



# Haraad Reeb III Project Baseline Report: Togdheer Region & Caynabo District in Sool Region, Somaliland

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The Report covers Baseline for Haraad Reeb III, A brief appraisal of Haraad Reeb II and Strategic guidance on PPP & CLTS for the Project

Submitted to CARE Somalia/Som aliland

CIVITRA Co. Ltd

#### **FOREWORD**

The Millennium Development Goal (MDG) No. 7 commits countries to halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation while MDG No.4 commits to reduce the under-five mortality rates by two thirds by 2015. More than 2.1 billion people have gained access to improved drinking water sources since 1990, exceeding the MDG target. While almost 2 billion more people now have access to proper sanitation than in 1990, 2.5 billion still do not have access to toilets or latrines. Africa disease burden arising from open defecation is enormous and deadly. WHO (2004) estimated that in 2002, about 707,000 people died from diarrhoeal diseases in Africa. Though it is difficult to establish exactly how many of these deaths are directly related to open defecation, it is known that hygiene behaviour and sanitation circumstances play major roles in transmission of these diseases and it is clear that open defecation is an important risk factor to diarrhoeal diseases<sup>1</sup>. Globally, maternal mortality declined by 47 per cent over the last two decades. Maternal mortality has declined by about two-thirds in Eastern Asia, Northern Africa<sup>2</sup>.

Although impressive gains have been reported in rural water 'coverage<sup>3'</sup> in recent years, the real picture in terms of the number of functioning water points is less glowing. Millions of people reported as having access to safe water do not in fact receive even basic levels of service because their water point or system is not functioning. Broken hand pumps and dry taps are a common sight in rural areas. Without clean water, people are exposed to diseases and have fewer opportunities for economic development. With as many as one third of all water supply facilities in Africa non -functional, keeping water supply facilities operational is a challenge. Experience has shown that leaving rural water points to be managed by communities on their own is a major factor in low functionality. There is a need for post-construction support with complementary roles for communities, the private sector and all levels of government to improve the functionality of rural water supplies together<sup>4</sup>. These have been explained in sections 2.9.3.2.1, 2.9.3.2.2, 2.9.3.2.3 & 2.9.3.2.4.

O&M is not a new issue in the water sector; different models have been piloted and several lessons documented. It has been established that communities cannot manage all of the complex tasks related to the sustainable O&M, including complex technical repairs, accounting, conflict resolution, legal issues, system adaptation and expansion (IRC, 2010). Communities need institutional support so that they can access the technical services, spare parts, finances and skills needed to ensure users satisfaction (desired service levels) and sustainable O&M of water systems.

The management of fresh water resources and of services drawing upon water functions central to human life is of critical importance to healthy social, economic, and political well-being. Stresses exerted on the world's water by demand from growing populations with changing consumption patterns, pollution and lack of environmental controls, have pushed water concerns high on the international agenda. Effective water resources development and management is recognized as a key component of "environmentally sustainable development". Poor management of the resource can easily become a brake on socio-economic development<sup>5</sup>.

The European Commission (EC) Guidelines of 1998 for water resources development cooperation is a contribution by EC to translating international consensus of water into actual cooperation activity. The centre-piece of the Guidelines is a "Strategic approach for equitable, efficient and sustainable management of water resources". The approach is based on internationally agreed principles

<sup>&</sup>lt;sup>1</sup>Kamal Kar and Kirsty Milward (2007); CLTS Foundation and Institute of Development Studies

<sup>&</sup>lt;sup>2</sup>We can end poverty – Millennium Development Goals and beyond 2015 Fact Sheet – Goal # 4 www.un.org.milleniumgoals/

<sup>&</sup>lt;sup>3</sup> UNICEF/WHO JMP Report 2013

<sup>&</sup>lt;sup>4</sup>Functionality: The Challenge to Sustain Rural water Supply Services – SNV Practice Brief, Issue 5, October 2-13

<sup>&</sup>lt;sup>5</sup>European Commission (1998); Towards Sustainable Water Resources Management: A Strategic Approach

concerning the need to protect the ecosystem, and to extend the health giving and productive properties of fresh water resources equitably, efficiently and sustainably among humankind, with special emphasis on poorer and underserved populations.

The German Foreign Ministry in partnership with CARE International have been supporting the Government of the Republic of Somaliland to realise access to safe water and basic sanitation in Eastern parts of Somaliland. In its third phase, now Haraad Reeb project is now focusing on sustainability issues and seeks to address the underlying causes of scheme functionality and lack of access to basic sanitation. The Project, within the broader Rural Women Program, is scaling up to cover Togdheer Region while still addressing the gaps of Haraad Reeb II in Caynabo District in Sool Region. Another important aspect of functionality framework that Haraad Reeb uses is the so called 'sustainability compacts'. These are standard agreements between the government, service provider and users. The relationship between the three parties is explained in Figure 1.

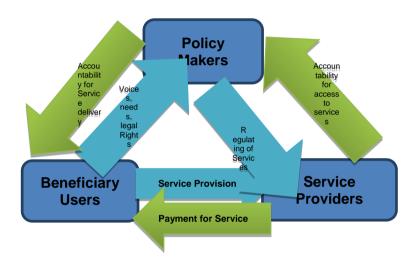


Figure 1. Source: World Bank

Innovations are needed in designing the models of private sector and community transaction so that neither the poorest of the poor are denied of the basic water services, nor the sustainability (all elements) of water systems are ignored. Such innovative models need to be supported by the national policy framework.

The Consultants have tried to be consistent in distinguishing the previous program with the current by use of phase II and III. Also, recommendations have been put under each of the main subjects (Baseline Survey, CLTS, VSLAA, & PPP) to avoid confusion. The discussions on Organization for Economic Co-opration and Development (OECD) indicators have been lumped together for both Haraad Reeb II & III and so that they come before the Baseline findings. Please, take note of these as you read the report. The Maps of Project area are shown as Annex 1.

#### **ACKNOWLEDGEMENT**

The success of the Haraad Reeb Baseline Evaluation could not have been achieved without the invaluable support of CARE Somalia/Somaliland/Somaliland team, whose policy directions and active participation in giving ideas and suggestions was fundamental to the evaluation.

The M & E Advisor and M & E Coordinator as well as the Area Manager for the Rural Women Program gave guidance throughout the evaluation process through a series of planning meetings and the inception report. They also availed requested documents as deemed necessary. These documents added value to the report. We are grateful to the Consultant team, CIVITRA Co. Ltd, who were instrumental in coming up with the evaluation instruments, conducting the interviews, analyzing the data and presenting the findings of the evaluation.

The evaluation would not have been productive if the local community, the Central and Local Government in Burco, Odweiyne and Caynabo districts and other stakeholders who participated in household survey, Focus Group Discussions (FGDs) and in-depth Key Informant Interviews (KIIs) had not been ready to give time from their busy schedules to answer to the evaluation tools.

Lastly, we wish to thank all those who contributed, in one way or another, in the generation of this report. Particularly technical support received from CARE Somalia/Somaliland/Somaliland Staff. The detailed list of those consulted and to whom we are greatly indebted to is included as Annex 6.

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# **GLOSSARY OF SOMALI TERMS**

Berkad Traditional water basins which collect surface water normally of

made of concrete

Deyr Second transition period, an important rainy season( 15<sup>th</sup> Sep-15<sup>th</sup>

Dec)

Gu Transition period, an important rainy season (15<sup>th</sup> March-1th June)

Jilaal Northeast monsoon, a dry and hot season (15<sup>th</sup> Dec-15<sup>th</sup> March)

Xagaa Southwest monsoon, a dry hot season (15<sup>th</sup> June-15<sup>th</sup> Sep)

Togga Seasonal River

# LIST OF ACRONYMS/ABBREVIATIONS

BOO Build Own Operate
BOT Build Operate Transfer

CLTS Community Led Total Sanitation

DFID Department for International Development

DWO District Water Officers ER Expected Result

FAO Food and Agriculture Organization

FFP Foundation for Peace FGD Foccused Group Discussion

HH Household

GEC Girls Education Challenge

Indic Indicator

IOM International Office for Migration

IWRM Monitoring & Evaluation Integrated Water Resources Management

JPLG Joint Programme for Local Governance

KII Key Informant Interview

LF Log Frame

NRM Natural Resource Management M & E Monitoring and Evaluation

MDG Millennium Development Goals

MOH Ministry of Health

MOWR Ministry of Water Resources
O & M Operation and Maintenance

OBA Output-based Aid
ODF Open defeacation Free

OECD Organization for Economic Co-opration and Development

PPP Public Private Partnership
PSP Private Sector Participation

R Result

Ssh Somali Shiling

SWALIM Somalia Water Sources Information Systems
SWIMS Somalia Water Sources Information Systems

TSR Towards Self Reliance
UF Unifying Framework

VSLAA Villager Savings and Loans Association

WSSCC Water Supply and Sanitation Collaborative Council

WMC Water Management Committee

## **EXECUTIVE SUMMARY**

The Haraad Reeb project Baseline Report Evaluation was undertaken in January 2014 in Togdheer Region and Caynabo District in Sool Region of Somaliland. The Haraad Reeb project covers the period 1st October, 2013 to November 2013 to 30th April, 2016. The main project goal is to contribute to the resilience and drought recovery of Sool, Sanaag and Togdheer regions and reduce vulnerability to future droughts. Whilst seeking to address water point functionality issues, the project also sought to pilot Rural Public Private Partnerships (PPPs) for water point management and CLTS while also promoting the role of women in water point management and enhancing VSLA Groups as a form of women empowerment.

The main objective of Baseline was to generate quantitative and qualitative information, to be used for the project's planning as well as establishing benchmarks for the project. The specific objectives were to assess the project relevance, efficiency, effectiveness, outcomes and emerging impact, sustainability as well as documenting any lessons learnt, make conclusions and recommendations from Haraad Reeb II to improve the the current project. The assignment also included developing possible advocacy positions on the implementation and enforcement of the Water Act as well as the outcomes of the comprehensive CLTS pilot that was done in Haraad Reeb II. Whilst also adding on the PPP Strategy for Haraad Reeb Project III, a review of existing PPP arrangements in Somaliland was also done.

A cross-sectional design with both quantitative and qualitative approaches was used. The quantitative approach was expected to elicit quantifiable and numerical data that were used to generate descriptive statistics, cross tabulation analysis, as well as statistical significance tests.. A desk review of existing documents, interviews with stakeholders and field visits to selected accessible communities was also done. Field visits were made mainly to assess the functionality of the facilities and more importantly management and acceptance of the rural PPP projects. Local elders and users of the water sources were interviewed.

A three-stage sampling process to select participants was applied. At the **first** stage, villages were sampled purposively, through a participatory and consultative process, involving CARE staff at the Burco office. The selection process ensured a representation of 70% for Togdheer, which is newly targeted by the project and 30% for Sool, where previous phase of the project was implemented. At the **second** stage, the Consultants sampled households randomly. In this regard, the Consultants identified random starting points in each village and applied the spinning-the-pen technique to determine random directions for each enumerator. At the **third** stage, women household heads, aged 18 to 50 years were sampled purposively, based on their availability and accessibility at the time of data collection.

Having a finite population of 32,400<sup>6</sup> permitted the application of Fisher's formula for sample size determination from finite population to obtain a sample. Adding 10% to cater for wastages and losses, this came to 472HH to yield 95% confidence level and 5 % confidence interval. The list of households from the 2005 UNDP census data for Somalia was used to sample the households. KII and FGDs were done for selected stakeholders.

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<sup>&</sup>lt;sup>6</sup>On average there are 7 people in a Household

#### **Key findings for Haraad Reeb II**

The innovations on Solar Panels as a source of energy for the water pumps has been discussed in International forums and found to be more relevant at this point where there is needto mitigate the negative impacts of climate change by moving away from fossil fuel. This has increased WMCs earnings since there are no cost for fuel . VSLA membership enabled increased householdproductive asset accumulation and investment in income generation activities. One of the challenges of the current practice, is the lack of a comprehensive analysis of the sustainability, including life-cycle costs and raising community awareness on why they have to pay for water fees. This can be solved by embracing and analysing the five<sup>7</sup> elements of sustainability and life-cycle costs in the project preparation and design phase.

#### **Key findings for Haraad Reeb III**

Majority of the population in the project area rely on unprotected shallow wells and Berkads ( equally unprotected). The later are exposed to contamination by the surface run off making the population susceptible to water borne diseases. According to the FGDs conducted, whereas the DWOs know the contents of the Water Act, there is no trickle-down effect to the community. On average 11% of the beneficiaries meet the daily per capita consumption of 15 litres. The proportion of people using improved water sources (boreholes and protected wells) during dry season is 49.2% whilst during wet season is 51.4%. According to the FGDs conducted, whereas the DWOs know the contents of the Water Act, there is no trickle-down effect to the community. Except for Plaza Water Company and Al Nafoore Water Conmpay (both are Urban PPPs), there is no Rural PPP in place. 30.4% of the sampled HH reported having water system breakdown lasting for weeks and beyond. 20.3% of the sampled HH said that they have a technician who repairs the system living within the region. Except for Lister™ Engine (UK), that the consultants found to have shortage of spare-parts in the local market, the rest of the models had their parts readily available in Burco and Hargeisa. Even Solar energy electrical appliances are readily available in both Burco and Hargeisa town. Of the schemes assessed using CARE Governance Scheme Functionality tool, 2 out of 5 have check score of more than 75% target in the LF. These are Higlo in Sool where Haraad Reeb II had project had 93.3% and Odweiyne in Togdheer, where the new project is starting up had 80%.72.9% of the sampled HH reported that they have a latrine. Out of this proportion, 74.3% use the latrine during the day and 78.4% during the night. 75.1% wash their hands after defecation and 10.6% wash their hands before eating.

#### **CLTS**

Whereas most of the population report that they own a latrine in their household, there are others who still go to the bush to relieve themselves because of issues of privacy and access to the latrine especially at night. Therefore, there is need to trigger the communities in the target areas to stop the open defecation practice. Triggering of communities should target children as agents of change.

# **PPPs**

PPPs Competitive processes would yield a significant level of legitimacy for the selected company, as they make the most attractive offer regardless of any link with one clan or the other.

Institutional, financial, technical, community/social and environmental

#### **SECTION 1: INTRODUCTION**

#### 1.1 BACKGROUND INFORMATION

CARE is a leading humanitarian organization fighting global poverty. CARE places special focus on working alongside poor women because, equipped with the proper resources, women have the power to help whole families and entire communities escape poverty.

CARE seeks a world of hope, tolerance and social justice, where poverty has been overcome and people live in dignity and security.

CARE's mission is to serve individuals and families in the poorest communities in the world. CARE facilitates lasting change by:

- Strengthening capacity for self-help
- Providing economic opportunity
- Delivering relief in emergencies
- Influencing policy decisions at all levels
- Addressing discrimination in all its forms

CARE has been working in Somalia since 1981, implementing a varied portfolio of projects in all regions of the country. Up until 2009, CARE portfolio was built around three main sectors: education, emergency relief and economic development initiatives, with a geographic focus on Puntland and Somaliland. Many of CARE's past projects were stand-alone interventions targeting different groups of people and often did not sufficiently address the deeper causes of poverty. Having identified these two weaknesses in her programming, CARE undertook a fundamental change in her development approach – a project to program shift. Within the Rural Women Program there are four projects:

- a) Horumarinta Elmiga (Education for Empowerment through Cohesive and Harmonised System)
- b) OMGEP (Somalia Girls Education Promotion Project)
- c) Iskufilnaasho (Towards Self Reliance II)
- d) Deegaankaagu waa noloshaada (Your environment is your life) NRM
- e) Basic and Sustainable WASH for the MDGs Puntland State, Somalia
- f) Sanaag Resilience Project
- g) Strengthening Governance & Peace Building in Somalia
- h) SOMREP (Somalia Resilience Project)
- i) Foundation for Peace
- j) Haraad Reeb (Quenching the Thirst) and which is the subject of this report

# 1.1.1 Somaliland

Somaliland is situated in the Horn of Africa and is bordered by Djibouti to the west, Ethiopia to the south, the Red Sea at the Gulf of Aden to the North, and the Puntland region of Somalia to the east. Somaliland has an area of about 180,000 square kilometer. It is regarded internationally as an autonomous region of Somalia although the government of Somaliland regards itself as an independent state.

Somaliland's population is estimated at around 3.5 million (2005) most of them are either pastoralists or agro-pastoralists. The urban population is estimated to be around 40% but is rapidly expanding. Somaliland's climate is mostly arid or semi-arid with few limited relatively wet areas at high altitude. Extreme recorded temperatures range from -3.3°C at Ceerigaabo to 47.7°C at Berbera. Most of Somaliland receives as little as 50 to 150 millimeters of rain annually. However certain higher altitude

areas record more than 500 millimeters a year. Generally rainfall takes the form of showers or localized torrential rains and is extremely variable.

The incidence of poverty in Somaliland is very high. Remittances (estimated at \$ 0.5 billion per annum) are the largest component of the Somaliland's economy followed by the livestock sub-sector (production, processing, trade and export) which is the most significant source of employment, income, public finance as well as the second largest foreign currency earner. Crop farming is quite limited and dependent on erratic rainfall. Poverty and vulnerability have mostly been associated with the rural population. However urban food security has also deteriorated. The rapidly increasing urban population relies on the informal economy based on trade, hotels, transport, utilities and communications. Somalia is a country with unacceptably high rates of acute malnutrition. One in nearly eight children less than 5 years suffers from acute malnutrition at the time of assessment. The situation among IDPs is worse (about one in every six<sup>8</sup>). According to FSNAU released its Post Deyr 2013/14 Food Security and Nutrition Analysis findings for Somalia, nearly 860,000 people remain acutely food insecure and require urgent humanitarian assistance over the next six month period – a majority of them are IDPs (75%). Areas of major concern are: IDPs; mostly rural and some urban populations experiencing food security crisis in Sanaag, Sool, Bari, Nugaal, North and South Mudug, Galgaduud, Hiran, and Middle Shabelle as well as Middle and Lower Juba regions. The climate in the region varies from desert in the north-eastern parts of the coastal areas of the Gulf of Aden basin and some areas in the Dharoor basin in the north-east; to arid and semi arid in much of the Gulf of Aden basin. The distribution of rainfall is linked to the four seasons: Jilaal, Gu, Xagaa, and Deyr. Somaliland and Puntland are likely exposed to the climate variations and changes more than some other parts of African continent. Hemming (1966, cited by German Agro-Action, 2005) stated that Somaliland has been in a state of ecological change for many decades if not hundreds of years, and practically all the changes have been towards a reduction in the vegetation cover. A significant portion of the reduction in vegetation cover and desertification can anyhow be attributed to the growing population with respective increase in grazing pressure.

