Relief Society of Tigray (REST)

Proposal On: P*otable Water Supply Development, and Sanitation and Hygiene Program in six woredas of Tigray, Ethiopia*

Project Period: January 2016 to December 2016

Submitted to: WellWishers Trust (WW)

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Mekelle, Tigray, Ethiopia

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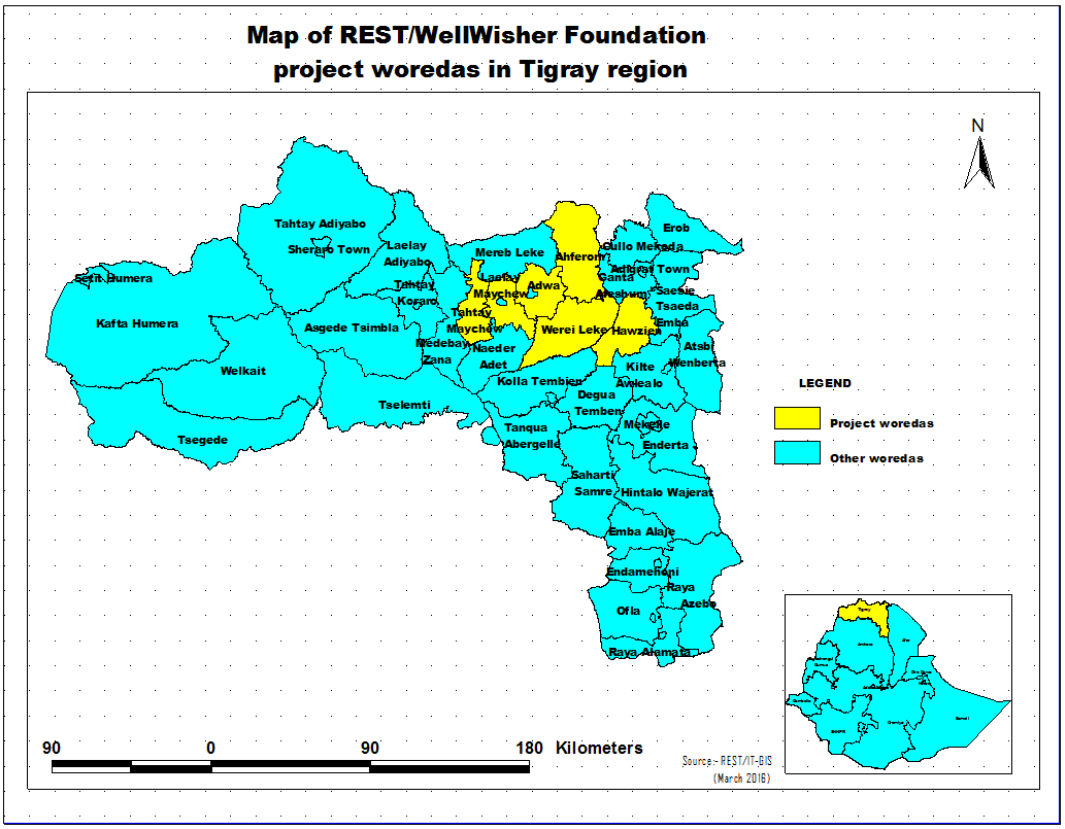
Executive Summary

Recognizing pervasive poverty as Ethiopia's primary development challenge, the Government has issued the *Poverty Reduction Strategy Paper* (PRSP) that conceptualizes the range of guiding strategies to address poverty in the country. In all these strategic papers water sector development for both human consumption and irrigation development have been given significant attention. There are sector specific strategic papers prepared by different ministries as Water Sector Development Programme (WSDP), Health Sector Transformation Programme (HSTP), National nutrition strategy, Ethiopian Food Security Programme, etc. These sector specific strategic papers cut-across each other for reinforcement take water sector development at the heart of all programmes. To support the national and regional development endeavours, REST has been exerting its utmost effort in implementing the poverty reduction and development strategic papers such as enhancing the Water, Sanitation and Hygiene programmes in different parts of Tigray aligning to the national ONEWASH programme with the donation from different bi-lateral and multi-lateral organizations. This project is developed in partnership with "WellWishers Trust (WW) for the implementation a total of 41 water schemes; that is, 35 New Hand Dug Wells (NHDW) and 6 Rehabilitation of Hand Dug Wells (RHDW). Besides, to compensate the dry schemes 5 New Hand Dug Wells (NHDW) will be constructed. Hygiene and Sanitation (HS) is also part and parcel of the water scheme development through the collaborative work of Rural Water Supply and Heath Departments of REST. The total budget of the project is ETB 4,364,125.61 ($242,451.42), out of which ETB 4,020,567.68 ($200,189.90) will be sought from WellWishers Trust and the balance will be contributed from REST and community. The project will be implemented in six (6) Woredas of Tigray, namely Tahtay Maichew, Werei Leke, Aheferom, Hawzien, Adwa and Laelay Maichew woredas.

