa river
3	Huletegna Badule	3528	Ewa river
4	Bilue	3404	Ewa river
5	Regdine	3658	Regdine Traditional well
6	Duba	4745	Regdine Traditional well
7	Guti	2328	Ewa river
8	Kofo Bududu	3563	Ewa river and traditional water holes in stream bed
9	Fialu	4351	Water holes in Ewa river stream bed
10	Burka	6215	Burka spring

#### List of Schools in the Woreda

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Allele suela (Bolo Tomo)	6 <sup>th</sup> grade	No water extension	Have latrine
2	Andenga Badule	4 <sup>th</sup> grade	No water	Have latrine
3	Regdine	4 <sup>th</sup> grade	No water	Have latrine
4	Bilue	4 <sup>th</sup> grade	No water	Have latrine

#### Health Service in the Woreda

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Bolo Tomo	Functional	No water extension	No latrine
2	Regdine	Functional	No water	Have latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Allele Suela motorized scheme
- Ewa river
- Burka springs
- Traditional wells and water holes

### **Drought Impact on water supply situation and displacement**

Drying of Ewa river and Reducing the water level of traditional wells and water holes was the major effects of the drought in the water supply sources in the Woreda which resulted in displacement of people to Mile, Chifra and Calewan Woredas in the severe drought seasons of 2002.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

UNICEF with MoWR and Regional Water bureau drilling one well in Fialu village.

### **Recommended Activities**

- Developing of new wells
- Protection and development of Burka spring
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Bilue, Kofo Bududu, Burka, Fialu and Duba.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities in the Woreda.

### **Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda except water committees in Alele Suela village.

### **Recommended Activities**

- Construction of one latrine in Bolo Tomo health post.
- Construction of one communal latrine and one solid waste disposal pit in Allele Suela (Bolo Tomo).
- Supply of sanitation facilities, training and hygiene education

## **2.22. Yalo Woreda**

### **I. General Information**

**Zone:** 4

**Total Population of the Woreda:** 22,895

**Total Number of PA's:** 8

**Accessibility:** The Woreda center is poorly accessible by a dry weather road both from Alamata and Calewan only by a four wheel drive car. However, large part of the Woreda is non accessible

**Geomorphology, Geology and Hydrogeology:** The area is characterized by flat topography with some rift escarpment ridges along the western side. The average altitude in the area is 930 m a.s.l. Geologically large part of the Woreda is dominantly characterized by basaltic lava flows with some alluvial deposits. The ground water potential in the Woreda is high in alluvial deposits and fractured basalts. However in the western part of the Woreda the ground water potential is generally low. Ground water quality in the Woreda is generally poor with high TDS and iron observed in traditional wells in the area.

**Mode of life:** Large part of the people in the Woreda are pastorals with some agro-pastorals in the semi highland areas:

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.

**List of Kebeles in the Woreda**

No.	List of PA's	Total Population	Existing water Source
1	Gubi Daro (Mesgid)	1854	Gubi Daro motorized scheme & Dibina traditional wells
2	Reckreck	2151	Dibina traditional wells (three hours travel)
3	Dibina	1083	Dibina traditional wells
4	Kuate and Gabule	2397	Dibina traditional wells (six hours travel)
5	Odayide	2997	Dibina traditional wells (six hours travel)
6	Gidiela and Mudalili	5233	Edela spring(in rainy season) & Dibina traditional wells (in sever dry seasons)
7	Waeie	4020	Arginabu spring
8	Rekubedora	3158	Wells (rainy season) & Dibina wells (in severe dry seasons)

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Dibina School	6 <sup>th</sup> grade	Traditional hand dug well	A pit latrine in the compound
2	Mesgid School	4 <sup>th</sup> grade	Gubi Daro Water scheme (Currently nonfunctional)	A pit latrine in the compound
3	Waleh school	4 <sup>th</sup> grade	No water	No latrine

**Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1.	Dibina Health Center	Functional	Traditional hand dug well	A pit latrine in the compound
2.	Gediela Health center	Nonfunctional (New)	Traditional hand dug wells	A pit latrine in the compound
3.	Qudaile Health center	Functional	Traditional hand dug wells in Dibina village	A pit latrine in the compound

**II. Water Supply Condition**

**Existing water source (for human and livestock)**

- A borehole in Gubi Daro village (currently nonfunctional)
- Traditional wells in Gubina and Dibina villages
- Arginabu and Edela springs

**Drought Impact on water supply situation and displacement**

Drying of traditional wells and rivers are the main effects of drought in the Woreda which resulted displacement of people to Hida and Fudisa villages of Awra Woreda from July to October, 2002.

**Current Intervention (New construction, Rehabilitation & Tankering)**



The regional water bureau with the MoWR and UNICEF planned to drill three wells in the Woreda in Wolehi, Gedaela and Oduela villages

There was water tankering from September to December , 2002 and from July to Date by UNICEF funds through MoWR and Regional DPPB by one truck with a capacity of 13,000 lt. one trip per day from Alamata town water scheme, 50 km far from the distribution site on average

#### **Recommended Activities**

- Developing of new shallow wells
- Rehabilitation of the water scheme in Gubi Daro village, which is equipped with mono lift pump
- Training of pump caretakers and community members and supplying of fast moving spare parts.

#### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Rekrecke, Guale & Gabule, Rekubedora and Dibina

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities

#### **Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda.

#### **Recommended Activities**

- Construction of one communal latrine in Gubi Daro village.
- Construction of one solid waste disposal pit in Gubi Daro.
- Water supply facilities, training and hygiene education

## **2.23. Teru Woreda**

### **I. General Information**

**Zone:** 4

**Total Population of the Woreda:** 39,522

**Total Number of PA's:** 12

**Accessibility:** The Woreda center is poorly accessible by a dry weather road both from Chifra and Calewan only by a four wheel drive car and large part of the Woreda is also inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by flat topography. The average altitude in the area is 450 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and elluvial deposits with some basaltic lava flows. The ground water potential in the Woreda is mainly along Awra river extending from Awra Woreda from the West to Barentu area of Teru Woreda to the northeast. In the other parts of the Woreda ground water potential is poor.