# 1.1.2 The Water Sector in Somaliland

Somaliland is a chronically water scarce country because of a limited national endowment. There are growing needs of rapidly increasing human and livestock population, as well as serious water resources degradation. The main sources of water in rural areas are the privately owned *berkads* (cemented water catchments), manually dug shallow wells, communal stock watering ponds and subsurface dams. All of these sources of water depend on harvest of seasonal rainfall or rainfall recharges in the case of shallow wells. While in urban areas, groundwater is the main source of water for human and livestock consumption and in some instances sources of water for irrigation of small vegetable and fruit farms. Most rural communities depend on a combination of these water sources.

# Water demand and availability

Water demand and availability was analyzed by Stevanovic (2012) based on field research and previous studies by different authors. Given the lack of perennial streams and the mostly arid climate with little rainfall in Somaliland, groundwater represents the sole reliable water resource in most of the area. However, aquifers are limited, mostly deep and often highly saline or low yielding compared to the rising demand that is driven by population growth. Today abstraction has increased even further into unsustainable conditions. The situation is representative for many parts of the country. In Boorama (Awdal) for example, drawdown rates have accelerated from 0.2-0.3 m/year in 1986 to 3-4 m/year after 2004 (Petrucci, 2008).

The surface waters of Somaliland have been described in the SWALIM Technical Report No. W-11 (October, 2007) and belong to two major river basins:

<sup>8</sup>According to FSNAU released its Post Deyr 2013/14 Food Security and Nutrition Analysis findings for Somalia

- Gulf of Aden basin
- Togdheer/ Nugaal basin

There aren't any perennial streams in the region. The rivers and drainages have surface water only after periods of heavy rainfall. There are, however, many *Toggas (Wadis)* originating from the plateaus and mountains that have perennial flows in some stretches and at other stretches have a complex surface-water groundwater interaction (subsurface flow) where there is groundwater recharge. After intense rainfall, most of these small streams can carry high floods as well as sediment and debris which tend to fill up earth pans, open wells and *berkads*.

## 1.1.3 The Ministry of Water Resources, the Republic of Somaliland

#### 1.1.3.1 Legal & Policy Framework

The water resources sector in Somaliland is led by the MOWR. The organogram has been shown Section 5.3.2 of this report. Somaliland has introduced the following documents with regards to water resources management:

- National Water Policy 2004 (description of overall goal)
- National Water Strategy 2004(description of role sharing & actions)
- National Water Act 2012 (description of legal framework) *See Annex 6 for more Information on the objectives and ideas on proposed CARE Advocacy positions.*
- National Water Regulations (description of implementation arrangements through by-laws)

All these sector documents explicitly encourage PPPs for the provision of water service delivery.

Considering institutional capacities to implement the developed policies and plans, Somaliland has limited human and financial resources available which is reflected in the state of implementation of the plans. In addition to these shortcomings clear distribution of responsibilities and coordination between the different players involved are lacking<sup>9</sup>.

#### 1.1.3.2 Traditional rights

In parallel to recent written laws, there exists in the Somali community a system of binding traditional norms which are not documented but have been followed to encourage, approve or sanction human activities. These norms are upheld by elders and revolve around the clan as a unit for enforcement, and for the defense of community interest. Many of these are concerning the right of access to water and the ownership of water sources. Islamic practice and Sharia Law are also a factor in certain human endeavors. Religious (Islamic) leaders also play a key role in mobilizing communities. The community elders form a distinct power block to negotiate for and regulate communities including their relationships with "outsiders". The title of chief/elder is a key position in the community and represents the real power behind the community. These parallel laws/norms seem to have a profound influence on many project implementation decisions and operation of facilities

#### 1.1.3.3 Institutional Framework

Somaliland maintains serious attention to the situation of water supply and has a directorate for water as mentioned above. Both are instituting governance reforms which are intended to devolve decision making to lower levels of government. This devolution was spearheaded by the Joint Programme for Local Governance. For instance, in the MOWR, there were plans to have technical officers in the regions so that communities and NGOs don't have to go to Hargeisa for technical support.

<sup>&</sup>lt;sup>9</sup> **Petersen, G., and Gadain, H.M., (2012)**, Climate Change Impacts on Water Resources of Somaliland and Puntland. Technical Report No W-21, FAO-SWALIM, Nairobi, Kenya.

But currently, local governments only have sufficient capacity in large towns (where urban PPPs can take place), but not in rural districts. For the latter, local governments are only present in the main town of the district, and given the difficulties for accessibility to smaller villages, it means they practically cannot be present at community level in most of the villages. The ministry has been decentralized to the level of appointment of Regional Water Officers and a few District Water Officers as shown in section 5.3.2. There have not been enough qualified personnel to staff all districts with district water officers. Whereas decentralization has not reached the district level, the ministry says it has delegated authority to lower local governments (districts, municipalities etc.) and to communities. At the village level, village committees exist as autonomous institutions mainly as negotiators for their beneficiary community.

In Somaliland, there is also a Water Sector co-ordination committee (WSC) that brings together all actors in the sector (UNICEF is co-chair). The WSC advises on the mapping of donor interventions to deserving communities and acts in an advisory role to the water sector. The WSC is supposed to meet monthly, it actually meets infrequently and needs significant support to function properly. In Somaliland implementation of new policies are difficult due to the low human capacity and low executive powers of the authorities as well as the society which is not used to authority in their daily business. Also there is a developed bureaucracy and limited abilities to involve the private sector.

## 1.1.4 Management of Water Supply Services

O&M of water sources in Somalia has evolved through 3 distinct phases:

- 1) As a centralized government operation, typified by the Water Development Authority (WDA) of the 1980s and 90s. The WDA employed operators for the water points, and a centralized technical team that regularly inspected and maintained water points. Revenue was collected from local users who contributed in a minor way to the operation and maintenance of the water sources, either in the form of labour or cash.
- 2) The WDA operation fell apart after the fall of the central government in 1991. Because of the ensuing anarchy, public wells were abandoned. The vacuum was filled by private sector who took up O&M of private sources for benefit.
- 3) As a mixture of community management and private operation, after communities started to recover, local committees were formed whose role was largely limited to facilitating and monitoring projects funded by INGOs and UN agencies.

Subsequent years have seen the introduction of PPP in the urban centres in Somalia. These include Jowhar in 1997, Bossaso in 2000, Galkayo in 2003, Borama and Gardho in 2005. UNICEF played a central role in the introduction of these PPPs, which have mostly proved successful. In some other towns/villages, public water agencies provide the services and report to local authorities (districts, municipalities) or directly to the Ministry (Burao for example).

## 1.1.5 PPP guidelines

ILO has developed general PPP guides & toolkits, trained central and local government staff to implement PPPs accordingly (not only in water supply sector). The guides provide useful general guidance on how the present PPP projects are structured and how to implement new PPP projects, on a step-by-step basis (inception, feasibility, procurement and contract management).

The training (and advocacy) for PPP is heavily informed by the successful PPP projects in the urban water sector – GUMCO water company in Bossaso and SHABA water company in Borama. Both have moved from operation by the State Water Agency to the private company operation, under leases from the government.

- SHABA Water Company which has improved its coverage from 130 households in 2002 to 7,000 households in 2011 maintained a billing efficiency of 100% (from the original 75% in 2002) and collection efficiency of 98% (from the original 80% in 2002).
- GUMCO water company which has installed 5,000 house connections by 2011, constructed over 50 water kiosks, and expanded the network by 500% since 2003 (from 25 km to 150 km<sup>3</sup>. The price of water for house connections has been reduced from US\$8/m<sup>3</sup> to US\$1/m<sup>3</sup> and for kiosk water to \$0.6/m<sup>3</sup>.

#### 1.1.6 Overview of the Haraad Reeb Project

Prolonged and recurrent droughts remain a key challenge to the agro-pastoralist communities in Togdheer and Sool regions of Somaliland. The droughts have resulted in recurrent humanitarian crises, characterized by socio-economic and environmental shocks such as inflation, livestock deaths, poverty, constrained access to safe drinking water, high burden of diarrheal infections, and child mortality, among other challenges<sup>10</sup>.

In response to these circumstances, the Haraad Rheeb Water, Sanitation, and Hygiene (WASH) project was initiated in two regions, viz. Sanaag and Sool Regions. This phase now includes Togdheer. The project's goal is to contribute to the resilience and drought recovery of communities residing in the targeted Regions; thereby, reduce vulnerability to future droughts with specific focus on vulnerable community members, including women headed households. The project targets 30 selected rural villages in the two regions.

Haraad Reeb is one of the projects within the Rural Women Program. CARE's program strategy for its rural women program is based on an explicit theory of change, moving from the things CARE wishes to achieve to the activities and actions needed to achieve them<sup>11</sup>. The program strategy is grounded in CARE's research process and is linked to a logical and coherent long term (10-15 year) impact goal.

#### 1.1.6.1 Haraad Reeb III Impact Hypotheses

**Project Objective:** Contribute to the resilience and drought recovery of Sool, Sanaag and Togdheer regions and reduce vulnerability to future droughts. Figure 1 below illustrates the theory change of how CARE intends to achieve this.

<sup>&</sup>lt;sup>10</sup>CARE Somalia/Somaliland/Somaliland (2011). Unpublished Haraad Rheeb Final Report

<sup>&</sup>lt;sup>11</sup>CARE Somalia/Somaliland/Somaliland, Rural Program Strategy: Working with Rural Communities to bring about lasting, Significant improvement in the quality of life of Women and Girls. No period stated

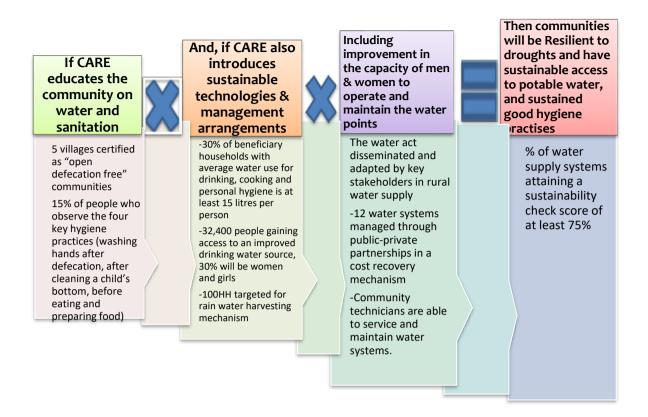


Figure 2: Harad Rheeb III Impact Hypotheses

Haraad Reeb Project III design is expected to address the needs of women, children, and the vulnerable, in line with Rural Women program priorities. In this regard, the project is intended to enhance access to adequate and safe drinking water closer to homes, propagate safe disposal of human faeces, inclusion through community hygiene promotion, children's hygiene, as well as community-led total sanitation (CLTS) training.

The project has been designed to give women opportunity to take the leading role in water-related small and medium enterprises (SMEs), as the government puts in place systems and structures to manage water in the communities. All the interventions are intended to reduce risks against multiple factors causing diarrhea, which is reportedly, the main cause for child deaths in Somaliland as well as improve the public private partnership for future sustainability.

Key strategies for achieving the project's goal include working with communities, Somaliland Government authorities, and PPP initiatives to implement the project's planned activities. In this regard, the project will facilitate the formation of development committees, women groups, and WMCs in each village. In addition, CARE is building the capacity of key public institutions to make them more responsive and effective in addressing community WASH needs.

# 2.1 Purpose and objectives of the baseline survey

As indicated in the terms of reference (ToR), the purpose of the survey was to provide an initial measurement of the expected long-term impact for monitoring the project's achievements. In this regard, the study was expected to provide measurement indicators; thus, set a basis for the project's monitoring and evaluation systems. More specifically, the survey was expected to:

- 1. Generate quantitative and qualitative information, to be used for the project's planning.
- Determine the baseline status on all indicators as established in the project's log-frame.
   Review the relevance, feasibility, and targets of indicators established in the project's log-frame.
- 3. Assess the knowledge, attitudes, behaviours, and practices of community members on key hygiene practices.
- 4. Assess the baseline capacity of government and community systems and structures in the management of rural water supply.
- 5. Inform actors involved regarding the actual situation in relation to WASH at the initiation of the project and support the design of the interventions to maximize impacts.
- 6. Provide a baseline of understanding of the current context of WASH and avenues for response in Togdheer and Sool Regions.
- 7. Highlight the potential opportunities and challenges of applying the CLTS approach within the Somaliland context.
- 8. Develop possible advocacy positions on the implementation and enforcement of the Water Act as well as the outcomes of the comprehensive CLTS pilot targeted at the Ministry of Water and its local representations.
- 9. Review existing PPP arrangements and give recommendations for new ways of working to ensure sustainability.
  - Detailed ToR including the Consultants Work Plan have be put as Annex 3

# 2.2 Survey design and methodology

This section describes the design and methods, used to source the requisite information and how the Consultants intended to process and analyze the information to achieve objectives of the baseline survey.

## 2.2.1 Survey design

The Consultants have applied cross-sectional design with both quantitative and qualitative approaches. The quantitative approach was expected to elicit quantifiable and numerical data, that were used to generate descriptive statistics, cross tabulation analysis, as well as statistical significance tests. Quantitative approach consisting of closed-ended questions, was to elicit information to be used for descriptive purposes - frequency distributions with percentages and measures of central tendency, as appropriate. The qualitative approach, consisting of open-ended questions, was expected to capture in-depth information arising from experiences and perceptions of community members (women and men), WMCs members, water and public health officers, pump technicians, village elders, village savings and loans groups, as well as local and international NGOs.

On PPP and CLTS the consultants mostly relied on desk review of existing documents, interviews with stakeholders and field visits to selected accessible communities. Field visits were made mainly to

assess the functionality of the facilities and more importantly management and acceptance of the rural PPP projects. Local elders and users of the water sources were interviewed.

#### **Documentation reviewed**

The documents that were availed to the client are listed in Annex 8.

#### **Interviews**

List of interviewees and interview guides are included in Annex 4. CARE Governance to Scheme Funtionality Snapshot tool and Interview guide for Pump caretakers have put as Annex 2.

# 2.2.2 Target and Stakeholders

The survey targeted project beneficiaries and partners. Project beneficiaries included women and men household heads, WMC members, pump technicians and VS& L groups. Project stakeholders that were targeted include village elders, water and public health officers at the district and national levels, as well as key staff of local and international NGOs.

## 2.2.3 Sampling procedures

The Consultants applied a three-stage sampling process to select participants. At the **first** stage, villages were sampled purposively, through a participatory and consultative process, involving CARE staff at the Burco office. The selection process was based on geographical and regional representation as well as accessibility within the duration located for the baseline survey process.

Region	Village	Assigned Codes
	Harosheikh	01
	Xaaxi	02
	Caraale Bidaar	03
	Qudhackudle	04
Togdheer	Haradagubataxil	05
	Dhoqoshay	06
	Bilicle	07
	Qoryaale	08
	Balihiile (PT)	14
	Kiridh	09
	Higlo	10
Sool	Tukub	11
	Waridad	12
	Gadhgureed	13

Table 1: Samples Villages in Togdheer and Caynabo District in Sool Region

The selection process ensured a representation of 70% for Togdheer, which is newly targeted by the project and 30% for Sool, where previous phase of the project was implemented. Note that the two regions are neighbours; hence, the distribution of the villages overlaps across the two regions.

At the **second** stage, the Consultants sampled households randomly. In this regard, the Consultants identified random starting points in each village and applied the spinning-the-pen technique to determine random directions for each enumerator. At the **third** stage, women household heads, aged 18 to 50 years were sampled purposively, based on their availability and accessibility at the time of data collection. Other FGD and Key Informant KII participants such as WMCs members, water and public health officers, pump technicians, village elders, village savings and loans groups, as well as local and international NGOs were also sampled purposively. The Evaluators based their selection on

direct or indirect involvement in the management of water resources in the targeted villages; as well as incumbency, availability and accessibility at the time of the study.

#### 2.2.4 Sample size determination

The project proposal shows that the project targets about 32,400 beneficiaries in 30 villages, spread across Sool and Togdheer regions. The project document further estimates average household size in the targeted communities to be 7 people. Using the two indicators, the Evaluators determined the average number of households forming the 30 villages to be 4,628 households. This indicator was then designated as the population ( $N_i$ ). Having a finite population permitted the application of Fisher's formula for sample size determination from finite populations to obtain a sample ( $n_i$ ).

$$n_i = \left\{ \frac{\delta(1-\delta)}{\left[ \left( \frac{\alpha}{Z} \right)^2 + \delta(1-\delta)/N_i \right]} \right\} * \mu_i$$
 (1)

Where:  $n_i$  = effective sample size,  $N_i$  = population: 4,628 households,  $\delta$  = estimated population variance: 0.5,  $\alpha$  = desired precision: 0.05, Z = confidence level: 1.96 for 95% on the normal distribution curve and  $\mu_i$ = design effect: 0.75. This process obtained a sample size of 472 households. The estimated sample size was then distributed proportionately across the villages based on the population weight, using the formula indicated below: -

$$n_o = f * sN_o \tag{2}$$

Where  $n_o$ = stratum sample size; f = the sampling fraction  $(n_i/N_i)$  and  $sN_o$  = the stratum population. The quotient of the desired sample size  $(n_i)$  and the target population  $(N_i)$  yields a sampling fraction (f) of 0.209406. Using the sampling fraction, proportionate samples for each village were computed as indicated in the table below.

Village	Estimated number of households (sN <sub>o</sub> )	Stratum sample size (n <sub>o</sub> )
Harosheikh	264	55
Xaaxi	102	41
Caraale Bidaar	197	21
Qudhackudle	135	28
Haradagubataxil	160	44
Dhoqoshay	113	20
Bilicle	144	24
Qoryaale	268	56
Kiridh	221	46
Higlo	194	41
Tukub	101	29
Waridad	137	21
Gadhgureed	218	46
Total	2,254	472

Table 2: Sample Size within respective villages

# 2.3 Human resource

The consultants were involved in the process of determining the number of enumerators and data clerks to assist in data collection as well as digitalization. On average, an interviewing process, including introductions, creating rapport, consenting, asking questions and recording responses, was

estimated to take about 50 minutes. In a workday of 9 hours, an interviewer was expected to conduct 5 successful household interviews. This estimation creates an allowance of about 3 hours for travels during fieldwork daily. To conduct 472 successful interviews in 10 days, the consultants, together with project staff settled on 9 enumerators and 3 data entry clerks, who were expected to complete data entry in 7 days. In addition, three staff members, were designated as supervisors, and assisted the consultants.