1. Introduction

This project proposal is prepared for WellWishers Trust (WW). The project is planned to be implemented in six Woredas and 41 sites. With this project, a total of 7097 people are planned to be provided with permanent water. The project was prepared in participation from water resources offices of each Woreda, local administration and the community at large. REST ad hoc committee drawn from REST Rural Water Supply Department, Health Department and Planning and Coordination Department visited each Woreda and discussed with Woreda executive bodies; that is, Woreda Administration, water resources office, health offices, and women affaires offices. Based on the ToR developed by REST, the specific sites were identified in collaboration with the representative of needy community and local leadership on participatory approach bases. A division of labour was made where a detailed feasibility study was carried out in each Woreda by REST feasibility study section and. Need Assessment of the communities were done by social workers and socio-economic experts where need of the community identified. Based on the need assessment, the communities have significantly prioritized drinking water provision over other programmatic areas as food security, natural resources rehabilitation and social accountability areas. Necessary data collected, processed and analyzed, and converted information, where the following full proposal prepared and produced. The Woredas where the project planned to be implemented have been indicated on the following map.



2. Background Information

2.1 National Situation for WASH

Even though the poverty situation and environmental degradation in the country is wide and deep rooted, the government of Ethiopia in general is exerting utmost effort in curbing the situation. Recognizing pervasive poverty as Ethiopia's primary development challenge, the Government has issued the *Poverty Reduction Strategy Paper* (PRSP) that conceptualizes the range of guiding strategies to address poverty in the country. With the PRSP, the Government has committed itself to ensuring sustainable economic growth and development and improving access to basic social services. PRSP incorporates 4 building blocks: (a) a strategy for economic growth based on agricultural and industrial development, (b) judiciary and civil service reform, (c) decentralization and empowerment, and (d) capacity building (MoWE 2002)[1]. The main strategic papers/programmes that had and now gone operational are: from 2002/03 to 2004/05 the government produced SDPRP (Sustainable Development and Poverty Reduction Programme); from 2005 to 2010 the Plan for Accelerated and Sustained Development to End Poverty (PASDEP); from 2011 to 2015 Growth and Transformation Plan (GTP), and current government

[1] Ministry of Water and Energy (MoWE). 2002. Water sector development program, main report volume I. Addis Ababa, Ethiopia.

policy is the second Growth and Transformation Plan (GTP II). The core development components or pillars of the strategic programmes are poverty reduction, environmental rehabilitation, WASH programme improvement and governance improvement in service delivery institutions.