**Mode of life:** Almost all the people in the Woreda are pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1.	Alelu	3949	Awra river (in sever dry season displacement of people or water

			tankering)
2.	Debahu	3234	Water holes within Awra river (in sever dry season displacement of people).
3.	Digdiga	4479	Awra river and a hand pump in the village
4.	Nomara	3191	Goray traditional wells within Awra river
5.	Berentu	4253	Water holes within Awra river & water transported by camels (in sever dry season displacement of people).
6.	Abiyda	1474	Water holes within Awra river & water transported by camels (in sever dry season displacement of people).
7.	Yewdlulu	2107	Water holes within Awra river & water transported by camels (in sever dry season displacement of people).
8.	Asabera	3928	Water holes within Awra river & water transported by camels (in sever dry season displacement of people).
9.	Mebay	1474	Water collected from the steam (fumaroles)
10.	Meramer	3437	Water holes within Awra river & water transported by camels (in sever dry season displacement of people).
11.	Derma and Debaye	3596	Water transported from Yalo and Magale Woreda (one day trip).
12.	Boyena	4399	Water collected from the steam (fumaroles)

#### List of Schools in the Woreda

No.	Name of the school	Capacity	Water source	Sanitation facility
1.	Alelu School	4 <sup>th</sup> Grade	No any water source	A pit latrine is under construction
2.	Barentu school ( a school under the tree no any building)	4 <sup>th</sup> grade	No any water source	No any sanitation facility
3.	Digdiga school (a school under the tree no any building)	4 <sup>th</sup> grade	No water (no building)	No any sanitation facility

#### Health Service in the Woreda

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Alelu Health Center	Non Functional (under construction)	No any water source	A pit latrine is under construction

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Awra river in large part of the year.
- water transported from Megale Woreda by camel in the sever dry seasons.

### **Drought Impact on water supply situation and displacement**

Drying of traditional elas and ponds and drying of Awra river are the main effects of the drought in the Woreda. Since Awra river is the major water source in the Woreda its drying was resulted in the displacement of people to Yalo, Megale and Awra Woredas from July to October, 2002.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

The regional water bureau with the MoWR and UNICEF drilled one Well and installed a hand pump in Digdiga village and planned to drill another two wells in Alelu and Berentu villages.

There was water tankering from September 2002 to January, 2003 and from May 2003 to date by UNICEF funds through MoWR, LWF and regional DPPB by one truck with a capacity of 16,000 lt. one trip per day from Awra village, 79 km far from the distribution site.

### **Recommended Activities**

- Developing of new wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Alelu, Debahu, Yewdlulu and Barentu.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities

### **Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda.

### **Recommended Activities**

- Construction of one communal latrine in Alelu village.
- Construction of one solid waste disposal pit in Alelu village.
- Water supply facilities, training and hygiene education

## **2.24. Gulina Woreda**

### **I. General Information**

**Zone:** 4

**Total Population of the Woreda:** 19,119

**Total Number of PA's:** 8

**Accessibility:** The Woreda center is accessible both from Kobo and Chifra by a dry weather road and large part of the Woreda also accessible by dry weather roads.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by flat topography. The average altitude in the area is 900 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and elluvial deposits with some basaltic lava flows. The ground water potential in the Woreda is generally high in alluvial deposits and fractured basalts.

**Mode of life:** Almost all the people in the Woreda are pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area. However ACF is studying the area for shallow well drilling.

### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Furkisa	2586	Furkisa motorized scheme
2	Calewan	3322	Calewan motorized scheme & Eyroliew traditional well
3	Wansa & Harigarba	4414	Gulina river and water collected from rain in the rainy season
4	Galicoma	2290	Gulina river and water collected from rain in the rainy season
5	Burtele & Ayga	1880	Gulina river and water collected from rain in the rainy season

6	Derieitu	673	Gulina river and water collected from rain in the rainy season
7	Mulia & Asali	2342	Gulina river and water collected from rain in the rainy season
8	Sebate & Butene	1612	Kirikira river (six hours travel)

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Calewan	8 <sup>th</sup> grade	Have water	Have latrine
2	Galicoma	4 <sup>th</sup> grade	No water	No latrine
3	Furkisa	4 <sup>th</sup> grade	Have water	No latrine
4	Sebate & Butene	4 <sup>th</sup> grade	No water	Have latrine

#### **Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Calewan Health Center	Functional	Have water	Have latrine
2	Genu health post	Functional	No water	No latrine
3	Galicoma Health post	Functional	No water	No latrine
4	Furkisa Health post	Functional	Have water	No latrine

## **II. Water Supply Condition**

### **Existing water source (for human and livestock)**

- Calewan and Furkisa motorized schemes
- Calewan hand pump
- Gulina and Kirkira rivers
- Water collected from rain.

### **Drought Impact on water supply situation and displacement**

Drying of Gulina and Kirkira rivers were the main effects of the drought in the Woreda. However there was no any displacement of people from the Woreda due to water problem.

### **Current Intervention (New construction, Rehabilitation & Tankering)**

No any intervention in the sector except a feasibility study by ACF for drilling of three shallow wells in the Woreda.

### **Recommended Activities**

- Developing of new wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Galicoma, Sebate & Butene, Wanasa and Harigarbo.

## **III. Sanitation and Hygiene**

### **Existing Sanitation facilities**

No any sanitation facilities except some individual latrines in Calewan town.

### Current Intervention

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda.

### Recommended Activities

- Construction of two communal latrines in Calewan town.
- Construction of one solid waste disposal pit in Calewan town.
- Water supply facilities, training and hygiene education

## 2.25. Semu Robe Woreda

### I. General Information

**Zone:** 5

**Total Population of the Woreda:** 55,412

**Total Number of PA's:** 12

**Accessibility:** The Woreda center is accessible by all season gravel road from Shoa Robit. However, large part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography of the rift escarpment. The average altitude in the area is 1100 m a.s.l. Geologically large part of the Woreda is characterized by weathered basalt with some alluvial and lacustrine deposits. The ground water potential in the Woreda is generally low it is found only along river cuts with thick alluvial deposits or fractured basalts.

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agropastoralists in the semi-highland area of the Woreda.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.