#### 2.4 Data collection tools

Six sets of data collection tools were developed by the consultants and shared with CARE project staff for validation. The tools are presented in the table below and have been includes as Annex 4. These are:

Tool	Target respondents	Implementation method
T101: Survey	Women household heads	Household interviews
Questionnaire	Women nousenoid neads	Household lifterviews
T102: FGD Guide I	Women and men	FGD
	WUA members, VS&L members,	
T103: FGD Guide II	pump technicians and village	"
	elders	
T104: KII Guide I	Water and public health officers at	KII interviews
1104. Kii Guide i	the national and district levels	Kii iiitei views
T105: KII Guide II	Key staff of local and international	
1105: Kii Guide II	NGOs	"
Scheme Functionality	Committees running motorised	rcp.
tool	systems	FGD

**Table 3: Data Collection Instruments** 

# 2.5 Training and pretesting

The project staff selected 12 Research Assistants (RAs) through a competitive process, which focused on education level and experience in data collection activities. The RAs included 9 enumerators and 3 data entry clerks. In terms of gender representation, the enumerators included 3 men and 6 women, while the data clerks included 2 men and 1 woman.

Training was conducted for two days, using participatory methods. The objectives of the training were to remind RAs of basic data collection skills, share individual skills and experiences, understand requirements of the survey questionnaire, as well as improve its accuracy and applicability. Contents of the questionnaire were translated into the local Somali language through consensus.

The enumerators were trained on how to identify and approach respondents, conduct interviews, record responses, and to record information from documents, disengage from interviews, among other practical aspects of field research. Participatory methods included questions and answer sessions, reading out and role plays, which were done through dummy interviews in pairs. A special training session was organized for data clerks, where they were trained on how to develop a data management template using Ms-Excel and how to key in the data.

The questionnaire was pretested on the second day in Balihiile village in Togdheer region, which was not included in data collection. Each enumerator did two questionnaires. At the end of the exercise, the team converged at the training venue (Barwaaqo Hotel), where they shared experiences with the questionnaire and the community. Issues arising from the questionnaire were identified, discussed with the enumerators and necessary amendments inserted in the questionnaires before printing.

# 2.6 Data collection process

The consultants and project staff supervised the enumerators and data clerks, provided technical support and also advised on quality control issues. The team was split into two groups, A with five members and B with 4 members. Table 4 below shows the consultant's data collection itinerary.

Day	Date	Region	Villages	Target sample	Team	
1	16/1/14		Harosheikh	55	A+B	
2	17/1/14		Xaaxi	41	A+B	
3	18/1/14		Caraale Bidaar	21	В	
3	10/1/14	Toadhaar	Qudhackudle	28	Α	
4	19/1/14	Togdheer	Haradagubataxil	44	A+B	
5	20/1/14	20/1/14	20/1/14	Bilicle	20	В
3			Dhoqoshay	24	Α	
6	21/1/14		Qoryaale	56	A+B	
7	22/1/14		Kiridh	46	A+B	
8	23/1/14		Higlo	41	A+B	
9	0 24/4/4	24/1/14 Sool	Waridad	29	Α	
9	24/1/14		Tukub	21	В	
10	25/1/14		Gadhgureed	46	A+B	

Table 4: Program for HH Questionnaire administration

In each village, the data collection team were expected to meet with village elders. The purpose of such meetings was to explain the mission of the exercise and to seek permission for enumerators to visit households and source the required information. Besides, project staff played a critical role of mobilizing local administrators for permission to initiate data collections, as well as targeted community members for FGDs and KIIs. The table below shows the distribution of FGDs and KIIs.

Data sourcing	Respondent	National	Regional level		District level
method	type	level	Togdheer	Sool	District level
	Director of	1			
	water	1			
	Public health	1			
	officer	1			
	District water				3
Key Informant	officers				
Interviews (KIIs)	UNICEF	2			
	Caritas	1			
	Candle Light		1		
	Havayoco			1	
	Water		1		
	suppliers				
			1 group		
			(Harosheikh)		
Focus Group				1 group	
Discussions	Women			(Kiridh)	
(FGDs)			1 group		
			(Caraale		
			Bidaar)		

			1 group (Waridad)
		1 group (Dhoqoshay)	
	Men	1 group (Qudhackudle)	
	Well		1 group (Higlo)
	Water technicians	1 group (Bilicle)	
		1 group (Harosheikh)	
	WUAs		1 group (Kiridh)
		1 group (Caraale Bidaar)	
			1 group (Waridad)
		1 group (Dhoqoshay)	
		1 group (Qoryaale)	
	Village leaders		1 group (Tukub)
		1 group (Xaaxi)	
	VS&L	1 group (Harosheikh)	

Table 5: Allocation of Qualitative data data instruments within National, District and Community

At the end of each day, enumerators were instructed to take some time to peruse through the questionnaires for possible wrong entries and gaps to be filled through computation of information sourced, for instance standardisation of the reported income. The enumerators were then expected to hand over the questionnaires to the project staff and consultants, who also went through the questionnaires to check for quality issues.

Such issues were to be discussed with enumerators each morning before heading out to the community for data collection. The Evaluators did close supervision and revisions of performance on a daily basis so as to minimise possible errors. Furthermore, the project staffs assisted the consultants with interlocution during FGD sessions with community members, most of who don't speak the English language.

# 2.7 Data processing and analysis

Both quantitative and qualitative approaches have been applied to process to analyse the data. Quantitative analysis was facilitated by the Statistical Package for Social Sciences (SPSS) and Microsoft Excel. The data was used to generate descriptive statistics, cross tabulations for measures of central tendency and dispersion. In the qualitative dimension, data has been listed and organized under key thematic areas, including water, sanitation, hygiene and management of community water resources. This has been followed by systematic analysis and interpretation.

#### 2.8 Limitation

- 1. Even though both CARE staff and CIVITRA Co. went through the methodology and tools together, there was no M&E capacity during the validation of the tools
- 2. The Indicator "15% of people who observe the four key hygiene practices (washing hands after defecation, after cleaning a child's bottom, before eating and preparing food)" was hard to work out as it was not possible to get respondents exclusively following one hygiene practice. Also some HH don't have children. The Consultants, have however, re-phrased it to cater for only that they considered important and would produce discrete responses. ( Hand-washing after defecation and before eating. The indicator has thus been re-phrased.

## 2.9 Ethical considerations

While conducting the baseline survey, the research team was sensitized to observe three universal ethical principles, including *respect for participants*, *beneficence* and *justice*. The principle of respect for participants states that all human participants in a research process have the right to self-determination; hence, should be consented. In this regard, all participants were consented by fully explaining purpose of the study, potential benefits, and the fact that their participation is voluntary. Participants were also informed about their right to withdraw consent of participation at any time during the process without a penalty. Since, the survey had no clinical components, there were no risks involved.

The principle of beneficence requires a researcher to ensure the physical, mental and social well-being of all participants. In this regard, participants were assured that all information will be kept confidential and shall be used the purpose of the project only. The principle of justice demands that a researcher must ensure that benefits and risks are equally distributed among participants and that all participants are accorded equal opportunity for participation if they so consent. The consultants also took the participants through the "Do No harm Principles" as required by the ToR. The consultants made recruitments of supervisors, data clerks and enumerators from the Burco town and also took note of the clan affiliation while apportioning filed teams. The advantage of recruiting natives is that they know the culture dynamics and know how to ask sensitive questions.

# 2.9 Findings and Discussions

#### 2.9.2 Haraad Reeb II

The first impacts in target villages in terms of autonomy are encouraging: Children and women directly benefit from the improved service delivery, thanks to the works component of the project.

#### 2.9.2.1 Relevance

The innovations on Solar Panels as a source of energy for the Water pumps has been discussed in International forums and found to be more relevant at this point where we want to mitigate the negative impacts of climate change by moving away from fossil fuel. Also, the consultants found the design of the sanitation and hygiene package to be appropriate. The latrines and IEC on hygiene and sanitation would help change the behavior of communities. The project design was grounded on

SWALIM Assessment recommendations<sup>12</sup>. Designing of new project activities based on an assessment is one of the best ways to minimize project risks.

The construction of Sand storage dams in the Sool and Sanaag which are semi arid was very appropriate. Sand dams are less vulnerable to drought compared to *berkads* and shallow wells due to less evaporation. The water is also cleaner and of good taste as it is hidden under the sand and is not contaminated and mineralized like borehole or surface water. Also as most of the of beneficiaries get water from the shallow perched aquifer tapped by shallow wells, earth pans, and *berkads* which depend on the cleanliness of the environment, the construction of latrines for the villages was very appropriate.

Also the intervention in Sanaag was appropriate as the needs there are quite high due to remoteness and limited humanitarian access to security. Incidences on diarrhoeal episodes and subequent deaths for the under fives have also be recorded in the Somalia WASH Cluster Humanitarian snapshot bulletin<sup>13</sup> in the past. Therefore, WASH interventions in Sanaag are appropriate.

The consultants found the Project to be relevant to the Rural Women Program Strategy, CARE International Programming Principles (as well as the Unifying Framework for Poverty Eradication and Social Injustice<sup>14</sup>), the Somaliland Policy as well as the MDGs.

The achievement of the program impact goal is dependent on the development of capacity on the part of women and men and the institutions that have an impact on the lives of rural women in particular. From the learning generated in Haraad Reeb I & II, this phase (its major activities) will give solution to the under lying causes of unsustainable WASH programs in Somalia. These are interventions aimed at influencing public policy and market forces<sup>15</sup> on WASH as they answer the question "Why?" Table 6 below shows Haraad Reeb Project objectives relations with the Somaliland WASH Strategy 2004 and the Rural Women Program Strategy.

	CARE's Domains of	Rural Women Program Strategy		Haraad Reeb Project	Somaliland Water Strategy
	Change in UF				200416
1	Human	Breakthrough:	First Pathway:	Expected Result	Water supply
	Conditions	A third of	Improve and	3: Sanitation	management
		community assets	diversify	and hygiene	at the lowest
		consist of savings	livelihood	practises	appropriate
		in VSLA and other	opportunities	improved in the	level
		mechanisms.	Second Pathway:	rural	
				community	

<sup>&</sup>lt;sup>12</sup> The recommedations on the use of solar energy can be found in the publication: **Muthusi F.M., Mahamud G., Abdalle A., Gadain H.M. (2007),** Rural Water Supply Assessment. Technical Report No-08, FAO-SWALIM, Nairobi, Kenya

<sup>&</sup>lt;sup>13</sup>The December, 2013 issue reported that 5 children died of diarrhea in the month of September, 2013

<sup>&</sup>lt;sup>14</sup> M. Katherine McCaston with Michael Rewald and CARE's Integration Team, January 2005

<sup>&</sup>lt;sup>15</sup>In the document Asset Building for Social Change: Pathways to Large-Scale Impact, the Ford Foundation identifies developing public policies and influencing market forces as some of the strategies for achieving scalable programs based on a review of its own grant making activities.

<sup>&</sup>lt;sup>16</sup> Are in line with IWRM Philosophy

			Support families	indicators	
			to extend and	indicators	
			diversify their		
			asset base		
2	Social Positions	Breakthrough:	Pathway 1	Expected Result	The essential
_	Social i Ositions	Women are able	Empower	1: Enhanced	role of women
		to advocate on	women to	access to water	in water
		their rights and		by improving	management
		equitable resource	positively	tribute to water infrastructure	
		sharing			
			decision making	indicator	
			process		
			Pathway 2		
			Government and		
			traditional		
			institutions adopt		
			legal mechanisms		
			and normative		
			frameworks that		
			protect women's		
			rights		
			Pathway 3		
			Civil society		
			advocates on		
			issues of access		
			to justice, legal		
			reform and		
			representation at all levels		
			Pathway 4		
			-		
			Empower women's		
			traditional		
			socialisation		
			forums		
			(neighbourhoods,		
			xaawo/Fadumo,		
			preaching- social		
			support group)		

3	Enabling	Breakthrough:	Pathway:	<b>Expected Result</b>	The
	Environment	Private sector	Improve rural	2: Improved	Government's
		initiatives make up	women's access	operations and	role as an
		40% of the service	to sufficient,	maintenance of	enabler for
		provision in the	clean, affordable	rural water	development
		rural water sector	and sustainable	supply	
			water and	indicators	The important
			sanitation and		role of private
			improved family		sector
			hygiene practices		
					Water as social
					and an
					economic good

Table 6: Aligning Haraad Reeb Project Objectives along the UF, Rural Women Strategy, and Somaliland Government Water Strategy 2004

#### 2.9.2.2 Efficiency

The project activities for Haraad Reeb with other projects within the CARE Somalia/Somaliland WASH Program have been mutually reinforcing therefore leading to better project outcomes. The program design also allows for leverage of project resources leading to better value for money due to reduced program operational expenses and staff time. The Program Management structure for the Haraad Reeb Program is capable of delivering the project outputs within the given timeframe. The fact that Somaliland enjoys peace and is free from political unrests also the reduces the risks of unforeseen delays from *Force Marjuer*. The local clan conflicts in Sool and Tigdheer can easily be managed with CARE Somalia/Somaliland/Somaliland Secuity Management Plan. Recommendations for Private Sector, Women Groups, WMCs, MOWR have been explained in details in other sections of the report.

#### 2.9.2.3Effectiveness

 CARE had successfully piloted green energy solution following recurrent problems of Gen-sets breaking down and communities having to purchase fuel from their meager earnings. According to Higlo WMC chairman, they have been able to supply energy to 20 shops in the town and collect money to plough back into O&M kitty for WMC.

As Ibrahim Sugaal Adteye, the chairman Higlo WMC notes:

"The demand for electricity is so high that we are not able to meet the demand. Our capacity at the moment is only 20 shops and we have 80 shops who are all in need of our services. We, therefore, have to ration to avoid conflict. We don't care whether the shop keeper later on sells the power to households or whether he does mobile charging business using our power. Provided that he pays our monthly fee"

2. As noted in Haraa Reeb III Proposal, the solar panels were meant to pump water from the shallow wells. However, income generating activities sprang up e.g charging mobile phones at a fee and selling of lighting energy to the nearby communities. With this economic gain -direct (the income generated) and indirect (the improved lighting causing new businesses to mushroom), the beneficiaries are taking responsibility in ensuring that the water sources are

operational and that they are well maintained. 30% of the revenue generated is saved for O&M. Eng. Said Dualeh Mohammed of the MOWR also noted that Haraad Reeb piloted the renewable energy concept which the Government wants to replicate in other areas. From these lessons, the Government has included the renewable energy concept as part of their sustainable water resources management systems.

- 3. Trainings have developed some level of technical skills available for rural water supply. The commercial operation yields first signs of improved management in some localities in Caynabo District, and effective improvement of service delivery quality can be observed in the field. This should be replicated in Togdheer region.
- 4. The Consultants found the proposed monitoring procedures for Haraad Reeb III to be adequate in terms of purpose and depth. In particular the 6 monthly reviews with Government staff on the Water Act shall ensure that changes are made in time. The Consultants would like to over-emphasize the appropriateness and need for continued meetings by the CARE-MOWR "Steering Committee". This will ensure sustainability of the Project. Recommendations for accelerating sanitation coverage have made in other sections of the report and an appropriate tool provided in Annex 8. The Consultants have suggested ways in which CARE can build the capacity of the MOWR in section 5.3.1 and 5.3.2. As women bear the brunt of lack of access safe water and sanitation most, the strengthening of VSLAA programs and their inclusion in the WMCs will be key for the program.

There are no significant impacts on the environment as the project doesn't involve the procurement of chemicals, massive opening of earth (e.g. construction of new boreholes and ballace) e.t.c. The Consultants feel that since the project is championing the transition from fossil fuel to green energy then this will help mitigate the vagaries of climate change impacts.

# 2.9.2.4 Impact

VSLAA membership enabled increased HH productive asset accumulation and investment in income generation activities. According to an evaluation done by TSR I, 23%<sup>17</sup> of the VSLAA beneficiaries engage in income generating activities. These mainly include small scale trade like kiosks, teashops, livestock trade, selling of second hand clothes, milk business and selling of agricultural tools. This was also verified by the consultants during FGDs a quote from Fadumo Nour Mohamed has been put below.

#### Fadumo Nour Mohamed

"Our monthly contributions of US\$ 7.5 per person and forms the source money for our group savings. We have a roaster for members where each will access the money to start a business. We also lend a member in case of need. One can access upto US\$ 40 and she has to return the money after 45 days"

2. The VSLAA schemes have helped the very poor households meet their basic needs and cushion them against risks such as drought. It has also increased earnings and savings to allow them plan for the future. VSLAA members indicated that they spent considerable portion of their savings and loans on petty trade which suggests that people typically expanded petty trade activities to compensate for the loss of food and income associated with production shocks related to rain failure. This suggests that the VSLA groups may minimize the impact of economic shocks by providing members with the means to engage in other income generating

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<sup>&</sup>lt;sup>17</sup> TSR I Final Report 2011

activities. Increased earnings also mean clients may seek for, and pay for education and health care services when need arises rather than go without or wait until their health has seriously deteriorated.

3. The Impact hypothesis for Haraad Reeb that has been put as figure 1 provides a clear theory of change. The fact that the project has been constructed time-tested "sustainability compacts" shows that if the risks are properly mitigated then the program should be able to achieve her objectives. However, suggestions for adjustments of the LF have been provided in Annex 8.

#### 3.9.2.5 Sustainability

#### The Program Approach

1. The Consultants also found Haraad Reeb Project to be well aligned within the Rural Women Program Strategy. The Consultants found that Haraad Reeb project and objectives are synergistically reinforcing with other projects within the same geographic focus to make a lasting change on the impact group defined by the Rural Women program. Haraad Reeb program, viewed in the total context of the Rural Women Program delivers a sustainable WASH package to communities. This ensures synergy resulting in better outcomes and impacts. Leverage of resources also ensures value for money.