In a bid to enhance the water, sanitation and hygiene (WASH) programme the government of Ethiopia has launched different strategic documents and the main one is "Water, Sanitation and Hygiene - WASH Programme" document. The strategies to achieve the GTP targets and set up for the National WASH programmes are described in the WASH Implementation Framework (WIF). The WASH Implementation Framework (WIF) which is the major feature of the National WaSH Program (WaSH GTP/UAP) is that it has the leadership of four government Ministries that are pledged, through a Memorandum of Understanding to support an **integrated WaSH program** that addresses the needs of individuals, communities, schools and health posts more holistically and reduces bureaucratic compartmentalization of services (WIF 2011)[2]. The One WASH National Program (OWNP), operationalizes the Memorandum of Understanding (MoU) and the WASH Implementation Framework (WIF) signed by the Ministries of Water and Energy, Health, Education and Finance and Economic Development in November 2012 and March 2013, respectively (ONE WASH, 2013)[3]. The Program is the Government of Ethiopia's (GoE) main instrument for achieving the goals set out in the Growth and Transformation Plan (GTP). The targets for sanitation and hygiene set out in the Universal Access Plan (UAP) are that all Ethiopians will have access to basic sanitation, while 77% of the population practice hand washing at critical times, safe water handling and water treatment at home, and that 80% of communities in the country achieve open defecation free (ODF) status (*ibid*). The programme duration of the ONE WASH National Programmes is seven years to be implemented in two phases, phase I from July 2013 to June 2015 and Phase II from July 2015 to June 2020. In the GTPs, targets accesses for access to safe water supply are 98% and 100% for rural and urban areas, respectively (*ibid*). According to the MoWE (2011)[4] additional features such as catchment management, environmental safeguards, study and design, capacity building, maintenance, reinvestment, programme management, school water supply facilities, health post water supply facilities, etc. and the main document of the UAP was made to align with the main government plan; that is, the Growth and Transformation Plan (GTP I).

The progress in health status of the population indicates that about 80% of diseases in Ethiopia are attributable to preventable conditions related to infectious diseases, malnutrition, personal and environmental hygiene (WHO 2014)[5]. The major causes of under-five mortality, based on the 2014

[2] Federal Democratic Republic of Ethiopia (FDRE). 2011. WASH Implementation Framework (WIF). Addis Ababa, Ethiopia.
[3] Federal Democratic Republic of Ethiopia (FDRE). 2013. ONE WASH National Programme. A Multi-sectoral SWAP Programme Document. Addis Ababa, Ethiopia.
[4] Ministry of Water and Energy (MoWE). 2011. Rural Universal Access Plan. Revised Rural Water Supply UAP. Addis Ababa, Ethiopia.
[5] World Health Organization (WHO). 2014. Country Health Cooperation Strategy

WHO/CHERG estimates for Ethiopia, are acute respiratory infection (ARI) (18%), diarrhea (9%), prematurity (11%), sepsis (9%), birth asphyxia (14%), meningitis (6%), injury (6%), measles (3%) and others (21%). Malnutrition underlies nearly 50% of under-five deaths. Prematurity (37%), infection (28%), and asphyxia (24%) are the most common causes of death in neonates (FMoH 2015)[6]. As confirmed in the consecutive EDHS results, there is a decline in stunting, underweight and wasting in children under-five years of age. However, stunting rate of 40% remains a great concern with the life course impact of malnutrition on health of individuals and the socioeconomic development of the nation. There is a regional variation ranging 22.9 % in Addis to 49.2 % in Afar and seven of the regions have a rate more than 30%. Stunting is more prevalent among rural dwellers and children from families of lowest quintiles of educational and wealth status (*ibid*).

Nationally, the proportion of Ethiopian households with access to an improved source of drinking water has increased only marginally from 54 percent in 2011 to 55 percent in 2014. Only 4 percent of households in Ethiopia use improved toilet facilities that are not shared with other households, 14 percent in urban areas and 2 percent in rural areas. Seven percent of households (33 percent in urban areas and 1 percent in rural areas) use shared toilet facilities. The vast majority of households, 89 percent, use non-improved toilet facilities (96 percent in rural areas and 53 percent in urban areas). The most common type of non-improved toilet facility is an open pit latrine or pit latrine without slabs, used by 57 percent of households in rural areas and 43 percent of households in urban areas (EMDHS 2014)[7].

Limited access to safe water has compounding effects on children's wellbeing. Children below the age of five are extremely vulnerable to WASH-related infection and disease. Poor community standards of hygiene underlie the high prevalence of unsanitary practices, such as open defecation and low levels of hand washing. Use of shared water supplies with livestock allows for the rapid spread of illnesses between animals and humans. Inadequate access to water further disrupts children's learning and productivity in schools, while often leading to crop failures, food shortages, poverty, and hunger. According to Save the Children (2014)[8], roughly 18% of all infant and under-five deaths are related to poor access to water, sanitation, and hygiene (WASH) services. WASH interventions reduce child mortality by diarrheal diseases by 65% and breaks the cycle of illness that contributes to stunting, malnutrition, and poor health and learning (*ibid*) and 88% of diarrheal deaths caused by poor water, sanitation and hygiene(WASH), and some diarrhea episodes & worm infestation impact nutritional status (UNICEF 2014)[9].