#### List of Kebeles in the Woreda

No.	List of PA's	Total population	Existing water Source
1	Autemoro and Gardisa	9764	Pond in the rainy season & Awash river (four hours travel)
2	Hareamo and Hamergera	4869	Water holes within Hare stream bed
3	Adleherge and Sinkilila	7087	Two hand pumps(non functional) & a spring in the village
4	Semu Kedebra	714	Gorfu traditional well
5	Daleti	2103	Robi river
6	Bohale Amaitu	5882	Arsho and Awash rivers
7	Koma Bare	4106	Koma Bare motorized scheme
8	Fentida	3979	Awash river
9	Fentigra and Mengela	2796	Arsho river
10	Asgefen and Karauta	6515	Hawde river (in sever dry seasons Awash river)
11	Melkajeba and Gelalu	5465	Awash river
12	Galifage and Boltida	2133	Awash river

#### List of Schools in the Woreda

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Kumame (Hareamow) School	4 <sup>th</sup> grade	No any water source	There is a pit latrine in the compound
2	Koma Bare School	4 <sup>th</sup> grade	A water scheme in the village	There is a pit latrine in the compound
3	Semu Kedora School	6 <sup>th</sup> grade	A spring about 7 km far from the village	There is a pit latrine in the compound
4	Adleherge and Sinkilila School	6 <sup>th</sup> grade	A spring near by the school	There is a pit latrine in the compound

**Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Hareamow Health post	Functional	No any water source	There is a pit latrine in the compound
2	Semu kedbora Clinic	Functional	A spring about 7 km far from the village	There is a pit latrine in the compound
3	Adleherge Clinic	Functional;	A spring near by the village	There is a pit latrine in the compound

**II. Water Supply Condition****Existing water source (for human and livestock)**

- Two developed schemes one hand pump in Adlehang and one motorized scheme in Koma Bare.
- Two Springs in Semu Kedora and Sinkilila villages
- Gofu traditional well
- Awash, Arsho, Hawde and Robi rivers
- Ponds

**Drought Impact on water supply situation and displacement**

Drying of springs and decreasing of the discharge of rivers and springs are the major effects of drought in the Woreda. However, there was no any displacement of people due to water problem.

**Current Intervention (New construction, Rehabilitation & Tankering)**

The regional water bureau with the MoWR are planned to drill two wells in Kumame and Hutemero villages.

There is water tankering from September 2002 to Date by UNICEF funds through MoWR and World Vision by one truck with a capacity of 13,000 lt. two trip per day from Shoa Robit town, 44 km far from the distribution site.

**Recommended Activities**

- Developing of new wells and spring protection
- Rehabilitation of a hand pump in Adlehang village
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Hareamo & Hamergera, Hutemero and Gadisa, Fentida & Mengela and Daleti Kebeles.

**III. Sanitation and Hygiene****Existing Sanitation facilities**

No any sanitation facilities

**Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda.

**Recommended Activities**

- Construction of two communal latrines in Kumame village.
- Construction of one solid waste disposal pit in Kumame village.
- Water supply facilities, training and hygiene education

## **2.26. Fursi Woreda**

### **I. General Information**

**Zone:** 5

**Total Population of the Woreda:** 71,303

**Total Number of PA's:** 11

**Accessibility:** The Woreda center is poorly accessible by a dry weather road from the main road from Shoa Robit to Senbete. However, large part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography of the rift escarpment. The average altitude in the area is 1200 m a.s.l. Geologically large part of the Woreda is characterized by weathered and fresh basalt with some alluvial deposits. The ground water potential in the Woreda is generally low it is found only along rivers where thick alluvial deposits or fractured basalts.

**Mode of life:** Dominantly the population in the Woreda is pastoral with some agropastoralists in the semi-highland area of the Woreda.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Hadelela	4436	Hadelela water supply scheme
2	Elabaha	8541	Kebena traditional wells
3	Lelida and Degala	9574	Ataye river & Degaga traditional wells
4	Merkitu and Daleti	9593	Ataye river
5	Aftoha and Arsho	3635	Jegoha & Arsho river
6	Derera and Galidora	6422	Derera traditional wells (five hours travel)
7	Sergati	6135	Sergati traditional well
8	Enaeto	4217	Enaeto traditional well
9	Hataye and Rawa	3677	Traditional wells
10	Bohole	8062	Traditional wells
11	Bare	7013	Traditional wells

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Hardelela School	6 <sup>th</sup> grade	A water scheme in the village (No extension)	There is a pit latrine in the compound
2	Aftoha and Arsho School	4 <sup>th</sup> grade	Arsho river is the water source	There is a pit latrine in the compound
3	Derera and Galidera	4 <sup>th</sup> grade	A traditional ela in the village	There is a pit latrine in the compound

#### **Health Service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Hadelela Health post	Functional	A water scheme in the village	There is a pit latrine in the compound
2	Arsho and Aftoha Health Post	Functional	Arsho river	There is a pit latrine in the compound

### **II. Water Supply Condition**

#### **Existing water source (for human and livestock)**

- A borehole equipped with mono pump in Hadelela village
- A hand dug well in Elbahe village

- Eight traditional elas in Lelida, Merkitu, Derera, Sergati, Enaeto, Rawa, Bohale and Bare villages
- Arsho, Aftaye and Awash rivers

#### **Drought Impact on water supply situation and displacement**

Drying of Traditional elas and drying and decreasing of river discharges are the effects of drought in the Woreda but there was no any displacement of people due to water problem from the Woreda.

#### **Current Intervention (New construction, Rehabilitation & Tankering)**

The regional water bureau with the MoWR are planned to drill two wells in Enayito and Aftuha villages.

#### **Recommended Activities**

- Developing of new wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

#### **List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem in order of the extent of the problem: Elebaha, Derera, Lelida and Degaga, Enayito and Aftuha Kebeles.

### **III. Sanitation and Hygiene**

#### **Existing Sanitation facilities**

No any sanitation facilities

#### **Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda.

#### **Recommended Activities**

- Construction of one communal latrine in Hadelela village.
- Construction of one solid waste disposal pit in Hadelela village.
- Water supply facilities, training and hygiene education

## **2.27. Dewe Woreda**

### **I. General Information**

**Zone:** 5

**Total Population of the Woreda:** 64,122

**Total Number of PA's:** 10

**Accessibility:** The Woreda center and part of the Woreda are accessible by all season gravel road from Kassageta to Dalifagi. However part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography of the western escarpment of the Ethiopian rift valley. The average altitude in the area is 1000 m a.s.l. Geologically large part of the Woreda is characterized by weathered basalt and lacustrine deposits of the rift valley with alluvial deposits in very few localities along stream beds. The ground water potential in the Woreda is within the alluvial deposits and weathered basalts along the streams passing through the Woreda.

**Mode of life:** Mainly the population in the Woreda is pastoral with few agro-pastorals in semi highland areas.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area.