Synergy & Program Approach: In WASH, children are significant in 2 ways (i) As the main vulnerable group that is susceptible to WASH related disease (ii) As agents of change and diffusers of knowledge that has been acquired in formal school settings. Even though, this cohort has been left out in Haraad Reeb activities, this has in turn been covered by GEC Project as shown in the table 7. GEC program seeks to empower women to make a meaningful role in public life through access to formal education which will make them hold executive positions in community oversight bodies - WMCs included. Secondly, water being a scarce resource is prone to conflicts. FFP had peace building activities therefore offering an effective leverage to Haraad Reeb III. TSR did community WASH infrastructure in Sool, where Haraad Reeb II had activities therefore adding to the number of beneficiary reached. Water is essential for life and is very often the underlying cause of malnutrition . TSR I has supported households improve their purchasing power and build asset base. This will also make them to be able to afford the cost of water, which is in ER 2 of Haraad Reeb III proposal. CARE research shows a correlation between access to water and livelihoods and the strength of community structures. Villages that had year round access to water also had active VSLA institutions and drought mitigation mechanisms in contrast to villages without a reliable water supply 18 . The contribution of VSLA work to building resilience to the recurrent droughts is therefore appropriate. As the program starts, a lot of learning generated from TSR I, shall be used. These are highlighted elsewhere in the report.

2. Embrace and analyse the five<sup>19</sup>elements of sustainability and life-cycle costs in the project preparation and design phase: One of the challenges of the current practice, is the lack of a comprehensive analysis of the sustainability, including life-cycle costs and raising community awareness on why they have to pay for water fees. It is recommended that the project preparation phase includes mandatory analysis of the five elements of the sustainability for the entire life cycle of the proposed water system. While setting of tariffs was noted in virtually

<sup>&</sup>lt;sup>18</sup> Farhia Ismail, Rural Women Program Strategy: Working with rural communities to bring lasting, significant improvements in the quality of life of women and girls (Undated)

<sup>&</sup>lt;sup>19</sup> Institutional, financial, technical, community/social and environmental

all the schemes visited, in Kiridh, the community seemed not willing to pay. This is because they have alternative water sources which are unsafe. This includes: open shallow wells in the river beds and berkads.

3. Payment for water Services: The facts that other parts of the program area have started to pay for water and energy is encouraging. This therefore means that these WMCs should be the ones to be prioritized for the PPP pilots.

#### 3.9.2.6 Lessons learnt from Haraad Reeb II

- 1. Payment for water services seem to be doing well in the WMCs visited in Caynabo district. CARE should use the same training methodology for Haraad Reeb III
- 2. The Solar Energy solutions that the Consultants observed in Caynabo District could be replicated in Togdheer as well. Following this, the MOWR has also pledged to have this in their Strategy for Water Resource management
- 3. Anecdatal evidence show that as a result of of reduced distances and time spent at water collection points, households have more time to spend on other productive activities while children performance in school has reportedly improved as water availability in schools has created more time for children to focus on their school work and their health has improved resulting to reduced absenteeism from school.
- 4. The Coordinating Committee for Harrad Reeb Project that comprise Haraad Reeb and the MOWR staff at the national and Regional levels also need to be carried forward to Haraad Reeb III. The Government staff will?? provide the program with good technical services and also act as an institutional memory that shall go on past Haraad Reeb closure.

## 2.9.2.7 Best Practice

- Sustainable access to and usage of improved water source is correlated to household poverty as community revert to drawing water from unimproved water sources during rainy season to avoid paying water tariffs due to low household incomes and inevitably only use water sources during dry season
- Women participation (in design, planning, monitoring and evaluation) in project management positions, strengthens strong customer focus and makes project selfsustaining as women are the managers of their homes and their movement outisde their locations in search of employment opportunities is less than that of men and youth.
- Community participation (in design, planning, monitoring and evaluation) is key to
  prioritizing their needs. Various project committees and local administration officials
  such as community elders have been involved in monitoring their respective projects
  progress by participating in meetings, collecting data and giving monthly reports to
  project staff. This has improved ownership and management of project activities by
  beneficiaries and communities.

# 2.9.3 Haraad Reeb III

2.9.3.1 ER1: Enhanced access to water by improving water infrastructure

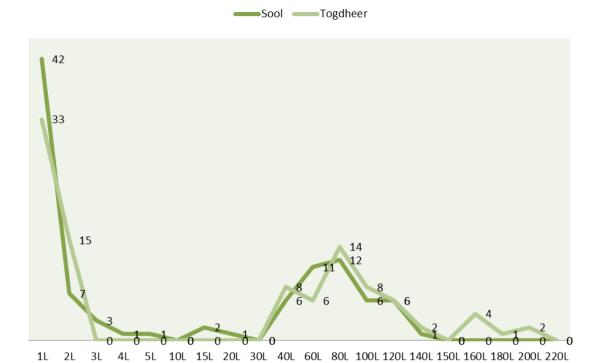
INDICATORS Togdheer Sool Total
--------------------------------

30% <sup>20</sup> of beneficiary households with average water use for drinking, cooking and personal hygiene is at least 15 litres per person	On average 14.98% of the beneficiaries meet the daily per capita consumption of 15 litres	On average 6.7% of the beneficiaries meet the daily per capita consumption of 15 litres	On average 11% of the beneficiaries meet the daily per capita consumption of 15 litres
32,400 people gaining access to an improved drinking water source, 30% will be women and girls	The proportion of people using improved water sources (boreholes and protected wells) during dry season is 58% whilst during wet season is 60%.	The proportion of people using improved water sources (boreholes and protected wells) during dry season is 27.9% whilst during wet season is 35%.	The proportion of people using improved water sources (boreholes and protected wells) during dry season is 49.2% whilst during wet season is 51.4%.
100HH women headed HH targeted for rain water harvesting mechanism <sup>21</sup>			No woman headed HH has received rain water harvesting tanks from CARE through Harad Reeb III Project

Table 7: Log frame showing baseline Vs targets for ER  ${\bf 1}$ 

 $<sup>^{20}</sup>$  Changed to 18% ( Refer to Annex 8 & 11)  $^{21}$  More tanks shall be distributed in Togdheer Region as this is a new Program area.

# Average amount of daily household water consumption by region



# Percentage

# Daily HH water consumption in litres

Figure 3: Daily water consumption of water in Sool and Togdhere regions

The average amount of water consumed per capita in the program areas ranges from 5L to 7 L which is far below the SPHERE recommended standards. According to the Standards, where possible,  $\underline{15}$  litres per person per day (I/p/d) can be exceeded to conform to local minimum standards.

The main types of water sources in the area include protected wells, *berkads* and boreholes. A good proportion of the population rely on *berkads* especially in Sool region which are readily contaminated by surface run off and there supply is transient relying on the availability of rainfall.

The proportion of people using improved water sources (boreholes and protected wells) during dry season is 58% whilst during wet season is 60% in Togdheer. While in Sool, the proportion of people using improved water sources (boreholes and protected wells) during dry season is 27.9% whilst during wet season is 35%. The difference between the two regions can be attributed to the presence of far much more boreholes in Togdheer as compared to Sool. The implication for the program is that more resources for hygiene promotion and CLTS villages need to be apportioned to Caynabo. However, peripheral areas of Burco town also need to be included in the hygiene promotion programs.

#### Cleanliness of water collection containers

Most (67.7%) of the respondents reported that they usually wash their water collection containers with 47.7% reporting that they washed the container the last time they collected water. The materials commonly used for washing the containers are water only which represents 26%, followed by water and soap with 24% and those who use water and ash are 7.8%. FGD discussions with women in Haro Sheikh in Togdheer and Kiridh also indicated that they are conscious of hygiene and are as they were aware of good hygiene practices.

### Transportation of water from the source

There are various means of transportation of water from the source to the homes the most common one being manually on the back followed by rolling on the ground then the use of donkey and lastly use of camels. It will be noted that rolling on the ground is not a good practice as it brings about contamination of water. If communities treat water at point of use then this problem can be reduced. For borehole water and rainwater harvested from Tank, this mean of transport makes the community to spend more money on water treatment as the water would have otherwise been consumed without any extra treatment as these are known to be safe. This indicates that there is dire need for hygiene education on safe transportation modes. For the Consultants observations, the donkey cart mode is mainly used by vendors – who could also be reached with hygiene and water safety information if the project is to achieve more impact in the lives of the beneficiaries. From table 10 below, these constitute 8.3%.

Method of transportation	Percentage
Own back	26.1%
Roll on the ground	22.1%
Donkey cart	8.3%
Others	12.6%
Total	100

Table 8: Method of water transportation from source to the home

## Type of container for water collection

The most common types of containers used for water collection are the 20 litre jerricans followed distantly by the 3 litre jerricans. The 20 litre units have therefore been used elsewhere in the report

to calculate the per capita consu vessels to procure if they have to	mption. Again, this help beneficiaries	s information helps the in case of emergency	e program on which storage – particularly drought <sup>22</sup> .

 $<sup>^{22}</sup>$  SPHERE standards 2011 recommends at least 2 jerricans per family. One for transporting water and one for storage.

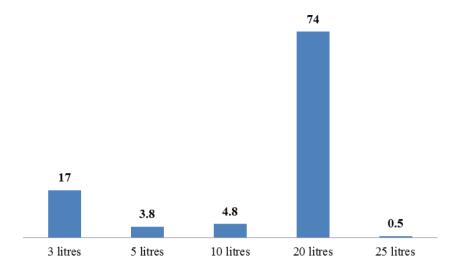


Figure 5: The sizes containers used in the program area for water collection

of

#### Knowledge of water treatment methods

The survey sought to establish the prevailing knowledge among the target population on the water treatment methods. Findings revealed that boiling and chlorination are the most commonly known methods. Boiling was the most preferred method with 50.7%. The community needs to be educated on the post –treatment water handling practices as boiling provides no residual protection like chlorine. However, it was also good to note that communities have the knowledge of chlorine use. The program needs to investigate further to find out: (1) The brand names and type of chlorine used (2) Availability in the shops (3) Whether the communities invest their money to buy the water treatment chemicals or whether they are supplied by other relief agencies for free or at a subsidized cost. Most of the FGD sessions, however indicated over-reliance on relief agencies – with Haro Sheikh and Haradagubataxil village indicating that they rely on INGOs and passer-by for support on health related problems - both medical and preventive health.

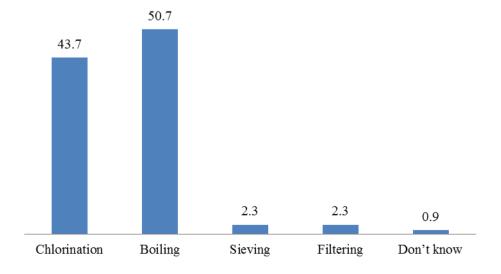


Figure 6: Knowledge of water treatment methods

## **Practice of water treatment**

The respondents were asked whether they did anything to improve the safety of their drinking water and more than half (56.7%) reported that they did not do anything. This therefore means that the program has to come up with better strategies to educate communities on water treatment. In several field trials, PuR removed organic solids from water, left chlorine residual, and reduced the risk of diarrhea by  $16-90\%^{23}$ .

Do you treat your water?	Percentage
Yes	43.3%
No	56.7%
Total	100

Table 9: Practice of water treatment

The common point-of-use methods of water treatment employed by the target households are chlorination and boiling.

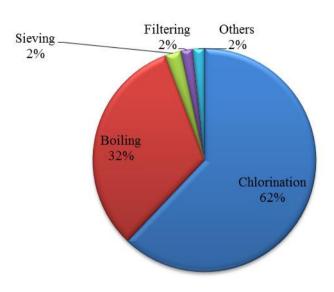


Figure 7: Actual different water treatment practices

practice of the

## Importance of water treatment

The main reason given for water treatment was to prevent diseases followed distantly by improving the taste. This shows that the communities are able to relate water treatment and the diseases and also shows that they know the action of water treatment chemicals. This therefore means that any health education initiative undertaken by the program should first start by assessing their level of knowledge before mapping out a strategy. This survey is a good beginning in identifying the most

<sup>&</sup>lt;sup>23</sup> Chiller TM , Mendoza CE , Lopez MB , Alvarez M , Hoekstra RM , Keswick BH , Luby SP , 2006 . Reducing diarrhoea in Guatemalan children: randomized controlled trial of flocculant-disinfectant for drinking-water . *Bull World Health Organ* 84: 28 – 35.

appropriate approach for awareness raising and sustainable behavior change. PHAST Toolkit has a set of tools that can help in this. It will take the program more time and resources to change the knowledge and attitudes of the 20.3% who said that water treatment helps to improve taste and the 4% who said that they don't know as compared to the 75.6% who said that they know that water treatment helps prevent diseases.

Importance of water treatment	Percentage
Prevent Disease	75.6%
Improve taste	20.3%
Others	2.0%
Don't know	2.0%
Total	100

Table 9: Importance of treatment water

## Water storage container

More than half (55.9%) of the households reported that they have a water storage container. However, this is still given the fact Togdheer and Sool regions are both arid with occasional severe bouts of drought. To improve resilience of the beneficiaries there is need to ensure that each single household has some form of storage container in the household and a nearby roof catchment wherever it is feasible.

Characteristics of water containers	Percentage
Presence of water storage container	
Yes	55.9%
No	43.6%
Type of containers	
Jerrican	76.5%
Plastic tanks	21.8%
Aluminum tank	0.4%
Concrete tank	0.4%
Others	0.8%
Containers covered	
Yes	90.8%
No	8.3%

Table 10: Water storage containers

Jerricans are the most commonly used containers for storing drinking water. A significant number of the water storage containers were covered during the household visits. Jerricans present the safest mode of both water storage and transport owing to their narrow neck and a cover. Communities could be encouraged to use jerricans more.

## **Village Groups**

Discussions and recommendations have been done in Section IV of the report

**Presence of Social Welfare Groups in the Village** 

Existence of welfare group	Percentage
Yes	58.0%
No	22.2%

Total	100	
No response	11.1%	
Don't know	8.6%	

Table 11: Presence of village groups

# Presence of a Women Group in the community

Existence of a women group	Percentage
Yes	25.7%
No	70.6%
Don't know	3.6%
Total	100

Table 12: Presence of women groups

# Knowledge of membership in a committee

	•
Knowledge of membership	Percentage
Yes	18.8%
No	68.8%
Don't know	8.6%
No response	12.5%
Total	100

Table 13: Membership in the committee

# 2.9.3.2 ER 2: Improved operations and maintenance of rural water supply

INDICATORS	Togdheer	Sool	Total
The water act	According to the FGDs	According to the FGDs	According to the FGDs
disseminated and	conducted, whereas the	conducted, whereas the	conducted, whereas the
adapted by key	DWOs know the contents of	DWOs know the contents of	DWOs know the contents of
stakeholders in rural	the Water Act, there is no	the Water Act, there is no	the Water Act, there is no
water supply	trickle-down effect to the	trickle-down effect to the	trickle-down effect to the
	community.	community.	community.
12 water systems	Except for Plaza Water	There is no Rural PPP in place	Except for Plaza Water
managed through	Company and Al Nafoore		Company and Al Nafoore
public-private	Water Conmpay ( both are		Water Conmpay ( both are
partnerships in a cost	Urban PPPs), there is no		Urban PPPs), there is no
recovery mechanism	Rural PPP in place		Rural PPP in place
Community	21.3% of the sampled HH	58.6% of the sampled HH	30.4% of the sampled HH
technicians are able	reported having water	reported having water	reported having water
to service and	system breakdown lasting	system breakdown lasting for	system breakdown lasting for
maintain water	for weeks and beyond.	weeks and beyond. 16% of	weeks and beyond. 20.3% of
systems <sup>24</sup> .	22.7% of the sampled HH	the sampled HH said that	the sampled HH said that
	said that they have a	they have a technician who	they have a technician who
	technician who repairs the	repairs the system living	repairs the system living
	system living within the	within the region	within the region
	region		

Table 14: Log frame showing baseline Vs targets for ER 2  $\,$ 

<sup>&</sup>lt;sup>24</sup> Please check the Scheme Functionality tool for more information

The respondents were asked whether they were aware about the money collected at the water point was put into use and the findings are as shown on the pie chart below. As per observations and FGDs, the rural parts of Sool and Togdheer could have greater percentages than than the mean average of 63% (people who aren't aware of whether money is collected). This is because most are pastoralists and spend most of their time harding than the urban and per-urban areas who are more sedentary.



Figure 8: Awareness on the use of money collected at the water point

In order to improve on transparency of the use of funds collected, there is need periodic feedback to the target communities supported with the use of primary transaction documents such as receipts, payment vouchers, petty cash vouchers among others.

Last visit by gov't officer	Percentage
<1 month ago	31.1%
1 to 3 months ago	56.3%
4 to 6 months ago	9.3%
7 to 12 months ago	0.5%
>1 year ago	1.6%
Did not answer	1.1%
Total	100

Table 15: The frequency of government officer supervisory visits to the the community

Breakdown lasting more than 1 week	Percentage
No breakdown	30.4%
Yes there was	67.4%
No response	2.3%
Total	100

Table 16: Machine breakdown lasting more than 1 week

	Percentage
In the village	20.3%
Outside the village	59.4%
Non response	20.2%
Total	100

Table 17: Presence of the technician who does repair lives

As mentioned in Section 1.1.3.1 of this report, the Government structure in Somaliland appears weak. This can be noted by the fact that only a paltry 1.6% said that the DWO came to the village and assisted them on water-related issues while 56.3% talked of two moths. This can be seen in light of the fact that there were many Water facility breakdowns (67.7%) that were never repaired on time because the DWO wasn't present to assist the communities in finding solution to this. This was also attested to in FGDs with men in Higlo in Caynabo and Odweiyne in Burco. The situation is made worse by the fact that the most technician don't live in the village (59.4%).

# 2.9.3.2.1 Analysis of Community Level Governance IWRM Snapshot

The consultants used the tool to assess and identify areas that require attention, as well as areas that need attention from those charged with providing external support, including the government and the private sector. CARE-into-Governance tool explores the four elements of good governance - participation, inclusion, accountability and transparency — which are critical for long-term sustainability of the water sources. This has been shown as in table 18 below. In tandem with this, the consultants also assessed the technicians' capacity gaps and spare parts availability at the local market. These have been shown as table 19.