Ethiopia has achieved some of the Millennium Development Goals (MDG) and targets. According to the 2014 World Health Statistics Report, Ethiopia has achieved MDG 4 target three years earlier

[6] Federal Ministry of Health (FMoH). 2015. Ethiopian Health Sector Transformation Plan (HSTP). Addis Ababa, Ethiopia.
[7] Ethiopian Central Statistical Agency-CST. 2014. Ethiopian Mini-Demography and Health Survey – EMDHS. Addis Ababa, Ethiopia.
[8] Save the children. (2014). Water, Hygiene and Sanitation – WASH program in Ethiopia. Addis Ababa, Ethiopia.
[9] Clarissa Brocklehurs. 2014. Promoting universal access to water, sanitation and hygiene. New York.

by reducing under-five mortality by 67% from the 1990 estimate from 204 per 1000 live births in 1990 to 68 per 1000 live births in 2012 three years ahead of schedule (UNICEF 2014)[10]. Ethiopia has met the Millennium Development Goal (MDG) 7c target of 57% of the population of the country accessing safe and clean drinking water and has attained the target by halving the number of people without access to safe water from 14% since 1990 (UNICEF 2015)[11]. However, among these achievements the country is still lagging behind in terms of universal access of clean and safe water, and sanitation and hygiene facility utilizations. According to the JMP (2014) report the proportion of population using improved sanitation facilities in the rural areas increased to 28% in 2015 from zero in 1990. The use of shared and unimproved sanitation facilities increased to 8% and 30% in 2015 from zero percent both in 1990, respectively. The number of people still practice open defecation in the rural part country is about 34% in 2015 which reduced from 100% in 1990.

The Federal Ministry of Health (FMOH) of Ethiopia has prepared a comprehensive strategic plan, the Health Sector Development Programme (HSDP), in alignment with the national Growth and Transformation Plan (GTP). The national health sector development plan (HSDP) and other strategies and approaches are directed towards improving the standards of living, particularly the health of the population throughout the country, by influencing the performance of health determinants like education, poverty reduction, and access to good sanitation and safe water.

2.2 Regional Situation for WASH

Tigray, situated in the northern most part of the country, is an agrarian in which 75% of its people are dependent on precarious rainfall based agriculture. According to CSA (2013)[12] population projection, the region has a total population of 5,055,999 (2,491,999 are males and 2,564,000 are females). The main livelihood sources of the rural population are crop-livestock mixed farming to generate their food and non-food items. However, the traditional farming systems practiced in the region in the last millennia has gave rise to the low agricultural production and productivity, and land degradation of forest lands for expanding farm land and for firewood use. As a result of the forest degradation and expansion of farm lands, biodiversity and ecological resources have gone decreasing from time to time. Farmers' produces were hardly enough to cover their annual food needs, and dependence on external assistance was rampant in the region. Social services coverage such as water, education, health and others have been low as compared to the number of population reached.

The regional government is committed to fulfilling the Target 10 of the MDG7; that is, reducing by halve the proportion of population without access to safe water supply and basic sanitation by the year 2015, thereby improving the overall health and socio-economic development condition and quality of the life of the population, especially children and women, where Bureau of Health,

[10] UNICEF. 2014. Community Led Total Sanitation and Hygiene (CLTSH). Briefing Note. Media and External Relations Section. Addis Ababa, Ethiopia.
[11] UNICEF. 2015. Ethiopia Meets MDG 7c target for drinking water supply. Journal. Addis Ababa, Ethiopia.
[12] CSA. 2013. Federal Democratic Republic of Ethiopia, Central Statistical Agency (CSA). Population projection of all regions at Woreda level from 2014-2017. Addis Ababa, Ethiopia.

Bureau of water Resources Development, Bureau of Education, and Bureau of Finance and Economic Development aspire to the same goal in Tigray region (BoFED 2013)[13]. A MoU was signed among government WASH partners with the main aim of facilitating cooperation in joint planning, implementation and monitoring of WASH in communities, schools and health institutions; thereby accelerating access to both amenities and hygiene education towards the achievement of the MDG and GTP (*ibid*).