**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Adali and Wederagi	8204	Dewe water supply scheme
2	Gendewri and Yelidi	10837	Dewe river
3	Kelint and Derseda	4790	Dewe river and Dewe water supply scheme
4	Wahilu and Gedele	6585	Dewe river, traditional wells and Ebledare hand pump
5	Yomudu and Kebeakoma	9762	Dewe river
6	Gedensa and Ferskora	7062	Dewe river
7	Kelelu and Gamura	3271	Awash river
8	Dewebora and Kubete	5557	Awash river
9	Kahertu and Tutle	5089	Awash river
10	Halbi and Sonkokore	2964	Awash river

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Dewe (woderage)	6 <sup>th</sup> grade	Dewe scheme (no extension)	Have pit latrine
2	Kelelu and Gamura	4 <sup>th</sup> grade	No water	Have pit latrine
3	Dewebora (new not started)	4 <sup>th</sup> grade	No water	Have pit latrine
4	Belduro(kelint and Derseda)	4 <sup>th</sup> grade	No water (no building)	No latrine
5	Kedebura	4 <sup>th</sup> grade	No water (no building)	No latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Dewe clinic	Functional	Dewe scheme (have extension)	Have pit latrine
2	Kelint and Derseda health post	Functional	No water	No latrine
3	Ebledare (Wahilu & Gedele) health post	Functional	No water	No latrine

**II. Water Supply Condition.****Existing water source (for human and livestock)**

- Dewe scheme
- Dewe and Awash rivers
- Elbedare hand pump
- Traditional wells

**Drought Impact on water supply situation and displacement**

Decreasing of the discharge of Awash and Dewe rivers are the main effects of the drought in the region, which resulted in displacement of people from the Woreda to Kemise area of Amhara region from August to October 2002.

**Current Intervention (New construction, Rehabilitation & Tankering)**

Rehabilitation of Dewe scheme by UNICEF.

**Recommended Activities**

- Developing of new wells
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem kelenti & Derseda (Beladulo area), Yemudo & Kebeakoma and Wahilu and Gedeke Kebeles.

**III. Sanitation and Hygiene****Existing Sanitation facilities**

No any sanitation facilities in the Woreda.

**Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda except water committee in Dewe village.

**Recommended Activities**

- Construction of one communal latrine and one solid waste disposal pit in Dewe village.
- Construction of a pit latrine for Dewe clinic
- Water supply facilities, training and hygiene education

**2.28. Telalake Woreda****I. General Information**

**Zone:** 5

**Total Population of the Woreda:** 73,301

**Total Number of PA's:** 11

**Accessibility:** The Woreda center and part of the Woreda are accessible by all season gravel road from Kassageta to Dalifagi. However large part of the Woreda is inaccessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by rugged topography of the western escarpment of the Ethiopian rift valley. The average altitude in the area is 980 m a.s.l. Geologically large part of the Woreda is characterized by weathered basalt and lacustrine deposits of the rift valley with alluvial deposits in few localities along stream beds. The ground water potential in the Woreda is within the alluvial deposits and weather basalts along the streams passing through the Woreda.

**Mode of life:** Mainly the population in the Woreda is pastoral.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in water sector, however Farm Africa is working in the area in the agricultural sector (irrigation project).

**List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Gewise & Hamedidas	5415	Ara river and traditional wells
2	Waydolele & Yalu	5271	Deroise motorized scheme and Gewis river
3	Odele & Asbule	10460	Traditional elas mainly Kebuye ela
4	Kulule & Datakalayitu	7880	Telalack river
5	Abaro & Telalack	8455	Telalack river
6	Aware & Areda	5005	Nemelefan (Telalack) Motorized scheme and Wata and Telalack rivers
7	Hebertu & Rasa	8083	Telalack and Awash rivers
8	Adalile & Dewe	4837	Kosobora and Adalele hand pumps (both are non functional) and Traditional hand dug wells
9	Halbi & Wale	6734	Telalack river
10	Foro & Megenta	5434	Telalack and Awash rivers.
11	Geyisu & Dewe	5727	Wata river

**List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Nemelefan	6 <sup>th</sup> grade	Have water	Have latrine
2	Deroise	4 <sup>th</sup> grade	Have water	Have latrine

**Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Nemelefan health center	New not started	Have water (no extension)	Have latrine
2	Nemelefan clinic	Functional	Have water extension	Have latrine
3	Adaleleu health post	New not started	Have water (hand pump)	Have latrine
4	Dudiele Health post	New not started	No water	Have latrine

**II. Water Supply Condition****Existing water source (for human and livestock)**

- Deroise and Nemelefan motorized schemes
- Kosobora and Adalele hand pumps
- Ara, Telalack, Gewise, Wata and Awash rivers
- Traditional wells

**Drought Impact on water supply situation and displacement**

Drying of Gewise river and decreasing of the discharge of traditional wells are the effects of the drought in the region. However, there was no any displacement due to water problem from the Woreda.

**Current Intervention (New construction, Rehabilitation & Tankering)**

No any current intervention in the Woreda.

**Recommended Activities**

- Developing of new wells
- Rehabilitation of Kosobora and Adalele hand pumps
- Maintenance and extension work in Nemelefan scheme
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem Odele & Asbule, Gewise & Hamedidas, Abaro & Telalack and Kulule & Data Kalayitu.

**III. Sanitation and Hygiene****Existing Sanitation facilities**

No any sanitation facilities in the Woreda.

**Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda except water committee in places where there are water schemes.

**Recommended Activities**

- Construction of one communal latrine and one solid waste disposal pit in Nemelefan village.
- Water supply facilities, training and hygiene education.

## **2.29. Artuma (Dalifagi) Woreda**

### **I. General Information**

**Zone:** 5

**Total Population of the Woreda:** 51,768

**Total Number of PA's:** 11

**Accessibility:** The Woreda center is accessible by gravel road from Kassageta (Mile- Kombolcha road), however large part of the Woreda is not accessible.

**Geomorphology, Geology and Hydrogeology:** The area is mainly characterized by flat topography with some hills. The average altitude in the area is 700 m a.s.l. Geologically large part of the Woreda is characterized by alluvial and lacustrine deposits with some basaltic lava flow in few localities. The ground water potential in the Woreda is generally high with poor quality (high salinity and high temperature).

**Mode of life:** Almost all the population in the Woreda is pastorals.

**List of major NGO's assisting Water and Sanitation in the area:** No any NGO working in the area in the Water sector.

#### **List of Kebeles in the Woreda**

No.	List of PA's	Total population	Existing water Source
1	Hado & Bedere	4286	Dalifagi water scheme & Borkena river
2	Gewane & Ferhinu	5150	Jara and Borkena rivers
3	Faya & Keneidase	6595	Awash and Borkena rivers
4	Bilu & Darmina	4397	Jara river and Traditional well
5	Abunsi & Atara	2920	Borkena river and Traditional well
6	Ashara & Dimtu	5186	Borkena river, Korsadu river and Traditional well
7	Eabelegomo & Ferhofe	4680	Traditional wells
8	Walgili & Jara	7916	Jara river, Amaitu traditional well
9	Ataye & Dulule	4320	Awash river and Ataye river
10	Umeda & Kusaledure	4030	Awash river, Ataye river and traditional wells
11	Weina & Adgontole	2289	Kusrele traditional well, Gandule traditional well and Awash river.