See Annex 2 for the Questionnaire and the explanations on the ratings

District Name:Togdheer, Odweiyne and Caynabo Districts Combined

Program: BMZ Program

Number of Schemes Assessed: 5

	Nullibe	i oi scheil	iles Assesseu. 3	<u>,                                      </u>																																
				ARI	SCORE 0 TO 3 IN EACH OF THE QUESTIONS BELOW. THERE ARE 5 (FIVE) QUESTIONS IN EACH OF THE CATEGORY. THERE ARE: TRANSPARENCY (T), ACCOUNTABILITY (A), PARTICIPATION (P), AND INCLUSION (I), WITH TOTALS FOR EACH CATEGORY AS WELL AS OVERALL TOTALS																															
				TRi	TRANSPARENCY (T)				TRANSPARENCY (T)				TRANSPARENCY (T)					ACC	COUN	ITABI	LITY (	A)		PAF	- TICII	PATIC	ON (P	')		INC	LUSIC	_ )N (I)	 	_		
	WATER MANAGEMENT COMMITTEE	DATE OF SURVEY	FUNCTIONALITY	Q4	Q6	Q7	Q13	Q14	Total	Q5	Q8	Q9	Q12	Q20	Total	Q1	Q2	Q3	Q10	Q19	Total	Q11	Q15	Q16	Q17	Q18	Total									
1.	. Haradagubataxil in Todgheer	20.01.2014	Functional	2	3	2	0	2	9	3	2	2	2	0	9	3	3	2	0	0	8	2	2	2	2	2	10	36								
2.	Odweiyne in Togdheer	21.01.2014	Functional	3	3	3	2	2	13	3	2	2	2	3	12	3	3	3	1	0	12	2	2	3	3	3	13	48								
3.	. Qoryaale in Caynabo	22.01.2014	Functional	2	3	2	0	0	7	2	0	2	3	0	7	3	2	2	2	0	9	3	2	2	2	0	9	32								
4.	. Gadhgureed in Caynabo	25.01.2014	Functional	2	3	2	0	2	9	2	0	2	0	0	4	3	2	0	0	0	5	0	2	3	3	0	8	26								
5.	. Higlo in Caynabo	24.01.2014	Functional	3	2	3	3	3	14	3	2	3	3	3	14	3	3	3	3	3	15	2	2	3	3	3	13	56								
Pe	ercentage for Each of the	Question accrr	oss the 5 Schemes	80%	93%	80%	33%	60%		87%	40%	73%	67%	40%		100%	87%	67%	40%	20%		60%	67%	87%	87%	53%										
							TC	DTAL	52						46			<u> </u>			49						53	20								
	AVERAGE						10.4						9.2						9.8						10.6	40										
	OUT OF								15		'	'		'	15	'	'		'	'	15		'	1	'	1	15	60								

# **Further Synthesis**

Accountability	61.3%	<b>P</b> articipation	65.3%	Transparency	65.3%	Inclusion	70.7%	Overall Performa Versus the target		66.7% 75%	
Gadhgureed in	43%	Qoryaale in	53%	Haradagubataxil in	60%	Odweiyne in	80%	Higlo in Caynabo	93%		

 Table 18: Scheme Functionality Tool for assessing Governance

2.9.3.2.2 Maintenance of Pumps and Power Generators

Name of the techn	Village and nician	Responsibilities	Level of Education	Additional Course after formal Education	Challenges	Skills Gap and where aid provider should focus on	Engine Type	Availability of Spare parts
A H V	ashir Ahmed Adood from Haradagubataxil Village in Togdheer	Start the Engine, Open the Main Valves to the community, changing oil filters, monitoring fuel usage and purchasing, responding to pipeline extension requests and repairs from the community	Primary 8	Mechanic Apprentice	Lack of plumbing tools For Plumbing materials he has to go to Hargeisa. Limited knowledge of electrical works	More Training on Electricity	Yamaha™ from Japan	Readily available in Burco. (Two and a half hours drive) There hasn't been any need to travel to Hargeisa for Spareparts. However, spares are not available in Duruqsi, the town Headquaters
N Ib O w	Mohamed Mohamoud Orahim from Odweiyne Town Water supply, Odweiyne District	Machine related work such as fueling, start-ups and shut-downs, oil change and diesel purchase, Piping for communities	Primary 3	None	Plumbing tools e.g. tools for twisting pipes, making threads for joinery, spanners, hack saws for cutting pipes	More Training on Electricity	Lister™ Engine from UK	Few in Burco. A lot of time they had to travel to Hargeisa and sometimes they have had to travel to Mogadishu
N Q	Mohammed Mooge from Quryale Village n Sool	General Maintenance, start- up & shut downs, oil	Secondary 4	Took a course in Burco on Mechanics	Fuel availability as community contributions	Electrical Courses	Top brand™ from India and Pump	Never got serious challengeto solve as there has not been any

	change and general services		CARITAS provided maintenance courses. They also provided protective clothing like gloves, hut e.t.c	are not forthcoming		is from china	brakedown since this was installed. Got a package of spareparts from the company
4. Adan Hussein Jama from Higlo Village in Sool	Clean and dust the Solar panels, check the panels and electrical circuits every morning, perform trouble shooting in case of any breakdown, follow up customers (shop keepers) at night whether they have lighting or not	Primary 4	Worked as an Apprentice Mechanic in Barbera	They haven't encountered any serious challenge yet at the moment	Electricals – Alternating Current	Pump in Perkings™ from the UK, Solar Panels type	They haven't encountered in serious challenge yet but spare parts are freely available in Burco and Hargeisa. They are doing phone diagnosis and advisory services from specialists in Burco and Hargeisa in case of malfunction

Table 19: Maintenance of the Gensets, pumps and Solar panels

Please, note that building materials should be included with spare parts and therefore their availability is critical as well.

### 2.9.3.2.3 Discussions on Scheme Functionality

## **Water Management Committees Capacity**

The consultant conducted Community Level Governance Snapshot Assessment and Scheme Functionality (see Table 6 above) that assessed 4 parameters that would ensure a water scheme is self-sustaining. These include: (1) Participation (2) Transparency (3) Inclusiveness, and (4) Accountability. The questionnaire has been appended to enable CARE know exactly what questions they should address in their capacity building initiatives. Overall, the project has made tremendous progress in building the capacity of the Water Committees is Caynabo. Of the schemes assessed 2 out of 5 have check score of more than 75% target in the LF. These are Higlo in Sool where Haraad Reeb II had project had 93.3% and Odweiyne in Togdheer, where the new project is starting up had 80%. UNICEF and CARITAS have been building the capacity of the latter. As shown in Table 6 above, the overall check score for sampled schemes is 66.7% .Out of a score of 60, only Gadhgureed WMC in Sool did not reach 30 marks (50%). More capacity building should be done to these schemes. As a matter of urgency, there is need to address accountability and participation issues in all the schemes.

In order of priority, Harad Reeb Project has to address the following issues in order of priority:

- 1. Accountability Issues
- 2. Participation Issues
- 3. Transparency Issues
- 4. Inclusiveness Issues



The rural WUAs that have a check score of over 75% (as in the target in the LF) could be potential candidates for piloting rural PPP. From the CARE-into-Governance Scheme functionality snapshot, the consultants also provided advice on what needs to be done in regard to questions scoring less than 50%.

Question	Score	Remarks
Q8	40%	Across the 5 water schemes sampled, the situation regarding committee meetings
		appears uncertain. The meetings aren't regularised.

Q10	40%	the mandate to replace iner this has to be done in consu	ffective committee members altation with the elders who nations of the Somalia tradit 1.3.2  Management indicators  Fair elections procedures defined in	s. In the Somalia contexts, are revered within the
			the constitution. The Imams, sheiks and elders will have to buy in the idea.	elections
		Communication	Minutes of the meetings shared	Insist that decisions taken by the community are minuted and disseminated to users by posting on a public place. Annual general meetings where community can question WMCs
Q13	33%	contributions) and expendit	knowledge about the regula cures (e.g. spare parts) relate nen Program on how to tack	ed to the scheme. The table
		Issue	Management indicators	Community Action/Checks
		Accountability	Proper book keeping, issue receipts against payment for water, invoices for all payments, stock book	Developing systems of auditing
		Appropriation of funds		Review income against expenditure
		Transparency	Water meters as a mechanism to check against lost water/revenue against the collected money	Insist on the installation of meters
		Water Charging	Up to date records	Ensure that WMC maintain paperwork and make it available for inspection

Q19	20%	The WMCs have no training and capacity in place regarding basic maintenance of the scheme. This have been discussed further is section 5.3.1 This make strong business case for private sector participation on water services provision.
Q20	40%	The WMCs don't know the person to contact in case of trouble related to technical breakdowns (e.g. relevant district departments or other). This has an association with FGD response with elders and WMCs in all the schemes sampled who cited lack of technical support by the Government on water services provision. It is also associated with the low trickle-down effect of the water act. Therefore, as planned in the CARE's HaraadReeb proposal, more awareness and advocacy on the Water Act 2012 need to be done to both the Government staff at the District level, the Mayors and the community. Again this provides an even stronger basis for PPP approach. Proposed Advocacy messages for CARE have been puts as Annex 6.

Table 20: Performance for the 5 WMCs by questions scoring less than 50%

#### 1.9.3.2.4 Spare parts supply chain

The consultants had KII with four water point technicians to find out their capacity in terms of level of education, technical skills, tools of trade, availability of spare parts, and common challenges. A training needs assessment was also done. See Table 7 above. The WMCs lacked basic skills on O&M of boreholes such as wiring mechanics plumbing. Three out of the four mechanics had primary level of education while the fourth person had completed fourth form and taken a course in Burco. Of the 3, 2 had not completed primary education. 3 of the technicians interviewed had worked as mechanics before.

In the 4 mechanics interviewed only the one from Higlo village in Sool District was handling Solar

electrical appliances. The rest were handling fossil fuel gen sets. All the four expressed the desire to be trained on electrical works and also said that the main challenge they had is tools of trade to enable them perform their work competently. The tools they needed include: Plumbing tools e.g. tools for twisting pipes, making threads for joinery, spanners, hack saws for cutting pipes

Except for Higlo village in Sool where they have an effective cost recovery mechanism, the mode of compensation for these technicians wasn't clear and structured which even makes PPP a worthwhile venture to solve this problem. In Qoryale, the technician also said the revenue collected was in most cases not enough to purchase fuel.



Picture of a shop stocked with spareparts in Kenya

Except for Lister™ Engine (UK), that the consultants found to have shortage of spare-parts in the local market, the rest of the models had their parts readily available in Burco and Hargeisa. Even Solar energy electrical appliances are readily available in both Burco and Hargeisa town.

## 2.9.3.2.5 The Hargeisa Technical Institute

The Water Plans 2011 – 2015 has the following as strategic objective number four – "To advance the water sector by creating both educational programs and research and development facilities "and goes further to mention plans for constructing and equipping one in Hargeisa and one in Burco

The Institute was established by IOM. The first class started on the 1st August, 2013 and is supposed to complete training on the 30th, May, 2014 (10 Months). The level of education for the students is mixed – some didn't complete primary training some also didn't complete secondary. In total, the first class has 18 students. Except for Sool Region, all other regions are well represented – the maximum a region has is 3 students in this first class. From a survey in the class on the common type of machine used in the region, 80% of the students said that they use Perking™ from the UK. The institute has very strong support from the MOWR. The students are allowed to access Hargeisa Water Company facilities for their practical.

## Mr. Musdafe, the Head of the Institute

"We lay strong emphasis on practical work to enable the students meet the day to day challenges of the water facilities maintenance at the regional level. We want our students to be technically competent to support their communities when they finally graduate. Amongst the course topics are: Meter reading, how to calculate earnings, Community Development, and water resources management. They are taken through Plumbing Works, Electrical Works and Mechanical Works.

There are plans to upgrade this facility and offer more courses".

When they finish their course, IOM gives the students a toolkit which they go with to their communities to begin work.

Recommendations on Functionality have been discussed together with PPP in Section 5.3.1

2.9.3.3 ER 3: Sanitation and hygiene practises improved in the rural community

INDICATORS	Togdheer	Sool	Total
	= 10.0		
5 villages certified as	74% of the sampled HH	69% of the sampled HH	72.9% of the sampled HH
"open defecation	reported that they have a	reported that they have a	reported that they have a
free" communities	latrine. Out of this proportion,	latrine. Out of this	latrine. Out of this
	73% use the latrine during the	proportion, 72% use the	proportion, 74.3% use the
	day and 85% during the night	latrine during the day and	latrine during the day and
		62.5% during the night	78.4% during the night.
15% of people who	70.1% wash their hands after	84.3% wash their hands after	75.1% wash their hands after
observe the four key	defecation and 15.9% wash	defecation and 2.2% wash	defecation and 10.6% wash
hygiene practices	their hands before eating	their hands before eating	their hands before eating.
(washing hands after			

defecation and		
before eating)		

Table21: Log frame showing baseline Vs targets for ER 3

## Sanitation

The proportion of the population taken through the health education session on the importance of latrine use was such that 57.6% have been educated while 42.4% have not been educated. Most (90.7%) of the respondents perceived the ownership of a household latrine as an important development mainly because when properly used, it prevents diseases and also reduces foul smell.

# People having latrine at home

	Frequency	Percentage
Yes	302	90.7%
No	29	8.7%
	2	0.6%
Total	333	100

Table 22: Having a latrine at Home

# Importance of having a latrine at home

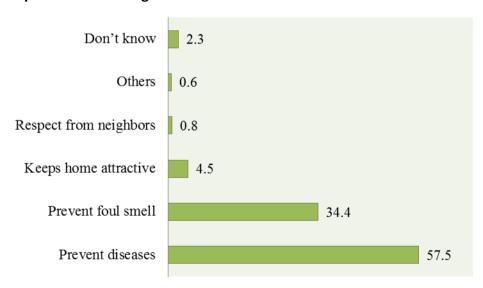
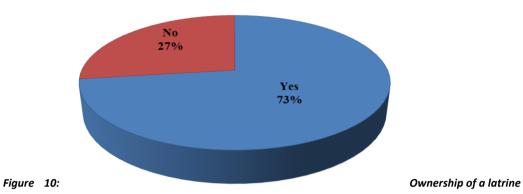


Figure 9: Importance of having a latrine

Reasons for owning a latrine	Frequency	Percentage
Prevent diseases	204	57.5%
Prevents foul smell	122	34.4%
Keeps home attractive	16	4.5%

Respect from neighbours	3	0.8%
Others	2	0.6%
Don't know	8	2.3%
Total	355	100

Table 23: Perception about owning a latrine at home



Whereas the latrine coverage<sup>25</sup> is high (72.9%), some of those who have them use them periodically and not always. The reasons given for this practice are that during the day some of the latrines do not offer adequate privacy since the superstructure is poorly done and at night the latrines are too far

from the home and it is believed that evil spirits stay in the latrines hence they end up going to the bush.

# **Latrine use practices**

Use of household latrines	Percentage
During the day:	
1. Yes	74.3%
2. No	25.7%
Total	100
Reasons for not using during the day:	
1. Walls are transparent	86.3%
2. Walls are in poor state	12%
3.Poor floor condition	1.6%
Total	100.0%
During the night:	
1.Yes	78.4%
2. No	21.6%
Total	100.0%
Reasons for not using during the night:	
1. Too far	73.6%
2. Too dark	19.8%

 $<sup>^{25}</sup>$  Latrine coverage: number of household with latrines

-

3. Fear evil spirits	3.3%
4. Others	3.3%
Total	100%

Table 24: Latrine usage patterns

Among those who don't own a latrine, 39.2% practice open defecation, 33.8% use their neighbor's latrine while 18.5% dig and bury their faeces. Children's faeces are mainly disposed of in a pit latrine. However, a good number dispose them in the open behind their houses.

## Disposal of fecal matter

Disposal of fecal matter	Percentage
Pit Latrines	41.3%
Compost pit	9.9%
Behind the house	28.8%
Along the fences	5.3%
In the river	3.3%
Dig and bury	3.6%
Others	7.3%
Don't know	0.3%
Total	100

Table 25: Disposal of fecal matter

Most (75.1%) of the respondents considered poor disposal of children's faeces to pose a problem in terms of breeding of flies.

What communities think about indiscriminate disposal of faecal matter

	Frequency	Percentage
Breeding of flies	296	75.1%
May contaminate utensils	56	14.2%
May contaminate food	30	7.6%
May contaminate water sources	3	0.8%
Other children may touch	6	1.5%
Don't know	3	0.8%
Total	394	100

Table 26: Public health knowledge about fecal matter disposal

# **Hand washing Practices**

	Frequency	Percentage
Yes	262	75.9
No	83	24.1
Total	345	100

**Table 27: Handwashing practices** 

A majority of the respondents (75.9%) reported that they usually wash their hands. To confirm this, the respondents mad a prior request for water to wash their hands and this was provided in 56.4% of the sampled households.

# Material used for handwashing

	Frequency	Percentage
Plain water	271	72.7%
Water and Bar soap	46	12.3%
Water and powder soap	26	7.0.%
Water and ash	4	1.1%
Water and sand	25	6.7%
Total	373	100

Table 28: Materials used for hand-washing

Percentage of people who washed their hands the last time they visited toilet for a long call and before eating

	After visiting latrine for a long call		Before Eating	
	Frequency	Percentage	Frequency	Percentage
Yes	285	61.7%	233	50.4%
No	43	9.3%	17	3.7%
Did not answer	125	29.0%	212	45.9%
Total	462	100	462	100

Table 29: Hand washing practices before and after eating

	Frequency	Percentage
Yes	186	40.3%
No	37	8.0%
Did not answer	239	51.7%
Total	462	100

Table 30: Soap use the last time they a respondent washed hands

Aware about hand washing	Frequency	Percentage
Yes	186	40.3%
No	185	40.0%
Don't know	13	2.8%
Did not answer	78	16.7%
Total	462	100

Table 31: Community knowledge of the importance of hand washing

Reason for washing hands	Percentage
Prevent diseases	39.9%

Prevent bad smell	34.0%
Because others do	14.8%
Others	7.4%
Don't know	3.9%
Total	100

Table 32: Reason for washing hands with soap

#### **SECTION 3: COMMUNITY LED TOTAL SANITATION**

Safe disposal and handling of human faeces is the primary barrier for preventing excreted pathogens from entering into the environment. Once in the environment, potential transmission routes include hands, through person-to-person contact, insects such as flies, water, crops such as vegetables, fruits and soil. Human faeces have been implicated in the transmission and occurrence of various infectious diseases including cholera, typhoid, giardiasis, amoebiasis, ascariasis and schistosomiasis, among others<sup>26</sup>.

In view of this, safe excreta disposal becomes a priority for interventions aimed at supporting recovery from emergency situations and developing community resilience against similar situations in the future. Providing knowledge, skills and infrastructural facilities are key interventions necessary for enhancing the dignity and health of communities during and after emergency periods.

Furthermore, changing hygiene behaviour is crucial for healthier lives and for gaining the full benefit of water and sanitation improvements. Safer hygienic practices have the potential of reducing the prevalence of diarrhoeal infections. For instance, various empirical studies have found that washing hands with soap consistently after using toilets and before eating has the potential of reducing diarrhoea, the second leading cause of under-five mortality in the world, by up to 45%<sup>27</sup>.