The main organizational structure of the regional WASH administrative and technical arrangements are regional WASH steering committees, regional WASH technical team, regional WASH cooperation office and WASH management unit at each sector bureau. All these organizational structures have their own role and responsibilities from regional to the grass root levels (*ibid*).

The water coverage in Tigray in terms of access was 62% and 66% for rural and urban areas in 2011 in that order, and that of hygiene and sanitation coverage was 34% (Ayenew *et al.,* 2011)[14]. According to the GTP1 report the water coverage in Tigray has reached 59% (GTP1 2015).

3. Problem Analysis of the target Woredas

The project proposal is prepared to be implemented in five Woredas of Tigray, namely Tahetay Maichew, Werei Leke, Aheferom, Hawzen, Adwa and Laelay Maichew. These Woredas have been identified to be critically in need of potable water supply. According to the Full Water Coverage Study by REST (2013), the Water coverage of the Woredas were found to be 43%, 43%, 44%, 61%, 60% and 54%, respectively. Within each Woreda, there were sites critically hit by water scarcity in which people were suffering from different waterborne diseases, and women and children spend substantial part of their time fetching water for domestic use from distant rivers or traditional springs. The average walking distance was estimated to be more than 45 minutes for a single trip and the queuing time was also estimated to be more than 35 minutes. Besides, children engaged in fetching water spend significant part of their time competing their time for education, as a result dropout out of school in these Woredas was high, estimated on average at nearly 16% in primary first cycle grades. These Woredas have been hit by recurrent droughts and their natural resources base have been dwindled due to age long deforestation and expansion of farmlands compounded with traditional farming systems or practices. Due to these, the food security and income generation of the people was low. Even from these precarious income generations, farming families have been found spending significant part of the meager income generated for medication.

[13] BoFED. 2013. Integrated Implementation of WASH Program in Tigray: MoU between Bureaux of health, education, water, and finance and economic development. Mekelle, Tigray.

[14] Ayenew A., Meresa K. & Abdulkadir M. 2011. Baseline Survey Report of Tigray Region on WASH. Mekelle, Ethiopia.

Water coverage in Tigray based on the GTP1 standards

S/no	Woreda	Clean Water Coverage	People Benefited
1	Tahtay Maichew	43%	60897
2	Werie Leke	43%	64649
3	Ahferom	44%	77073
4	Hawzen	61%	72867
5	Adwa	60%	69782
6	Laelay Maichew	54%	45869
	Total		391,137

4. Programme overall and specific objectives:

4.1 Overall objective:

To contribute to the eradication of poverty and improve the quality of life of the target population

4.2 Specific objectives

- To enhance that all people have safe and equitable access to a sufficient quality & quantity of water for drinking and domestic uses;
- To improve good personal and environmental hygiene;
- To increase the health status of women and children and reduce the expenses for medications;
- To increase child school enrollment.

5. Programme Component

After site identification and conducting feasibility study by REST water development experts together with respective government partners in consultation of the community at large, an agreement is to be signed after the approval of the project fund. In the agreement it is clearly stipulated that the provision of local construction materials, (if available in the surrounding area), feeder road clearing to the site and/or mobilization of industrial materials and equipment necessary for constructing the water schemes, will be the sole responsibility of the beneficiary communities.

5.1 Hand-Dug Well

The proposed construction of water points will involve excavating wells using hand tools, small generators, dewatering pumps, hammer drills and explosives. The well is dug to a diameter of 1.8 meters and approximately 6 meters of aquifer penetration is mandatory in order to have a continuous water supply during droughts. Since rocks with varying degrees of hardness cover the

majority of Tigray, explosives has been used virtually in all wells to blast the rock and hence have better penetration of the aquifer. Then after, the wall is lined with either stone masonry or pre-cast concrete rings. Finally the wells are to be chlorinated and fitted with Village Level Operation and Maintenance (VLOM) Afridev hand pumps.