#### **List of Schools in the Woreda**

No.	Name of the school	Capacity	Water source	Sanitation facility
1	Dalifagi	8 <sup>th</sup> grade	Have water	Have latrine
2	Ashara & Dimtu	4 <sup>th</sup> grade	No water	Have latrine
3	Gewane & Ferhinu	New( not started)	No water	Have latrine

#### **Health service in the Woreda**

No.	Name of the Health Service	Current Status (F/NF)	Water source	Sanitation facility
1	Dalifagi	Functional	Have water	Have latrine
2	Abunsi & Atara	NF	No water	Have latrine
3	Gewane & Ferhinu	NF	No water	Have latrine

### **II. Water Supply Condition**

#### **Existing water source (for human and livestock)**

- Dalifagi Water scheme
- Borkena, Awash, Jara, Ataye and Karsadu rivers.
- More than 10 traditional wells

**Drought Impact on water supply situation and displacement**

The effect of the drought in the Woreda resulted in drying of traditional wells in Bilu & Derminu, Walgele & Jara and Weyna & Adgentole Kebeles, decreasing of the discharge of rivers in the Woreda and drying of Jara river in most parts of the Woreda. However there was no any displacement from the Woreda to other places but there is a movement within the Woreda from one kebele to other.

**Current Intervention (New construction, Rehabilitation & Tankering)**

No any intervention in the Woreda in the water supply sector

**Recommended Activities**

- Developing of new shallow wells
- Rehabilitation and improvement of Dalifagi water supply scheme
- Training of pump caretakers and community members and supplying of fast moving spare parts.

**List of Kebeles with Very high Water problem**

List of Kebeles with very high water problem are Eabelgomo & Ferhofe, Abunsi & Atara, Asara & Dimtu and Bilu & Dermina.

**III. Sanitation and Hygiene****Existing Sanitation facilities**

No any sanitation facilities in the rural areas except one communal and few individual latrines in Dalifagi town.

**Current Intervention**

No any intervention on the sanitation sector and no any WASHE committees available in the Woreda except a water committee in Dalifagi town.

**Recommended Activities**

- Construction of two Communal latrines and one solid waste disposal pit in Dalifagi town.
- Water supply facilities, training and hygiene education.

### III. PLAN OF ACTION

The following tables are showing the action plan in the region rural water supply and environmental health activities, which are produced based on the Woreda based assessment results in chapter II of this document. The plan is prepared in two phases, the first phase is for six months immediate intervention need to assist the community highly affected by the existing effect of the drought. The second phase is for one year plan for 2004, which is aimed both for emergency intervention and improving the coverage and distribution of water supply schemes and sanitation facilities in the region.

Prioritization of activities and sites in the action plan were made based on the following criteria.

Rural water Supply activities:

- Emergency need due to the effect of the drought
- Existing water supply coverage and plan by different agencies
- Technical feasibility
- Number of population to be served

Environmental health activities:

- All schools and health services in the region with out sanitation facilities are selected for latrine constructions.
- All the Woreda centers in the region are selected for one demonstration and piloting communal latrine and solid waste disposal pit construction activities.
- The population in the towns, availability of existing sanitation facilities and observed sanitation problems during the assessment were also used as criteria for selection of communal latrines and solid waste disposal pits towns and/or villages.

#### Phase 1- up to Dec 2003

Water Tankering activities –	984,000
Rural water supply activities-	2,296,500
Environmental health activities-	<u>121,800</u>

**Total    3,402,300 Birr**

#### Phase 2- For Year 2004

Rural water supply activities-	9,220,900
Environmental health activities-	<u>3,927,200</u>

**Total    13,148,100 Birr**

Total requirement for the region: **16,550,400 Birr**

**Phase 1- Activities need an immediate response( up to Dec 2003)**

**Table 3.1 Emergency Water Tankering Activities**

Woreda	Beneficiaries	Duration	Number of trucks needed	Budget Requirement (Birr)
Assayita	3,470	1 months	2	60,000
Dupti	8,910	3 months	3	405,000
Elidar	8,100	3 months	2	216,000
Berhale	8,086	1 month	2	60,000
Erebt	3,800	1 month	1	50,000
Buremudaitu	1,200	1 month	1	18,000
Teru	4,900	1 month	1	45,000
Yalo	3,350	1 month	1	40,000
Semu Robe	5,600	3 months	1	90,000
<b>Total</b>	<b>47,416</b>	<b>15 months</b>	<b>15</b>	<b>984,000</b>

**Table 3.4. Summary of Action Plan for Emergency Rural Water Supply Activities**

Description of activities	Quantity	Required Budget (Birr)
Study and design for drilling and construction activities.	8	24,000
Drilling of shallow wells with hand pumps	8	760,000
Rehabilitation of Schemes with hand pumps	13	740,000
Rehabilitation of motorized systems	2	453,000
Establishment of Water committees	23	18,400
Training of water committee members	115	69,000
Training for pump attendants	46	36,800
Supervision, monitoring and evaluation(10% of construction activities)	LS	195,300
<b>Total</b>		<b>2,296,500</b>

**Table 3.2 Details of Emergency Rural Water Supply Activities**

Site Name	Woreda/Zone	Beneficiaries	Description of Activities	Budget Requirement
Deho	Awash Fentale/Zone 3	1,000	New scheme construction	255,000
Hida	Awra/ Zone 4	1,200	Rehabilitation of existing scheme	117,000
Bontelina	Mile/ Zone 1	500	Rehabilitation of a well drilled by road construction company.	30,000
Geleha	Mile/ Zone 1	1,800	Rehabilitation of existing scheme	150,000
Bontelina	Mile/ Zone 1	400	New shallow well construction	95,000
Warensen	Mile/ Zone1	600	New shallow well construction	95,000
Gubi Daro	Yalo/ Zone 4	2,200	Rehabilitation & extension of existing scheme	336,000
Harodele	Erebt/ Zone 2	450	New shallow well construction	95,000
Albo	Erebt/ Zone 2	600	New shallow well construction	95,000
Nemeara	Teru/ Zone 4	550	New shallow well construction	95,000
Hidialu	Awra/ Zone 4	500	New shallow well construction	95,000
Finto & Asali	Awra/ Zone 4	600	New shallow well construction	95,000
Kodaye	Buremudaitu/ Zone 3	500	Rehabilitation of Existing hand pump	25,000
Beido Foro	Buremudaitu/ Zone 3	500	Rehabilitation of existing hand pump	25,000
Eaoliela	Gewane/ Zone 3	600	Rehabilitation of Existing hand pump	25,000
Eyeroli	Gewane/ Zone 3	600	Rehabilitation of existing hand pump	25,000
Didboelwha	Gewane/ Zone 3	600	Rehabilitation of existing hand pump	25,000
Edelei	Dulecha/ Zone 3	500	Rehabilitation of Existing hand pump	10,000
Burtele	Dulecha/ Zone 3	500	Rehabilitation of existing hand pump	25,000
Hugube	Dulecha/ Zone 3	600	New shallow well construction	75,000