In Somaliland, a situational assessment of randomly selected villages in Togdheer and Sanaag regions reported that latrine access stood at 6% only. Of the households reporting access to latrines, 25% indicated ownership of the facilities, while 75% accessed latrines owned by other community members. As a result, most of the diseases being addressed in the health facilities and human settlements are related to poor sanitation and hygiene practices. Lack of sanitation and poor hygiene are significant contributors to the high rates of disease in Somalia<sup>28</sup>. The low coverage of latrine access was attributed to the notion that latrine use is a relatively new cultural practice that is gradually being embraced by pastoral and agro-pastoral communities<sup>29</sup>.

Even though sanitation and hygiene subsector of WASH has attracted the attention and involvement of development agencies, the low access and ownership of latrines remains a key challenge to socioeconomic development in Somaliland<sup>30</sup>. In view of this, development agencies continue to adopt the Community-Led Total Sanitation (CLTS), as a key strategy for empowering communities to take up responsibility for their sanitation and hygiene practices and behaviours<sup>31</sup>.

CLTS is based on the principle of triggering collective behavior change<sup>32</sup>. In this approach, communities are facilitated to take collective action to adopt safe and hygienic sanitation behavior and ensure that all households have access to safe sanitation facilities. The strategy enables communities to understand and realize the negative effects of poor sanitation and empowers them to collectively find solutions to their sanitation situation<sup>33</sup>. In the process, the community is sensitized about the consequences of poor sanitary practices, commits itself to finding own solutions, and finally is

<sup>&</sup>lt;sup>26</sup>Carr, R. (2001). "Excreta-related infections and the role of sanitation in the control of transmission", in L. Fewtrell and J. Bartram, Eds, Water Quality: Guidelines, Standards and Health. IWA Publishing, London, UK.

<sup>&</sup>lt;sup>27</sup> Curtis, V., Kanki, B. & Cousens, S. et al. "Evidence of Behaviour Change Following A Hygiene Promotion Programme in Burkina Faso". Bulletin of the World Health Organization 2001; 79(6).

<sup>&</sup>lt;sup>28</sup>WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP). Progress on Sanitation and Drinking Water, 2010 Update.

<sup>&</sup>lt;sup>29</sup> CARE Somalia/Somaliland/Somaliland (2013). Unpublished project proposal: Haraad Rheeb Project

<sup>&</sup>lt;sup>30</sup> Ibid

<sup>31</sup> Ibid

<sup>&</sup>lt;sup>32</sup> Sanan, D. and Moulik, S.G. (2007). Community-Led Total Sanitation in Rural Areas: An Approach that Works. New Delhi: Water and Sanitation Program, the World Bank.

<sup>33</sup>Ihid

liberated from open defecation. The strategy helps in creating a receptive environment for the adoption of improved practices in personal hygiene, safe handling of food and water as well as safe confinement and disposal of excreta and waste<sup>34</sup>. With only 6% of the population accessing latrines, sanitation promotion is a priority intervention.

## **Opportunitues**

a) From FGDs with UNICEF, there appears to be alot of opportunity for CLTS to take shape.

Nicolas Owuor – UNICEF CLTS Specialist

"Over 550 household latrines have been constructed over a period of two years which is very significant and if they are facilitated well with other PLA tools like the Sanitation Ladder they can move up and encourage others to construct their own household latrines. At least 45 communities have 100% coverage of improved sanitation facilities. 15 communities have done self-declaration of ODF. Awareness of faecooral transmission routes is very high and safe behavioral practices were is encouraging among the communities where CLTS had been promoted. Community members in ODF communities indicated a reduction in diarrhoeal diseases. CLTS has empowered many extension workers in the use of the Participatory Learning Assessment Tools to move from didactic hygiene education to empowering community members to take charge of their sanitation situation through participatory assessment, community action plans and sustenance of positive behavioural practices"

b) Several studies point to children as effective change agents, most of the CLTS projects had sidelined children, this was attributed to the days chosen for the triggering which are usually weekdays when the children were in school. This could result in outcomes that are not sustainable as children like adults engage in open defecation. It is the view of many community members that children are the worst culprits of open defecation practice. If CARE is to maximise on the impact, then it should therefore plan the triggering sessions when children have clossed school.

# Challenges

- a) There are various Agencies working in the Sanitation and Hygiene sector, though the coordination has been weak in Somaliland ( See section 1.1.3.1). CARE should explore opportunity to pre-position itself in any CLTS or Hygiene and Sanitation working group that may come up or find out if they already exist. This will help solve the problem lack of third party certification. UNICEF is already working on this ( See Annex 8).
- b) There are challenges with facilitating CLTS by the Community Health Workers due to limited knowledge in the use of the Participatory Learning Assessment Tools, and weak mechanisms to reach the communities for follow-up visit during the post-triggering stage, a situation that affected success in most of the regions. It has been revealed that community members once triggered were eager to stop open defecation and construct their own household latrines.

<sup>&</sup>lt;sup>34</sup> Fawzi, A and Jones, H. (2010). Community-Led Total Sanitation for people in vulnerable situations: Identifying and supporting the most disadvantaged people in CLTS. A case study of Bangladesh. London: Water Aid.

- c) High poverty rates and high dependence on relief systems make the triggered communities not construct latrines hence low take up. CLTS is a purely none-subsidy methodology. This can be made worse if other agencies come into CARE Project areas with subsidies for latrines.
- d) There has also been little documentation of the baseline situation, processes and outcome of CLTS by most partners. This has resulted in difficulties in assessing information on budget line and the cost involved in attaining Open Defaecation Free (ODF) by the MoH/Unicef teams. The absence of proper documentation also has implications for advocacy and knowledge management.
- e) Others include developing low-cost measures for dealing with latrine construction in flood prone areas in Togdheer and Sool, unstable soils and shallow ground water areas as well as the fear of having smelly toilets next to their bedrooms and kitchens.

### Recommendation for CLTS for Haraad Reeb III

- a) The Consultants noted other agencies had started CLTS in Haraad Reeb III Program area. However, these did not reach ODF status. Its is also worth noting that Somaliland has just started underataking CLTS work under the gudance of UNICEF. UNICEF works with the Ministry of Health to ensure that partners embrace CLTS as a community mobilization and hygiene promotion strategy. CARE should liaise directly with UNICEF and other partners so that they can access technical information that shall assist them in CLTS programming. These would include, participation in meetings, CLTS or Hygiene Working Groups, seminars e.t.c.
- b) CARE should make use of CLTS specific monitoring tools to help them measure their sanitation coverage. Tools that have been customised to Somalia standards can be acquired from the CLTS Coordinator for UNICEF based in Hargeisa. Clustering of the villages using the main CLTS monitoring clusters shall also be of use: The main clusters after triggering are:
  - Dump match box, Scattering Sparks, Promising Flames, and Match Box in a Gas Station
  - These clusters should in turn inform CARE of the next strategies to adopt. ( See Annex 8 for a suggested tool). CARE could use NSA in CLTS work. CCBRS has in the past done CLTS work with Medair.
- c) CARE should try and follow the CLTS protocol without deviation ( save for any advice for Somalia specific version). There is danger in skipping steps as this will not be in line with the methodology. For instance, including the emergence of natural leaders as an indicator, celebration of ODF status villages as an activity. Other crucial stages include: Verification of the villages and eventual certification by a third party (MoH and UNICEF). CARE could then host the events which could coincide with the Global events of public health significance like World water Day, World Toilet Day, World Handwashing day e.t.c. These would in turn form a good platform for advocacy by program.
- d) In order to achieve sustainable impact on sanitation improvement, it is expedient for the program to embrace a holistic approach including providing an enabling environment, creating demand through the triggering and post-triggering activities, strengthening supply by using the sanitation marketing approach and sharing or learning from what others have done.
- e) During FGD with the MOH, they recommended that other partners should build the capacity of the staff in regional offices who can in turn help them with monitoring if form of technical

support (Post triggering follow ups). However, this has a budgetary implication and CARE should plan for this.

#### **SECTION 4: VILLAGE LOANS AND SAVINGS**

The Haraad Reeb project III proposes to build on its previous successes. This includes the involvement of women groups taking up responsibilities in operations and maintenance of the shallow wells. This was done through the women making optimum use of the solar panels for the shallow wells, by getting fees on mobile charging and power for lighting to the community, which they later used the proceeds for the maintenance of these shallow wells. The proposed project will also continue to work with women through strengthening of village savings and loans associations (VSLAA), which will support both a savings culture and small business development, this will done by other initiatives within the overarching program, however, the project will work through these women in trainings for the maintenance of water infrastructure. As explained in other sections of the report, the EC and MOFA Luxembourg fundedTowards Self Reliance I Project, leveraged this component of the project in Caynabo and Sanaag. The Consultants met 3 VSLA Groups as discussed in Haraad Reeb II appraisals in section 2.9.2.4. Table 14,15, and 16 shows that there 58% of the respondents interviewed said there exists organized village groups while 25.5% of the HH said there are women groups. 18.8 % of respondents said that they belong to a group. 68.8% said they didn't belong to any group. This therefore mean that the program the program could use the existing groups to reach a critical mass with information regarding hygiene, good saving habits, water management, PPPs, water Act etc. From FGDs and KIIs and desk literature review, the program will have to form new groups in Togdheer while strengthening the existing ones in Caynabo, Sool region.

## Recommendation for VSLAA for Haraad Reeb III

For Haraad Reeb III, the Consultants recommend following to be done:

- 1) Carrying forward learning from CARE Egypt. Within TSR I, the Area Manager went to Egypt for cross learning purposes on VSLAA. Some of the Learning that came from the trip include:
- a) Supporting specific activities that will help project participants use VSLAA funds to start small business ventures. The consultants however noted that this was already happening in some groups in Caynabo district. This was noted during FGD with Cawo Gaba VSLA Group.
  - b) Profit and Loss sharing system that aligns with Islamic financing principles and works closely with religious leaders. TSR II was to pilot this and the learning from this shall also inform Haraad reeb III VSLA work.
  - c) Linking successful VLSAs to remittance companies to further improve access to access to financial services and encourage remittances and start considering other services as part of a wider range of Islamic banking.

Egypt is also a Muslim Country like Somalia and so this learning would be easier to adopt given the commonality in sharia law compliance in VSLA programming.

2) More strategic capacity building activities that would address the main gaps found in this survey. These include low functional literacy skills, management and accounting skills. Exchanges and mutual learning are also encouraged between the budding groups in Togdheer and existing groups in Sool and Sanaag.

# 5.1 Overview and rationale

As mentioned in Section 1.1.3, the Government of Somaliland facilitated the enactment of the National Water Act (Law No. 49/2011), which was published in 2012. The Act provides a basis for the management of all national water resources, with the purpose of improving availability and access to water in a sustainable and equitable way for all different types of uses, and in a manner that is environmentally safe<sup>35</sup>. These are detailed in Annex 6 of this report. Among other specific objectives, the Act is expected to encourage private participation through Public-Private Partnership (PPP) approaches between the government and the private sector actors<sup>36</sup>.

In the document titled: "Asset Building for Social Change: Pathways to Large-Scale Impact", the Ford Foundation identifies general strategies for achieving scalable programs based on a review of its own grant making activities. Two of these strategies are central to the sustainability of the Haraad Reeb program: developing public policies and influencing market forces.

The state's role in many areas of economic management expanded in both developed and developing world countries, between the Second World War and the 1970s. Guided by Keynesian ideas about employment, social welfare and industrial policy, most developed countries saw the state assume central responsibility for most public utilities and social services. The private sector, where it existed, became heavily regulated through legal and economic controls<sup>37</sup>. A recent study on the environmental and social objectives in PPP by the International Institute for Environment and Development concluded the following<sup>38</sup>:

- PPP is increasing in countries with greater degrees of poverty and less regulatory capacity therefore social objectives need more careful consideration
- Governments may need to subsidize ( and cross subsidize) basic levels of service in order to satisfy basic health requirements

Through Haraad Reeb III, CARE wants to pilot Rural PPPs. The idea was that the introduction of private companies is supposed to:

- Bring higher technical skills
- Shift the community management to a commercial operation that would aim to increase the service quality and the number of customers (thus improve sustainability).
- Bring external private funding for facility improvement to reach commercial viability

Even with local companies instead of urban utilities, the existence of a contract sets a sound environment for accountability, tariff negotiation and the possibility for each party to have demands on the other one, which is far better than the usual community management where volunteering is often considered as an excuse against reproaches.

The PPP initiatives describe a range of possible relationships between public and private sector entities in the context of developing infrastructural facilities and delivering essential services, such as energy,

<sup>&</sup>lt;sup>35</sup>Article 3. section 3.1

<sup>&</sup>lt;sup>36</sup> Article 4, section 4.1(h)

<sup>&</sup>lt;sup>37</sup>Walt G.(1992) Health Policy – An Introduction to Process and Power

<sup>&</sup>lt;sup>38</sup>Johnstone and Hearne, 1998

communication, transport, as well as water and sanitation, among others<sup>39</sup>. The *South African PPP Manual* defines a PPP arrangement as a contract between a public sector institution and a private sector operator, in which the latter assumes substantial financial, technical, and operational risk in designing, financing, building, and operating a project<sup>40</sup>.

Furthermore, the *Manual* refers to three specific types of PPPs: first, where the private operator performs a function usually carried out by government, such as providing water or maintaining a road; secondly, where the private operator acquires the use of state property for commercial purposes; and thirdly, a hybrid of the two. Regarding payment, the public sector could pay the private operator for services delivered; or the private operator could collect fees from service users and pay the public authority; or a combination of both systems<sup>41</sup>.

In many developing countries, governments face the challenge of meeting the growing demand for essential services, including water and sanitation. However, due to limited financial resources and institutional capacity gaps, governments have found that partnership with the private sector is an attractive alternative route to increase and improve the supply of such essential services<sup>42</sup>. As pointed out by the *United Nations' Guidebook on PPPs*, governments worldwide are increasingly turning to the private sector to provide infrastructural services, which traditionally, fall within the public sectors' domain<sup>43</sup>.

Similarly, Edwards, Rosensweig, and Salt note that the involvement of private sector entities in the provision of public services has been growing over the past two decades, particularly due to inherent benefits such as commercial skills, experience, financial resources, and technology<sup>44</sup>. Water and sanitation is one of the services in which many governments have involved private sector operators in delivery, through PPP initiatives. Furthermore, guidelines developed by the Canadian Council for PPPs, indicate that partners involved in PPP initiatives often agree to share responsibilities related to implementation and/or operation and management of joint projects<sup>45</sup>.

A strong PPP system should allocate tasks, obligations, and risks among the public and private partners in an optimal way. Whereas, public partners include government entities, such as ministries, departments, municipalities, or state-owned enterprises, private partners include local or international businesses with technical as well as financial expertise relevant to particular project priorities<sup>46</sup>. However, PPPs may also include nongovernmental organizations (NGOs) and/or community-based organizations (CBOs), as representatives of stakeholders directly affected by the project<sup>47</sup>.

The establishment of PPP initiatives is motivated by three key factors: attract private capital investments to improve service delivery; increase efficiency and effectiveness in the use of available resources in project delivery, operation, and management; access advanced technological innovation; as well as accomplish sectoral reforms through reallocation of roles, incentives, and accountability<sup>48</sup>.

<sup>&</sup>lt;sup>39</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB.

<sup>&</sup>lt;sup>40</sup>Public-Private Partnership Manual, 2004, Pretoria: South African National Treasury, Module 1, pp.4–5

<sup>&</sup>lt;sup>41</sup> Ibid

<sup>&</sup>lt;sup>42</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>43</sup> Ibid

<sup>&</sup>lt;sup>44</sup>Edwards, D.B., Rosensweig, F. and Salt, E. (1993). WASH Technical Report No. 89: Designing and Implementing Decentralization Programs in the Water and Sanitation Sector. Office of Health, Bureau for Research and Development, USAID, under WASH Task No. 256.

<sup>45</sup> http://www.pppcouncil.ca/aboutPPP definition.asp

<sup>&</sup>lt;sup>46</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB.

<sup>&</sup>lt;sup>47</sup> Ibid

<sup>&</sup>lt;sup>48</sup>Ibid

According to Philippe and Izaguirre, governments prefer PPP initiatives because they promise better project design, choice of technology, construction, operation, and service delivery<sup>49</sup>.

Resource limitation has been the main factor driving governments to consider PPP options for project delivery<sup>50</sup>. However, Quiggin notes that government decisions favoring PPPs are also shaped by cost factors, such as the cost of borrowing, which is higher for the private than the public sector; as well as administrative and transaction costs<sup>51</sup>. In most cases, PPP options for project delivery become sensible when efficiency gains can outweigh such additional cost factors, including borrowing, transactional, and administrative costs<sup>52</sup>.

As noted by Farlam, effective PPPs are founded on complementary advantages of the public and private sectors. In this regard, a government's contribution to a PPP initiative may be in the form of capital for investment, transfer of assets, or in-kind contributions. Governments may also mobilize political support as well as provide social responsibility, environmental awareness, and knowledge<sup>53</sup>. On its part, the private sector injects its expertise in commerce, management, operations, and innovation in running joint business efficiently<sup>54</sup>. Again, depending on the PPP model adopted, the private sector operator may also contribute investment capital<sup>55</sup>.

# **5.2 Public-Private Partnership Options**

A review of literature reveals that PPP options ranged along a spectrum - at one end are those in which the government retains full responsibility for operations, maintenance, capital investment, financing, and commercial risk; while at the other, are those in which the private sector takes on much of this responsibility<sup>56</sup>. Based on this premise, PPP options fall under six broad categories, namely, service contracts, management contracts, leases, BOT/BOO, concessions, and divestitures. The basic features of these five categories of PPP models are shown in figure 9.

Figure 9: Public-private partnership models<sup>57</sup>

<sup>&</sup>lt;sup>49</sup> Philippe, M. and Izaguirre, A.K. (2006). "Private participation in water toward a new generation of projects." Gridlines Note No. 14. September. Washington, DC: PPIAF. Available at <a href="http://info.worldbank.org/etools/docs/library/240096.pdf">http://info.worldbank.org/etools/docs/library/240096.pdf</a>

 $<sup>^{50}</sup>$  United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>51</sup> Quiggin, J. (2004). Risks, PPPs and the Public Sector Comparator. Australian Accounting Review, 14(2): 51-62. Available: <a href="https://www.uq.edu.au/rsmg/docs/quigginausaccrev04.pdf">www.uq.edu.au/rsmg/docs/quigginausaccrev04.pdf</a>

<sup>&</sup>lt;sup>52</sup> Philippe, M. and Izaguirre, A.K. (2006). "Private participation in water toward a new generation of projects." Gridlines Note No. 14. September. Washington, DC: PPIAF. Available at <a href="http://info.worldbank.org/etools/docs/library/24-0096.pdf">http://info.worldbank.org/etools/docs/library/24-0096.pdf</a>
<sup>53</sup> Farlam, P. (2005). Assessing Public—Private Partnerships in Africa: NEPAD Policy Focus Series. Durban: The South African Institute of International Affairs.