Construction time is approximately between 2-3 months per well depending on the geological ground formation. Well Technicians are based mostly in the field at well sites during construction. The Technical Implementing Teams will work closely with the Tabia Baito (People's Council), the Water and Sanitation Committee and other villagers during the implementation of the well. To ensure the sustainability of the water schemes, each water scheme will be fenced and fitted with a door which is made of corrugated iron sheet or local wood. The schemes will be fenced by the local material (stone) by the community and the door will be provided by the project at which it protects the scheme from damage and pollution through any time interference of children and livestock. During the handover of the scheme the WASHCOs will be provided with hand tools (such as Tightening tool 1 piece, Foldable spanner #24 1piece, Open ended spanner #17/19-1piece).

5.2 Rehabilitation of HDW

Rehabilitation of HDW requires reworking of the existing nonfunctional scheme. Rehabilitation of HDW is the reconstruction of existing but nonfunctional hand dug wells because of long service year.

Construction of Schemes by Woreda and Technology

S/no	Woreda	NHDW	RHDW	Total
1	Tahtay Maichew	18	0	18
1	Werie Leke	3	0	3
2	Ahferom	2	0	2
3	Hawzen	4	5	9
4	Adwa	8	0	8
5	Tahtay Maichew		1	1
	Total	35	6	41

5.4 Dry Wells

REST has incorporated dry wells cost for five Hand dug Wells. Based on our previous experiences, the percentage of dry wells goes up to 25% to 30%. However, as the numbers of planned new hand dug wells are small, REST employed only 15% dry well for reconstruction. This shows REST will increase its efficiency and effectiveness during construction. It is expected that about 5 dry wells which is about 15% of the planned wells, will be reconstructed as a replacement for the dry wells. If there are no dry wells during the course of the project construction, the budget allocated for this will be refunded.

5.5 Hygiene and sanitation

Implementation modalities

It is essential to support the potable water development in the community by implementing hygiene and sanitation interventions. This is crucial in improving well-being of the society. REST realized to implement hygiene and sanitation intervention based on the national WASH strategy, which focused on community lead total sanitation and hygiene (CLTSH).

Approach one/Community Lead Total Sanitation and Hygiene/: is an innovative methodology for mobilizing communities to completely eliminate open defecation (OD). Communities are facilitated to conduct their own appraisal and analysis of open defecation (OD) and take their own action to become ODF (open defecation free). At the heart of CLTSH lies the recognition that merely providing toilets does not guarantee their use, nor result in improved sanitation and hygiene. Earlier approaches to sanitation prescribed high initial standards and offered subsidies as an incentive. But this often led to uneven adoption, problems with long-term sustainability and only partial use. It also created a culture of dependence on subsidies. Open defecation and the cycle of fecal–oral contamination continued to spread disease. In contrast, CLTSH focuses on the behavioral change needed to ensure real and sustainable improvements – investing in community mobilization instead of hardware, and shifting the focus from toilet construction for individual households to the creation of "open defecation-free" villages. CLTSH triggers the community's desire for change, propels them into action and encourage innovation, mutual support and appropriate local solutions, thus leading to greater ownership and sustainability. The approach focused on three phases, namely: Pre-triggering, triggering, and post triggering.

Step by step implementation of CLTSH

Pre-triggering phases

Pre-triggering is the preparation and planning phase for triggering communities. It is mandatory that all people and organization internalize the problem and form a common ground on the implementation of modalities and guidelines and craft a common action plan.

Triggering phase

Triggering means 'sparks used 'to ignite people. It is the heart of the CLTSH. It is guided by woreda level trained human resources such as HEWs, and water resource experts, etc. This is accomplished by conducting meetings with the community. The purpose is to identify analysis and recognize their hygienic and sanitation problem. To do these 160 facilitators (four from each scheme) will be trained on CLTSH.

Post triggering phases

It is the phase where concerted and persistent follow up, follow up of training, coaching and support is conducted. This is accomplished through 8 facilitators per scheme. This enables to facilitating HH and community dialogue during participatory meeting at community. Community

develop their own action plan in improving their sanitary facilities such as latrines, hand washing facilities. In this phase committees are selected at different levels to manage the CLTSH program. In addition to this review meeting and festivals will be conducted where 328 and 90 participants will be involved, respectively, at the mid and end of the program implementation period to assess the progress of the program to take corrective measure on time if any deviation.