Bolehamo	Dulecha/ Zone 3	600	Rehabilitation of existing hand pump	25,000
Sagento	Dulecha/ Zone 3	600	Rehabilitation of existing hand pump	35,000
Adlehange	Semu Robe/ Zone 5	650	Rehabilitation of existing hand pump	35,000
Kosobora	Telalack/ Zone 5	400	Rehabilitation of existing hand pump	35,000
Adalele	Telalack/ Zone 5	450	Rehabilitation of existing hand pump	35,000
<b>Total</b>		<b>17,500</b>		<b>1,953,000</b>

**Table 3.3 Emergency Environmental Health Activities**

<b>Act. No.</b>	<b>Description of activities</b>	<b>Benef.</b>	<b>Qty</b>	<b>Budget Requirement (Birr)</b>
1	Construction of communal VIP latrines in Alganda town, Afdera Woreda	432	4	69,000
2	Construction of solid waste disposal pits in Alganda town, Afdera Woreda.	1200	2	14,000
3	Water quality analysis from 5 woredas (Dubti, Awash Fentale, Gewane, Abala and Gulina)15 different sampling points in all woredas.	25,000	15	17,000
4	Community sensitization on hygiene and environmental sanitation at Afdera Woreda	3,500	-	16,000
5	Supervision, monitoring and evaluation			5,800
	<b>Total</b>	<b>30,132</b>		<b>121,800</b>



## Phase 2 – One Year Action Plan (2004)

**Table 3.4. Summary of Action Plan for Rural Water Supply Activities**

Description of activities	Quantity	Unit price(Birr)	Required Budget (Birr)
Study and design for drilling and construction activities.	56	3,000	168,000
Drilling of shallow wells with hand pumps	41	95,000	3,895,000
Drilling of Boreholes with motorized system	8	320,000	2,560,000
Protection and development of springs	6	200,000	1,200,000
Rehabilitation and improvement of a protected spring	1	300,000	300,000
Establishment of Water committees	56	800	44,800
Training of water committee members	280	600	168,000
Training for pump attendants	112	800	89,600
Supervision, monitoring and evaluation(10% of construction activities)	LS	-	795,500
		<b>Total</b>	<b>9,220,900</b>

**Table 3.5. Summary of Action Plan for Environmental Health Activities**

Description of activities	Quantity	Unit price(Birr)	Benef.	Required Budget (Birr)
Construction of school latrines	29	30,000	5,800	870,000
Construction of communal latrines	57	25,000	1,710	1,425,000
Construction of solid waste disposal pits	38	15,000	22,800	570,000
Construction of latrines for health services	12	20,000	6,000	240,000
Chemical and bacteriological water quality test of all the developed water supply schemes in the region.	132	500	216,600	66,000
Establishment of WASHE committees	50	800	-	40,000
Establishment of School health and sanitation clubs	29	800	-	23,200
Hygiene education	LS	-	-	156,000
Training for WASHE committees and school sanitation club members	395	600	-	237,000
Preparation and distribution of environmental health teaching and promotion materials and posters	LS	-	-	100,000
Supervision, monitoring and evaluation	LS	-	-	200,000
		<b>Total</b>	<b>252,910</b>	<b>3,927,200</b>

*Note- the beneficiaries of the software component of the planned activities will be the same beneficiaries from the construction activities*

**Table 3.6 Details of Phase 2 Emergency Rural Water Supply Activity Sites**

Site Name	Woreda/Zone	Beneficiaries	Description of Activities	Budget Requirement (Birr)
Chali	Chifra/ Zone 1	2,500	Protection and Development of the spring	200,000
Jara and Kontona	Chifra/ Zone1	1,400	Drilling of two shallow wells with hand pumps	190,000
Tibdeha and Aftuma	Chifra/ Zone 1	1,100	Drilling of two shallow wells with hand pumps	190,000
Gergera	Chifra/ Zone 1	1,300	Drilling of two shallow wells with hand pumps	190,000
Burtle & Gega	Mile/ Zone1	1,500	Drilling of a borehole with motorized system	320,000
Dekika & Busedima	Mile/ Zone 1	1,800	Drilling of a borehole with motorized system	320,000
Gerbina	Erebt/ Zone 2	450	Drilling of a shallow well with hand pump	95,000
Adu	Erebt/ Zone 2	450	Drilling of a shallow well with hand	95,000

			pump	
Wasama	Abala/ Zone 2	2,200	Drilling of a borehole with motorized system	320,000
Boboysh	Magale/ Zone 2	1,000	Drilling of two shallow wells with hand pumps	190,000
Adu	Magale/ Zone 2	2,000	Protection and development of Laenbuye spring	200,000
Elifan & Kuluni	Dallol/ Zone 2	1,200	Drilling of two shallow wells with hand pumps	190,000
Gereset & Bahaitu	Dallol/ Zone 2	1,200	Drilling of two shallow wells with hand pumps	190,000
Kuneba	Kuneba/ Zone 2	2,200	Rehabilitation and improvement of Wahadis spring protection	300,000
Kora	Berhale/ Zone 2	1,000	Drilling of a borehole with motorized system	320,000
Daer	Berhale/ Zone 2	1,000	Drilling of two Shallow wells with hand pumps	190,000
Lela Ala	Berhale/ Zone 2	2,100	Drilling of a borehole with motorized system	320,000
Ale	Berhale/ Zone 2	1,200	Drilling of a borehole with motorized system	320,000
Kusrawad	Afdera/ Zone 2	400	Drilling of a shallow well with hand pump	95,000
Harsuma	Afdera/ Zone 2	450	Drilling of a shallow well with hand pump	95,000
Dabure	Afdera/ Zone 2	450	Drilling of a shallow well with hand pump	95,000
Hangege	Buremudaitu/ Zone 3	650	Drilling of a shallow well with hand pump	95,000
Wayina Hara	Buremudaitu/ Zone 3	550	Drilling of a shallow well with hand pump	95,000
Horckamba	Argoba/ Zone 3	850	Protection and development of a spring	200,000
Geberoché	Argoba/ Zone 3	500	Drilling of a shallow well with hand pump	95,000
Chano	Argoba/ Zone 3	500	Drilling of a shallow well with hand pump	95,000
Lekora	Awra/ Zone 4	550	Drilling of a shallow well with hand pump	95,000
Hideleu	Awra/ Zone 4	550	Drilling of a shallow well with hand pump	95,000
Finto & Asele	Awra/ Zone 4	600	Drilling of a shallow well with hand pump	95,000
Bilue	Ewa/ Zone 4	500	Drilling of a shallow well with hand pump	95,000
Kofo Bududa	Ewa/ Zone 4	500	Drilling of a shallow well with hand pump	95,000
Burka	Ewa/ Zone 4	1,100	Protection and development of a spring	200,000
Gulina	Gulina/ Zone 4	1,200	Drilling of a borehole with motorized system	320,000
Barentu	Teru/ Zone 4	900	Drilling of a borehole with motorized system	320,000
Rekreke	Yalo/ Zone 4	500	Drilling of a shallow well with hand pump	95,000
Sinkilila	Semu Robe/ Zone 5	2,500	Protection and development of a spring	200,000
Semu Kedora	Semu Robe/ Zone 5	700	Protection and development of a spring	200,000