<sup>54</sup> Ihio

<sup>&</sup>lt;sup>55</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>56</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>57</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

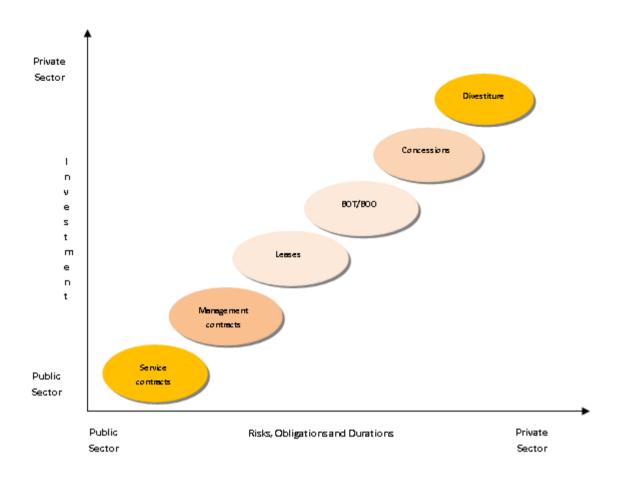


Figure 11: Continuum of PPP Contracts showing the Investment needed versus the complexity

While selecting the most appropriate model(s) to be adopted individually or in combination, it is important for project staff and key partners to understand the key attributes, strengths, and limitations. Table 35 below provides a detailed categorization of the PPP models together with their main characteristics. Whereas models shown in the table can be adopted as individual options, combinations are also possible; for instance, a management or lease contract for existing water and sanitation facilities may incorporate provisions for expansion under the Build-Operate-Transfer (BOT) model<sup>58</sup>, or BOT contract for bulk water supply might be combined with a lease contract for operating the distribution system<sup>59</sup>. In this regard, Philippe and Izaguirre point out that many PPP projects of recent times are of combination type<sup>60</sup>.

PPP option	Asset ownership	Operations & maintenance	Capital investment	Commercial Risk	Contract Duration (Years)
Service	Public	Public &	Public	Public	1-2
contract	Public	Private	Public	Public	1-2

<sup>58</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>59</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>60</sup> Philippe, M. and Izaguirre, A.K. (2006). "Private participation in water toward a new generation of projects." Gridlines Note No. 14. September. Washington, DC: PPIAF. Available at <a href="http://info.worldbank.org/etools/docs/library/240096.pdf">http://info.worldbank.org/etools/docs/library/240096.pdf</a>

Management contract	Public	Private	Public	Public	3-5
Lease	Public	Private	Public	Shared	8-15
Concession	Public	Private	Private	Private	25-30
вот/воо	Private & Public	Private	Private	Private	20-30
Divestiture	Private or Private & Public	Private	Private	Private	Indefinite (but may be limited by license)

Notes:

BOT => Build-Operate-Transfer

BOO => Build-Own-Operate

Table 33: Characteristics of Public-Private Partnership Models<sup>61</sup>

#### **5.2.1 Service contracts**

Service contracts are contractual arrangements for the management of part or entire public project by private sector operators. The model allows private sector to provide services such as installing or reading water meters, monitoring losses, repairing pipes, or collecting bills<sup>62</sup>. Besides, it provides opportunity for private sector efficiency, expertise, and technology to be injected into public service delivery<sup>63</sup>. The contracting authority uses competitive bidding procedures to award contracts to the most competitive bidder from the private sector. The successful private operator is then assigned specific responsibilities concerning a service, but does not assume commercial risks.

The private operator is paid a predetermined fee to manage and operate services, which may be a fixed fee, on a cost-plus basis, or for compensation based on the volume of service provided,<sup>64</sup> and attainment of performance targets set by the public sector<sup>65</sup>. Consequently, the operator's profit increases if it can reduce its operating costs, while meeting required service standards. Typically, the contract period ranges from 1 to 2 years, but may be longer for large and complex facilities such as sea and airports<sup>66</sup>.

Service contracts are the most common form of private sector participation in developing countries. They ensure satisfactory service at a reasonable cost provided there are a sufficient number of qualified operators to constitute a competitive market. The model can be adopted in tandem with more comprehensive types of private sector participation<sup>67</sup>.

The good point about the model is that it is the simplest of all PPP arrangements, most flexible and can be implemented within a short time<sup>68</sup>. In this regard, the model can be used to meet short-term

<sup>&</sup>lt;sup>61</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>62</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>63</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>65</sup> Philippe, M. and Izaguirre, A.K. (2006). "Private participation in water toward a new generation of projects." Gridlines Note No. 14. September. Washington, DC: PPIAF. Available at <a href="http://info.worldbank.org/etools/docs/library/240096.pdf">http://info.worldbank.org/etools/docs/library/240096.pdf</a>

<sup>&</sup>lt;sup>66</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB.

<sup>&</sup>lt;sup>67</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>68</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

emergency or personnel shortage or to transfer operational responsibility from the public to private sector<sup>69</sup>. Furthermore, they take advantage of private sector expertise for technical tasks or open these tasks to competition. In this way, it allows for the entrenchment of competition and good governance in the water and sanitation sector. Barriers to entry are also low given that only a discrete service is up for bid<sup>70</sup>.

However, the model has some limitations: for instance, the private sector has no financing obligations. thus, lacking incentive for innovation and expansion. Consequently, the model is unsuitable if the main objective is to attract capital investment. Besides, the model is limited to existing infrastructural projects only suggesting that it may not be appropriate for facilities that are yet to be constructed 71.

Given that the government bears all the commercial risks, the model may be compromised in the event that finances expected from donors do not materialize. The government remains in charge of tariff setting and assets, both of which are vulnerable to political manipulation, thus, affecting project sustainability<sup>72</sup>. Service contracts are at best a cost-effective way to meet special technical needs for a utility that is already well managed and commercially viable. They cannot substitute for reform in a utility plagued by inefficient management and poor cost recovery.

### 5.2.2 Management contracts

This type of PPP arrangement is more comprehensive than a service contract. Management contracts transfer complete responsibility for the operation and maintenance of government-owned project facilities to private operators and the freedom to make day-to-day management decisions<sup>73</sup>. Under this model, the private operator is selected through a competitive bidding process and the contract duration range from 3 to 5 years.

The government encourages facility maintenance through payment, which may be pegged on two ways. The simplest can be a fixed fee for performing managerial tasks and other anticipated operating costs, while more sophisticated management contracts can introduce greater incentives for efficiency, by defining performance targets and basing remuneration at least in part on their fulfillment<sup>74</sup>. However, the government assumes all commercial risks such as a decline in revenue and retains the obligation for major capital investment, particularly for facility expansion or improvement. The government is also responsible for regulating tariffs<sup>75</sup>.

The model is advantageous, particularly to the private sector because it provides opportunity for operators who may wish to assess challenges inherent in a sector before making commitments that are more comprehensive. Besides, the contractual agreement is simple and easy to enforce 76. However, the model may not be a suitable option in situations where a government intends to access private finance for new investments. Because the model does not transfer commercial risks to private

<sup>&</sup>lt;sup>70</sup> Farlam, P. (2005). Assessing Public–Private Partnerships in Africa: NEPAD Policy Focus Series. Durban: The South African Institute of International Affairs.

<sup>&</sup>lt;sup>71</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>72</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB.

<sup>&</sup>lt;sup>73</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>74</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>75</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB.

<sup>&</sup>lt;sup>76</sup> Farlam, P. (2005). Assessing Public–Private Partnerships in Africa: NEPAD Policy Focus Series. Durban: The South African Institute of International Affairs.

operators, it fails to institute internal cost reduction measures for higher returns and better quality services<sup>77</sup>.

Besides, the model may not be appropriate for a market lacking a regulatory oversight with capacity to monitor project performance and enforce contractual terms. Once a provider has been contracted, it may be difficult to change contractual provisions; hence, the need for an effective regulatory oversight to ensure that the operator lives up to contractual obligations<sup>78</sup>.

## 5.2.3 Lease/Affermage

Lease contracts are more comprehensive than management contracts, where the private operator rents existing facilities and assumes total responsibility for operation, maintenance, and service delivery. Under this model, the private operator collects tariffs from users, retains an agreed proportion and pays the remainder to the public authority as a rental fee. If the agreed rate is based on collection efficiency, then the operator has the incentive to increase collections, reduce costs, and generally improve efficiency to boost the profit margin<sup>79</sup>.

Because the lessor acquires the rights to operate project facilities, it assumes much of the commercial risk of the operations. In this regard, the operator is required to finance working capital and replacement of equipment such as vehicles, pumps, and generators. However, ownership of the facilities remains in the hands of the public authority, who also assume liability for major fixed assets<sup>80</sup>. This suggests that the authority finances the construction and establishment of facilities; thus, the authority also takes responsibility for investment risks, while operational risks such as losses and debts are transferred to the operator<sup>81</sup>.

The duration of lease contracts ranges between 8 and 15 years. Quite often, the model is applied in combination with other models such as build-rehabilitate-operate-transfer (BROT)<sup>82</sup>, in which case, the contract period becomes longer. A lease and an affermage are slightly different in terms of revenue sharing. Under a lease, the operator retains revenue collected from service users and makes a specified lease fee payment to the contracting authority. However, under an affermage, the operator and the contracting authority share revenue, based on a predetermined proportion per unit sales<sup>83</sup>. In view of this, the affermage can be more appealing to private operators because it has incentives for cost reduction and improving operational efficiency.

Lease contracts for water supply are highly developed in France, Spain, Czech Republic, Cote d'Ivoire, Senegal, and Guinea, among others<sup>84</sup>. In Somaliland, the management of the water system in Borama town of Awdal Region was leased out to a private operator following the collapse of the system in 2000. With financial support from UNICEF and the USAID, operator succeeded to provide efficient and

<sup>81</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>77</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>78</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>79</sup> ibid

<sup>&</sup>lt;sup>80</sup> Ibid

<sup>82</sup> Ihid

<sup>83</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>84</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

effective services to residents of the town. The company is a success story and provides running water to all at an affordable price<sup>85</sup>.

The good points about this type of model are that it most appropriate where government priority is to increase operating efficiency of existing project facilities. However, the model has little incentive for the private operator's investments, particularly, where the lease period is less than 10 years. Leases are sometimes advocated for as stepping stones towards more intensive private sector involvement through concessions<sup>86</sup>.

More still, there is a risk of the operator reducing the level of maintenance on fixed assets, particularly in the final years of the contract in order to maximize profits. The operators' revenues are derived from user fees; hence, the questions of tariff levels become sensitive, and may spark off disagreements<sup>87</sup>.

### 5.2.4 BOT/BOO

Build-operate-transfer (BOT) and build-operate-own (BOO) types of PPP arrangements are recent innovations in financing public sector infrastructure development and service delivery. Under both models, private sector operators or consortia build and operate new infrastructural assets in accordance with performance standards set by the government. However, with BOT, the operator has to transfer facilities to the public authority after a specified contract period, whereas under BOO assets remain with the operator<sup>88</sup>.

Related to BOT, is the sub-category of build-lease-transfer (BLT) schemes, where the law prohibits foreign firms from operating facilities considered critical for national sovereignty<sup>89</sup>. Under such circumstances, the operator builds water and sanitation facilities, leases the same to the government to operate and eventually transfers it to the authority when the lease expires. Mexico is among the countries whose constitution prohibits foreign firms from operating national facilities<sup>90</sup>. Another variant under BOT is design-build-operate (DBO) arrangements, in which the government and operator share responsibility for capital investments; as well as the lease-rehabilitate-operate (LRO), where the government does not wish to dispose its critical infrastructure but wants to benefit from private sector resources. More still, BOT may also be used for plants that need extensive overhauls in arrangements sometimes referred to as ROT (rehabilitate-operate-transfer)<sup>91</sup>.

The government pays BOT operator for water from the project, at a price calculated over the life of the contract to cover its construction and operating costs and provide a reasonable return. BOT contracts are founded on the take-or-pay basis; thus, obligating the government to pay for a specified

<sup>&</sup>lt;sup>85</sup> Print. C., Petrucci, B., Mahmoud, A., Cige, A. and Ahmed, O. (2011). Briefing Paper on the Status and Prospects for Borama Water Supply Somaliland. A Paper Presented During the 35<sup>th</sup> WEDC International Conference, Loughborough, UK, 2011.

<sup>&</sup>lt;sup>86</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>87</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>88</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>89</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB

<sup>&</sup>lt;sup>90</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>91</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

quantity of water whether or not that quantity is consumed<sup>92</sup>, which in turn, places all risks associated with demand on the public authority. Alternatively, the government might pay a capacity and consumption charges, which shares demand risks between the operator and the public authority<sup>93</sup>.

The PPP models quite common in the water and sanitation sector are BOT and BOO schemes. BOTs have been used for water treatment in such countries as Australia and Malaysia and for sewage treatment in Mexico, Chile, and New Zealand<sup>94</sup>. Under BOT, the contract period ranges from 20 to 30 years, during which the operator is expected to recoup its investments. BOO operates in the same way at the outset, but assets are not transferred; both models ensure investors an adequate rate of return. So far, BOT has had limited success worldwide. Of several hundred projects initiated in developing countries, only about a dozen are operational<sup>95</sup>.

Under the two models, the operational and investment risks are substantially transferred to the private operator. However, the government retains explicit and implicit contingent liabilities that may arise due to loan guarantees. BOT and BOO schemes are highly innovative and complex but, when successful, can serve as models to attract additional private investment. However, the models tend to work well if the main challenge relates to water supply, rather than where the challenge is a faulty distribution system or poor collections performance<sup>96</sup>.

#### 5.2.5 Concessions

In this form of PPP arrangement, the government defines and grants specific rights to a private operator (concessionaire) to build and operate a facility for a fixed period<sup>97</sup>. Concessions are more comprehensive than BOT and BOO arrangements because they transfer complete operational and financial responsibility for a system<sup>98</sup>. BOT and BOO schemes are considered subsets of concessions; and investments in project facilities can assume either of the two. Although the public authority owns facilities, the private operator has wide-ranging powers over the operation and finances of the system.

Concessions are often bid by price, in which case the bidder that proposes to operate project facilities and meets investment targets wins the contract. Concessions are governed by contracts, which set out performance targets, including service coverage, quality, standards, arrangements for capital investment, mechanisms for adjusting tariffs, as well as arbitration over disputes<sup>99</sup>.

As noted by the AsDB Handbook on PPPs, a concession makes the private operator responsible for the full delivery of services in a specified area, including operation, maintenance, collection, management, as well as construction and rehabilitation of project facilities<sup>100</sup>. Quite important is that the concessionaire assumes the full responsibility for all capital investments required to build, upgrade, or expand facilities, and for financing those investments out of its resources. In addition, the

<sup>93</sup> Ibid

<sup>92</sup> Ibid

<sup>94</sup> Ibid

<sup>&</sup>lt;sup>95</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>96</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>97</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>98</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>99</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>100</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB.

concessionaire is responsible for working capital. In rare cases, do public authorities provide financing support to enable concessionaires fund their capital expenditures.

The public authority is responsible for establishing performance standards and ensuring that the concessionaire meets them. At the end of the contract period, the public authority assumes ownership of project facilities and can opt to assume operating responsibility too, renew the operator's contract, or award a new contract to a new concessionaire<sup>101</sup>.

The concessionaire collects tariffs directly from service users. The tariff is typically established by concession contracts, which also include provisions on how it may be adjusted over time in response to social, political, or macro-economic stimuli. Payments can take place both ways: concessionaire paying the authority for concession rights or the authority paying the concessionaire, based on target achievements<sup>102</sup>.

As noted by the *United Nations Guidebook on PPPs*, such payments by the government may be necessary to make projects commercially viable and/or reduce the level of commercial risk taken by the concessionaire, particularly in a developing PPP markets<sup>103</sup>. Typical concession periods range between 25 to 30 years, which provide sufficient time for the concessionaire to recover the capital invested and earn an appropriate return over the life of the concession.

Concessional arrangements have succeeded in various countries, including Seychelles, where a private company was given the right to develop a facility to bottle water from a mineral spring; in Indonesia, where a private consortium was granted a concession to develop a natural spring. Water supply and sewerage concessions are also common in France and Spain<sup>104</sup>.

The model permits a high level of private investments and has a high potential for efficiency gains in all phases of project development<sup>105</sup>. In this regard, the model provides incentives for the concessionaire to achieve improved levels of efficiency, which translate into increased returns. According to the *AsDB Handbook on PPPs*, concessions are an effective way to attract private finance required to fund new project facilities or rehabilitate existing ones<sup>106</sup>. The transfer of the full package of operating and financing responsibilities enables the concessionaire to prioritize and innovate, with a view to increasing returns on investments<sup>107</sup>.

The model may be highly complex to implement and administer, particularly in developing PPP markets, while negotiation and contractual processes are often delayed by prediction of risks that may occur beyond 20 years. As part of prerequisites for adoption, the model requires governments to upgrade their regulatory capacity in relation to tariffs and performance monitoring. Public authorities require the capacity to balance between tariffs, demand, purchasing power, and returns. Difficulty usually arises where the demand and community purchasing power are over-estimated<sup>108</sup>. Furthermore, due to long-term contractual periods, concessional arrangements may be vulnerable to political influence, particularly in developing countries.

102 Ibid

<sup>101</sup> Ibid

 $<sup>^{103}</sup>$  United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>104</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>105</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>106</sup> Ihid

<sup>&</sup>lt;sup>107</sup> Farlam, P. (2005). Assessing Public–Private Partnerships in Africa: NEPAD Policy Focus Series. Durban: The South African Institute of International Affairs.

<sup>108</sup> Ibid

#### 5.2.7 Divestiture

This refers to complete privatization of water and sanitation facilities through a sale of existing assets or shares or through a management buyout<sup>109</sup>. Like concessions, divestitures give private operators full responsibility for operations, maintenance, and investment<sup>110</sup>. The private operator is contracted through a long-term agreement, which in some cases may be indefinite. However, unlike concessions, divestitures transfer ownership of assets to the private sector.