Derera	Fursi/ Zone 5	750	Drilling of a shallow well with hand pump	95,000
Aftoha	Fursi/ Zone 5	1,200	Drilling of two shallow wells with hand pumps	190,000
Wahilu	Dewe/ Zone 5	550	Drilling of a shallow well with hand pump	95,000
Gedele	Dewe/ Zone 5	550	Drilling of a shallow well with hand pump	95,000
kelint	Dewe/ Zone 5	700	Drilling of a shallow well with hand pump	95,000
Odele	Telalack/ Zone 5	650	Drilling of a shallow well with hand pump	95,000
Asbule	Telalack/ Zone 5	600	Drilling of a shallow well with hand pump	95,000
Hamedidas	Telalack/ Zone 5	650	Drilling of a shallow well with hand pump	95,000
Bilu	Artuma/ Zone 5	600	Drilling of a shallow well with hand pump	95,000
Darmina	Artuma/ Zone 5	600	Drilling of a shallow well with hand pump	95,000
Ferhinu	Artuma/ Zone 5	600	Drilling of a shallow well with hand pump	95,000
<b>Total</b>		<b>47,000</b>		<b>7,955,000</b>

**Table 3.7. Detail of Phase 2 Environmental Health Construction Activities**

<b>Description of Activities</b>	<b>Budget Requirement (Birr)</b>
<b>1. Assayita</b>	
Construction of three school latrines in Berga, Hinile, and Koradora schools.	90,000
Construction of 2 communal latrines and one solid waste disposal pit in Assayita town.	65,000
<b>2. Dupiti</b>	
Construction of Eight school latrines in Beyhale 1, Beyhale 2, Serdo, Gebelayitu 1, Gebelayitu 2, Boyra, Bebeleta and Debele & Hanibare schools.	240,000
Construction of one latrine for Beyhale health post.	20,000
Construction of 4 communal latrines and two solid waste disposal pits in Dupiti and Logiya towns.	130,000
<b>3. Elidar</b>	
Construction of three school latrines in Bure, Elidar and Wuha Lemat schools.	90,000
Construction of one latrine for Bure old clinic.	20,000
Construction of 6 communal latrines in Elidar, Dicheto, Galafi, Suela, Manda and Bure.	150,000
Construction of four solid waste disposal pits in Elidar, Dicheto, Galafi and Suela.	60,000
<b>4. Afambo</b>	
Construction of one communal latrine and one solid waste disposal pit in the Woreda center	40,000
<b>5. Chifra</b>	
Construction of two communal latrines and one solid waste disposal pit in Chifra town.	65,000
<b>6. Mile</b>	
Construction of one school latrines in Berso school	30,000
Construction of 2 communal latrines and two solid waste disposal pits in Mile town.	80,000

<b>7. Erebti</b>	
Construction of one latrine for Erebti health post.	20,000
Construction of two communal latrines and one solid waste disposal pit in Erebti	65,000
<b>8. Abala</b>	
Construction of one school latrine in Wukri Gubi school.	30,000
Construction of two communal latrines and one solid waste disposal pit in Abala town	65,000
<b>9. Magale</b>	
Construction of one communal latrine and one solid waste disposal pit in Adu village (Woreda center)	40,000
<b>10. Dallol</b>	
Construction of three school latrines in Beda Amuru, Asagara and Sebiba schools.	90,000
Construction of one communal latrine and one solid waste disposal pit in Adiku village (Woreda center).	40,000
<b>11. Kuneba</b>	
Construction of three school latrines in Wahadis, Endedo and Kuneba schools.	90,000
Construction of one communal latrine and one solid waste disposal pit in Kuneba village (Woreda center).	40,000
<b>12. Berhale</b>	
Construction of one school latrine in Bure school.	30,000
Construction of two communal latrines and one solid waste disposal pit in Berhale town (Woreda center).	65,000
<b>13. Afdera</b>	
Construction of two communal latrines and one solid waste disposal pit in Alganda (Woreda center).	65,000
<b>14. Awash Fentale</b>	
Construction of two school latrines in Awash and Deho Elementary schools.	60,000
Construction of three clinic latrines in Deho, Sabure and Kebena clinics.	60,000
Construction of 2 communal latrines and two solid waste disposal pits in Awash town.	80,000
<b>15. Amibara</b>	
Construction of one school latrine in Bedule Ale	30,000
Construction of one clinic latrine in Bonta villages.	20,000
Construction of 5 communal latrines in Melka Sedi, Melka Worer, Awash Arba, Hambash, and Sheleko villages and two solid waste disposal pits in Awash Arba town.	155,000
<b>16. Buremudaitu</b>	
Construction of two communal latrines in Debele and Gefrem.	50,000
Construction of two solid waste disposal pits one in Gefrem and one in Debele.	30,000
<b>17. Gewane</b>	
Construction of four communal latrines two in Old Gewane and two in Meticka.	100,000
Construction of two solid waste disposal pits one in Gewane and one in Meticka.	30,000
Construction of two school latrines in Gelila Dora and Entiadota schools.	60,000
Construction of two latrines for Guest house clinic and Geliela Daro health post.	40,000
<b>18. Dulecha</b>	
Construction of one pit latrine for Hugube health post	20,000
Construction of one communal latrine and one solid waste disposal pits for Dulecha village (Woreda center).	40,000

<b>19. Argoba</b>	
Construction of two communal latrines and one solid waste disposal pit for Gachene village (Woreda center).	65,000
<b>20. Awra</b>	
Construction of one school latrine in Deryitu school.	30,000
Construction of one communal latrine and one solid waste disposal pit in the Woreda center.	40,000
<b>21. Ewa</b>	
Construction of one latrine in Bolo Tomo health post.	20,000
Construction of one communal latrine and one solid waste disposal pit in Allele Suela (Bolo Tomo).	40,000
<b>22. Yalo</b>	
Construction of one communal latrine one in Gubi Daro village.	25,000
Construction of one solid waste disposal pit in Gubi Daro	15,000
<b>23. Teru</b>	
Construction of one communal latrine in Alelu village.	25,000
Construction of one solid waste disposal pit in Alelu village.	15,000
<b>24. Gulina</b>	
Construction of two communal latrines in Calewan.	50,000
Construction of one solid waste disposal pit in Calewan.	15,000
<b>25. Semu Robe</b>	
Construction of two communal latrines in Kumame village.	50,000
Construction of one solid waste disposal pit in Kumame village.	15,000
<b>26. Fursi</b>	
Construction of one communal latrine in Hadelela village.	25,000
Construction of one solid waste disposal pit in Hadelela village.	15,000
<b>27. Dewe</b>	
Construction of one communal latrine and one solid waste disposal pit in Dewe village.	40,000
Construction of a pit latrine for Dewe clinic	20,000
<b>28. Telalake</b>	
Construction of one communal latrine and one solid waste disposal pit in Nemelefan village.	40,000
<b>29. Artuma</b>	
Construction of two Communal latrines and one solid waste disposal pit in Dalifagi town.	65,000
<b>Total</b>	<b>3,105,000</b>

## IV. CONCLUSION AND RECOMMENDATION

### 4.1 Conclusion

Generally in the region the effect of drought is observed in all Woredas although the extent is different from one Woreda to the other. The high effect of drought in water resources is observed mainly in the northeastern part of the region and relatively low effect of drought on water supply resources is observed in the central and southern part of the region mainly along the Awash River valley.

The water supply coverage in the region is very low, 17% and the developed water supply schemes are not evenly distributed, which are mainly concentrated in Zone 1 and Zone 3 along Awash River, which is relatively less affected by the drought in relation to water scarcity in the region. In the other hand large part of the region which is highly affected by water scarcity due to the drought, the developed schemes are very low and most of them are non-functional (The effective water supply coverage in the region is less than 13%). As a result high water shortage in the region occurred and made about 50,000 people dependant on water tankering for about one year from August 2002/ July 2003.

Hydrogeologically large part of the area has high to moderate ground water potentials in relation to quantity. However the quality of the water is generally poor in almost all parts of the region due to high fluoride, high TDS, high temperature and high iron contents. As a result potable water resource development in the region is limited.

Poor accessibility and low capacity of the concerned government bureaus also one of the factors contributing to the low water supply coverage in the region. In the region there are only a regional water bureau and Zonal water bureaus in Zone 3 and Zone 4. There is no any line department in the Woreda level and also there is no any water department in the three Zones (1, 2 & 5). In addition to that the NGO's working in the Water and sanitation sectors are not more than seven in the whole region and they are all operating in Zone 1 and Zone 3 (this are the Zones relatively high water supply coverage in the region).

From the total 174 schools in the region only 41 (23.6 %) have water supply facilities and 112 (64.4%) have latrines in their compound. From the available water supply systems in the schools about 15% are non-functional and about 25% of the latrines need maintenance and/or reconstruction.

From 109 health services in the region 30 (27.5 %) have water supply facilities and 92 (84.4%) have latrines in their compound.

The last one year intervention in the water supply and sanitation sector in the region is mainly on Water tankering and rehabilitation activities and some drilling of shallow wells and hand dug well construction. Some sanitation activities like latrine construction, burning of livestock carcass and hygiene education were also part of some NGO's intervention in the last one-year. The major implementing agencies of the WATSAN activities are Regional water and health Bureaus, MoWR (through UNICEF assistance), World Vision, NACID, APDA, LWF ACF, Oxfam GB and CARE Awash.

An emergency intervention plan in the region was prepared in two phases for rural water supply and environmental health activities.

For rural water supply interventions prioritization was made based on emergency need due to the effect of the drought, existing water supply coverage and plan by different agencies, technical feasibility and number of population to be served. As a result a required amount of **12,501,400 Birr** calculated for the two phases operation targeted for benefiting **111,916 people**.

For the environmental health activities, the criteria used for prioritization are: giving priority for schools and health institutions with out any sanitation facilities, water quality test in all the schemes in the region, hygiene education in the schools, piloting of latrine construction in each Woreda centers and construction of communal latrines in the highly populated small towns. As a result a total requirement of **4,049,000 Birr** calculated for the two-phase operation in the environmental health sector for benefiting **283,042 people**.

## **4.2 Recommendations**

Based on the assessment results of the document the following recommendations are forwarded for improving water supply and sanitation coverage in the region:

1. Carry out continuous water sources field assessment studies that will undertake inventory of the quality and quantity of water in the region and quantify needs.
2. Involving of more NGOs in the region in the WATSAN sector.
3. Capacity building of the regional water and health bureau in all aspects mainly in logistics and human resource.
4. Coordination of efforts by all actors for better result and to avoid duplication
5. Special donor support for NGOs working in areas of the region in which water supply coverage is very low and poor infrastructures for operation.

## **V. REFERENCES**

**Afar DPPB** – 2002 Appeal document and emergency plan of Action, Assayita, 2002

**Afar Regional Education Bureau** – Educational Abstracts in Afar Region, Assayita, 2002

**Afar Regional Health Bureau** – Unpublished disease prevalence report from September 2002 to February 2003, Assayita, 2003.

**Afar Regional Water Bureau** – Inventory of Water supply Resources in Zone 1 and Zone 3 of Afar region, Assayita, 1998.

**EIGS (Ethiopian Institute of Geological Survey)** - Hydrogeologic Map of Ethiopia, Addis Ababa, Ethiopia, 1988.

**UNDP – EUE** - Afar Region – Awash River Floods, Rapid Assessment Mission: 7 – 10 September 1999.

**UNDP-EUE**– Afar Pastoralists Face Consequences of Poor Rains, Rapid assessment Missions 19-24 April 2000.