Under this model, the public authority retains regulatory obligations to protect consumers from monopolistic type of pricing, as well as enforce health, environmental standards, and subsidies to ensure that vulnerable community members access services. In this regard, the private operator should be concerned about maintaining its asset base<sup>111</sup>. On the same note, divestiture contracts bear direct financial obligations, as well as investment and commercial risks to the private operator<sup>112</sup>

In some countries, the public authority may still need to scrutinize operator's plans for renovation and expansion. For instance, in England and Wales the public authority requires private operators to report the serviceability of their assets<sup>113</sup>. Although widely used in other infrastructure sectors, divestitures in the water and sanitation sector have been limited to England, Wales, and the United States<sup>114</sup>.

Given the national economic importance of infrastructure services, governments are generally unwilling to divest water and sanitation assets without introducing safeguards. For instance, the British government retains "safety net" powers to appoint another operator in case a water company fails to meet contractual terms<sup>115</sup>. It also limits the length of licenses under which water companies operate.

Divestitures may be difficult to initiate and implement, however, the model can be more appropriate than concessions under certain circumstances. For instance, in advanced markets flooded with capable private operators, divestiture by sale of shares or management buyout may produce the required efficiency gains without involving foreign water conglomerates that typically dominate bids for concessions<sup>116</sup>.

Key advantages of the model include the transfer of all risks to the private sector, high level of private investment, a high potential for efficiency gains as well as high chances of success. This type of PPP agreement reduces risks of cost overruns since the operator's future earnings depend on cost control measures<sup>117</sup>. However, the model is faulted for complexity in implementing and managing contractual regimes, while negotiation between the parties may take a long time. Moreover, the public sector must have capacity for regulatory efficiency in tariff; thus, limiting its suitability for developing PPP markets.

<sup>&</sup>lt;sup>109</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>110</sup> Walker, J. (1993). Preparing for private sector participation in the provision of water supply and sanitation services: WASH Technical Report No. 84. Office of Health, Bureau for Research and Development, USAID.

<sup>&</sup>lt;sup>111</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>&</sup>lt;sup>112</sup> Asian Development Bank (2010). Public Private Partnership Handbook. Manila, AsDB.

<sup>&</sup>lt;sup>113</sup> World Bank (1997). Selecting an Option for Private Sector Participation. Washington DC: The International Bank for Reconstruction and Development/ the World Bank.

<sup>114</sup> Ibid

<sup>115</sup> Ibid

<sup>116</sup> Ibid

<sup>&</sup>lt;sup>117</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

In addition, the model may impose contingent liabilities on the government in the medium and long-term in the event of financial impropriety. Besides, the government's dual roles as partner and regulator can lead to conflict of interest, while shortage of private operators with adequate capacity in developing economies may raise concerns about the competence of contracted firms<sup>118</sup>.

### 5.3 Which model to select?

The choice of a suitable model for adoption requires a careful assessment of the project vis-à-vis the geographical, cultural, social, political, and economic contexts<sup>119</sup>. Similarly, *AsDB Handbook on PPP* notes that the choice of a model should be based on special sectoral attributes, such as technological advancement, legal and regulatory frameworks, as well as public and political perception about the services that a project is intended to deliver<sup>120</sup>.

The choice of appropriate PPP models for adoption should be based on a careful diagnosis of availability of technical partners, which may be private companies or NGOs. Also critical are the financial, financing, and commercial requirements. Equally important is that the choice of a PPP model should reflect the government's national and sectoral plans. For instance, government's priority may be to reduce cost of services, expand access to services, or improve billing and revenue collection. It is important to select a model whose strengths are in line with government priority objectives.

Each form of PPP has a set of prerequisites for successful implementation. For instance, advanced PPP models that transfer greater proportion of risks to the private sector such as concessions and divestitures require sophisticated legal and regulatory structures, as well as availability of local skills to monitor transactions<sup>121</sup>. In contexts where the government lacks necessary legal and regulatory capacity, it may be prudent to start with less extensive models or combination of models such as management and lease contracts.

More still, whereas BOT schemes would be most suitable for new projects in mature markets, management and lease contracts would be most appropriate for developing markets, such as Somaliland<sup>122</sup>. The success of the Borama town water project, with funding from UNICEF and USAID is a strong indicator that lease contracts can thrive in the Somaliland market. It would be most appropriate for Haraad Rheeb project management to learn from experiences of the Borama water project.

Each model has its strengths and weaknesses, which can either facilitate or constrain achievement of project objectives depending on prevailing environmental attributes. Nevertheless, it is important to note that no single PPP model that can satisfy all conditions concerning a project's geographical, social, political, and economic setting, as well as technical and financial requirements<sup>123</sup>. Whatever the model(s) chosen, it should be tailored to the local context and be made most responsive to the needs of targeted communities.

### 5.3.1 Recommendations on PPPs

 PPPs Contracts should be executed by community people and not "rich businessmen from Burco". This was a key observation in the UNICEF EWF Project which the evaluators noted

<sup>&</sup>lt;sup>118</sup> Farlam, P. (2005). *Assessing Public–Private Partnerships in Africa: NEPAD Policy Focus Series*. Durban: The South African Institute of International Affairs.

<sup>&</sup>lt;sup>119</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

<sup>&</sup>lt;sup>120</sup> Asian Development Bank (2010). *Public Private Partnership Handbook*. Manila, AsDB.

<sup>&</sup>lt;sup>121</sup> PPIAF (2011). How to build a successful Public-Private Partnership (PPP): Lessons from the third African PPP Conference in Nairobi, Kenya, December 2, 2011.

<sup>&</sup>lt;sup>123</sup> United Nations (2011). A Guidebook on Public-Private Partnership in Infrastructure. Bangkok, UNESCAP.

"All the users interviewed to say they expected better services now after a local company had been inaugurated to take over the services. They are confident that they would receive good quality services especially as it was being provided by one of their own (if the services were poor, they would simply accost the manager "who is nearby").

- 2. How to make sure that community selection can be done expeditiously and to engage only willing communities?
  - a) The project should be demand-driven i.e. willing communities would apply and compete for an opportunity to participate. This would ensure that effort is not wasted on communities that are either unwilling or unable to participate.
- b) Proper and step-by-step community mobilization to the selected communities for PPP 3. In the WMC visited during the baseline evaluation, the Consultants found that most of them are short of technical staff who master at least 2 of the 3 trades needed for work (Plumbing & Basic Masonry, Mechanics and Electricals). Usually the only technical staffs available are a "plumber" many of them trained on the job, who doubles as a repair man. There is no indication that routine maintenance is carried or that there is available support to attend to any breakdown maintenance. It should be necessary to provide backup services to these start-up businesses otherwise their first failure could spell the end of their venture.

Some countries like Mali and Mauritania, which face the same problem oflocal unskilled operators in remote areas, have set up mechanisms to provide assistance to private operators, in terms of breakdown diagnosis, spare parts procurement and operation data monitoring. These assistance systems heavily rely on distant communications (by radio for Mali and mobile phone in Mauritania), mutualisation of efforts (common procurements, joint transportations) and the payment of a fee (by cubic meter) by the private operators<sup>124</sup>.

- 4. The market for service management is not open yet: Haraad Reeb III should go for the basic form of PPP probably a Service Contract for the 5 identified WMC. This is due to UNICEF EWF experience where the evaluator noted "In addition to the innovative aspect of the rural PPPs, the project partners faced another challenge: there was no existing private entity that could be appropriate for managing a water facility. Such companies did not exist either in urban centres, but at least some companies from other sector could have competed for a PPP in water supply and could have found staff experienced in water service delivery (from previous water agencies, or from private providers such as the ones in Burao). Given the local 'market for companies' it was very unlikely that several companies would compete for the PPP contract. Without existing competition, a badly-performing company cannot be dismissed and this would void one of the most interesting features of PPPs". In that sense, the success of this first round of PPPs that CARE wants to pilot in Somaliland is crucial to attract more companies in the future and create the market of professional water supply management.
- 5. Open up PPP Contracts to market forces: Tendering out the management of the system also implies that candidates would have to carry out their own assessment of profitability and needs for investment. Interested companies should therefore compete at least on two criteria:
  - a) The tariff proposed

<sup>&</sup>lt;sup>124</sup> Cedric E. et al (2012), Final Evaluation of UNICEF Program - Making PPP work for the Rural Water Supply in Somalia, Hydroconceil

<sup>&</sup>lt;sup>125</sup> This problem is also encountered in more developed commercial economies such as Kenya, and Uganda.

- b) The amount they offer to invest in rehabilitation (for year 1 and 2 for example)
- 6. Competitive processes would yield a significant level of legitimacy for the selected company, as they made the most attractive offer regardless of any link with one clan or the other. But, of course, such process would require an intensive support from external actors and central government to:
  - a) Give a comprehensive understanding of the competition rules through advertisement;
  - b) And an active support to candidates to assist them in preparing their assessment (availability of operation data, rehabilitation status) and their bid (to detect unreasonable bids).
- 7. More robust and strategic capacity building on PPP: Rural PPPs need stronger training and mentoring. In addition to the trainings that CARE proposes to offer during the companies' creation, the following trainings and assistance listed in table 36 should be provided:

creation, the following trainings and assistance listed in table 36 should be provided:		
Field	Content	Target
Technical operation	Emphasis on house connection management (technical standards, metering, billing) and technical diagnosis (genset troubleshooting, etc.)	Companies
Rehabilitation	Emphasis on the basics of network design (height of tanks, production needs calculation, diameters)	Companies
Maintenance	Emphasis on budget estimation for maintenance	Companies
Management	Emphasis on viability strategies (develop customer base, optimise tariff)	Companies
Contract management	Emphasis on contract understanding, provisions for negotiation, tariff setting and accountability requirements	Companies
Responsibilities	Emphasis on role sharing: the company runs the system, the community controls the "value for money" of the service, the central government controls if the community succeeds in obtaining a proper public service for water	Communities, companies, central Government ( see Section 5.3.2 for MOWR Organogram)
Oversight	Emphasis on which indicators should be monitored by the central government	Central government ( see Section 5.3.2 for the Organogram)

#### Table 34: Types of trainings to be provided to new PPPs

- 8. Careful use of external funding: The proposed PPP companies must extend the service delivery to survive. These should ideally be done by the commercial company in charge. Developing house connections is mandatory, and may require a reinforcement of the production capacity. Other Partners should be informed of the 5 Companies so that they don't inject capital for infrastructural works. This would undermine one of the expected benefits from PPP: leverage private money. Private companies are meant to introduce a different commercial strategy from that of community-based managements. They are supposed to look for more profit through selling more water, and to be ready to invest for that purpose. This positive spiral will not be triggered as long as companies can hope for external funding to rehabilitate or extend the system. Opposite, this would encourage the companies to increase profitability in "consuming" the assets rather to maintaining them to prolong the profits. At the latest, a judicious use of external funding can be made before the company takes over the management, in order to ascertain an attractive level of functionality of the facility. But later on, if an external financial support is deemed necessary to enable the development of a water supply (which is likely in rural locations under a certain critical mass), it should only take the form of:
  - a) Credit provision, allowing the private company to invest for extending the service and to reimburse thanks to the extra water sales.
  - b) OBA (Output-Based Aid) disbursed only for verified outputs (such as a new house connection, a new borehole, etc.)

It must be made clear from the start that no donor should any longer fund rehabilitation or extension works in these villages, unless the funding leverages some investment by the company and goes through the company to develop its capacity to achieve works and projects. OBA mechanisms are appropriate for this.

- 9. Building the capacity of local governments: There is need for a local actor between the village level (communities, companies) and the central level (government). In the longer term, it is necessary to progressively lead the local governments to play an important role<sup>126</sup> as provided in the Water Act in Somaliland. PPP agreements should be, in the end, signed between a company and the local government, which is entitled for this (rather than the "community" or the village committee), and should have more capacity for procurement (competitive process). The local government is responsible for the public services what within its territory and must secure the appropriate arrangements to ensure that these services are delivered in an equitable manner. This can be achieved through a PPP and it is the duty of the local government to dismiss a company that would not perform satisfactorily and procure another. The role of central government would then be to monitor local governments to ensure that they address their responsibilities in terms of results (the service delivery should meet the norms). The current status of Local Governments is far from this ideal situation and requires a lot of progress of the decentralisation reform. But the first step will be to progressively involve the local governments, as owners of the facilities, thus responsible for the procurement of a company to operate them.
- 10. Contractual arrangements: The PPP arrangements developed for the rural systems should comprise two documents: a framework agreement, between the Community and the Central

<sup>&</sup>lt;sup>126</sup> According to the Directorate of Water Services, Decentralization is on course.

Government (formalizing the acceptance of a PPP by both parties), a Utility Agreement, signed between the company and the community, comprising sound provisions on:

- Tariff setting negotiation,
- User satisfaction monitoring,
- Clear obligations for the operator,
- Clear obligations for the community
- These contracts also build a context where the role of central government is clearer(oversight, regulation, arbitration)
- 11. Tariff setting should be communal, making acceptance more likely as the public accountability involved during public meetings discourages unjustified price hikes even before the ministry/regulator comes in.
- 12. Make use of the Hargeisa Technical Training Institute to train technicians. There is need for the project to find out from the following details
  - Entry criteria ( the consultants found out that level of education isn't one of the criteria)
  - Calendar cycle
  - Any value additions that CARE can provide as the school fees and tool kits are already
    provided for by IOM. This would include any assistance directly to the selected
    students as they come from the regions and would inevitably have to board in
    Hargeisa. It is also worth noting that Sool wasn't selected in the first lot and so CARE
    should give this region a priority in terms of chance and numbers.
- 13. The best engine type to purchase in Perkings<sup>™</sup> as it is the most common and so the spare parts are widely available.

5.3.2 Mapping R2 within the Ministry of Water Resources Structure for Somaliland

Figure 12: Organogram of the Ministry of Water Resources, Somaliland

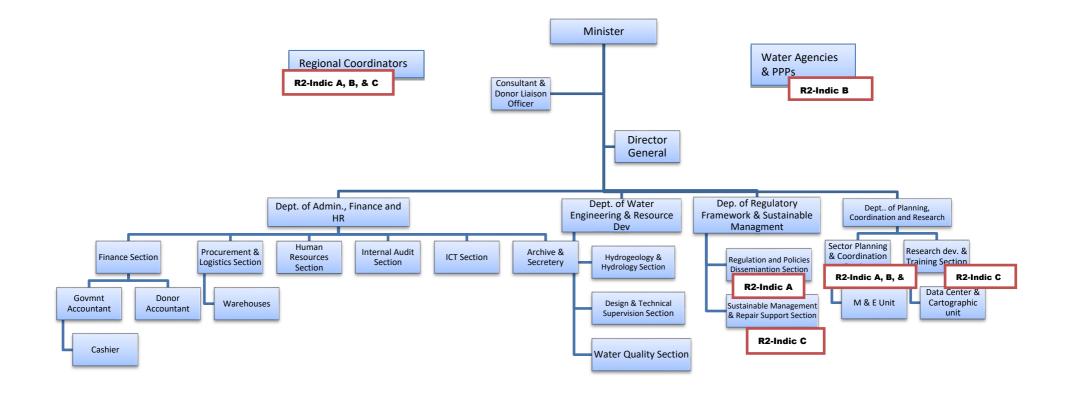


Figure 11: Shows the Organogram of the MOWR, the Republic of Somaliland. The DWOs come under the Regional Coordinators who are independent and report to the Minister. There are 6 Regional Coordinators representing the 6 regions in Somaliland. The Barbera Water Company, the Burao Water Company and the Hargeisa Water Company are the only 3 statutory water service providers and these also function autonomously and report direction to the Minister. Results 2 of *Haraad Reeb* Project has been mapped in the organogram to show points where the program can target with activities to make an impact. The Consultants have mapped Result 2 only because Results 1 is has been done by CARE in the past and the norms are clear while Result 3 shall be done in consultation with MOH. Again, it by targeting these departments with R3 as shown that the Rural Women Program will be able to successfully influence policy decisions

#### **Overall Recommendations**

The Consultants have made the necessary recommendations to the LF (See Annex 7). Critical one is the reduction in the number of PPPs and to use this phase for learning but more work on public education and capacity building of the Somaliland Government on the Water Act and PPP.

Whereas a target of 5 ODF villages is achievable within the program duration, CARE should join hands with other partners and the MOH and NSA — who could in turn help in verification and certification process as these require third parties. Strict CLTS protocol should be observed with only minor deviations as advised by UNICEF Somalia.

Owing to the problems specific to the Togdheer/Nugal Basin described in 1.1.2 and some of which include: breakdown of water, sewerage and sanitation infrastructure associated with weak public health services, poor hygiene and sanitation, has been attributed as the main cases of the recent Polio outbreaks. Access to safe water supply and basic sanitation has continued to be eroded due to the general economic decline, reduced institutional and communal capacity, cyclical droughts and the effects of pandemic diseases, and flooding, Haraad Reeb Project activities are very relevant. Further, the use of 'Sustainability Compacts' described the Forward page of this report to solve the underlying causes of water scheme functionality shall yield impact.

#### **Overall Conclusions**

The Consultants have lauded the synergy between Haraad Reeb, GEC, Peace and Governance project and TSR. These are in line with IWRM principles – particularly in intervention around Peace and Conflict resolution and Girls and women empowerment. The guarantees value for money and impact than what a single program can achieve. While implementing PPP, it would be good to select strategic boreholes that are mainly being used by the community as the sole source of water for the community. These have been mapped by SWALIM and the program can request their assistance in this. Also worth noting is the use of scheme functionality tool as the main source of tool to help in the determination of the schemes (Consultants suggest that only schemes with schore of more than 70% should be included. The consultants also advise that CARE should enhance capacity building of the VS & L groups through cross learning between the more developed ones in Caynabo district and the upcoming ones in the new areas (Togdheer region). On CLTS, children need to be included during triggering process as they are the main agents of change. Therefore planning on this should be around school holidays.

# **ANNEXES**

Annex 1: Map of		
Somaliland showing		
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	Figure 13: Map of Somaliland showing Togdheer Region and Caynabo District in Sool	
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Level Governance		
Snapshot Assessment	CARE Governance to	
Questionnaire	Scheme Functionality	
Annex 3: Baseline		
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Evaluation Terms of	Baseline Evaluation CIVITRA Co. Ltd	
Reference& The	ToR.docx Work Plan.docx	
Consultants Work Plan		
Annex 4: Baseline	w i	
Evaluation Instruments	T101 Haraad T102 Haraad T103 Haraad	
	Reeb_BLS_QuestionnReeb_BLS_FGD GuideReeb_BLS_FGD Guide	
	T104_Haraad T105_Haraad	
	Reeb_BLS_KII Guide :Reeb_BLS_KII Guide :	
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