Different material will be provided to the project community, such as 320 booklets and 80 flags to promote hygiene and sanitation.
Program follow up will be conducted using check list by REST Woreda coordination office and by the regional program coordinator to know the progress of the program.

6. Programme Results

6.1 Target of potable water construction

- Construction of new 35 hand dug wells;
- Rehabilitation of 6 hand dug wells;
- Hygiene and sanitation works for 41 water schemes.

6.1.1 Outcomes of the potable water construction

- Increase households' water consumption to 25 liters/day/person (GTP 2 Target);
- Reduction in distance walked to fetch water from 1 -2 hrs to 15 minutes;
- Reduction of queuing time from 1 hrs to 10 minutes;
- Reduction in workload of women and improved their health status;
- Children enrolment in school improved;
- Increased awareness of 7097 people on personal and environmental hygiene and sanitation;
- 1419 households constructed private latrine using slabs

6.1.2 Expected Impacts of the potable water construction

- Child (particularly girls) school enrollment improved;
- Children (particularly girls) education performance improved;
- Incidence of water borne diseases reduced and health status of women and children improved;
- Prevalence of diarrheal diseases decreased by 20%;
- Medical expenditure of the target community decreased by 50%;

6.2 Target of the personal & environmental hygiene promotion

- 7097 people/beneficiaries in all water schemes are triggered on personal and environmental hygiene and sanitation;

- 41 Community Extension Health Workers Trained on personal & environment hygiene and sanitation;
- 1419 households constructed private latrines using slabs;
- 41 community hygiene and sanitation committees established and operational;
- ODF festival will be conducted in all 41 sites;

6.2.1 Outcomes of the personal & environmental hygiene promotion

- 1419 households construct latrines using locally available materials and slabs;
- Households will use separate animal barns;
- 100% households practice hand washing after critical times;
- All households prepared.

6.2.2 Expected Impact of the personal & environmental hygiene promotion

- Morbidity and mortality of the targeted 7097 people decreased;
- Awareness on HEW and model and target beneficiaries on personal and environmental hygiene and sanitation improved;
- Cost incurred for medical expenses minimized;
- Knowledge and attitude towards utilizing open defecation reduced;
- Water and sanitation committee members strengthened;
- Cross contamination of surface water decreased;
- Community participation in their personal and environmental hygiene increased

7. Theory of change

REST has two levels of theory of change which are theory of change at organizational level and project or programme level. The theory of change at organizational level addresses the overall organizational mission and vision and strategic goals, while the project level theory of change focus on the specific projects developed to address the food insecurity and its determinants of targeted households through different development activities at both household level and community levels.

At organizational level REST's theory of change cuts across different thematic areas and is attributable to different programs and is indicated below:

1. Put organizational vision and mission
2. Put overall problem statement in the Region;
3. Put strategic goals and thematic areas followed to address the problem in the region;
4. Identify the main change processes followed in linking input-output-outcome-impacts;

5. Build the capacity of stakeholders (community and sector offices) for BOO (Building, Owning and Operating) development projects,
6. Enhancing stakeholders participation in strategic development,
7. Participatory approach from planning, implementations and evaluation
8. Integrated and sequenced project management approaches,
9. Strengthening the institutional development,
10. Sharing knowledge and experiences through REST's Knowledge management portfolio.

Theory of change at the project level: The main theory of change that will be followed during the project period has been indicated below:

1. The main problems and underlying causes of the problems have been identified and documented;
2. Target groups affected by the problems have been identified and screened;
3. Develop programmatic overall goal and specific objectives;
4. The necessary resources, skills and knowledge needed to tackle the problem identified;
5. Screen resources available at community level and those from external assistance;
6. Participatory approaches, tools and frameworks developed and agreed;
7. Partnership and collaboration exists among all stakeholders;
8. Potential stakeholders agreed on the implementation processes of the projects;
9. Identify internal and external risks, and assumptions as beliefs and values necessary for the implementation of the program;
10. Identify change markers or indicators to measure the changes expected developed and measured;
11. Household water borne diseased reduced and sanitation and hygiene use improved;
12. Identify potential unintended consequences of the project both positive and negative

8. Implementation modality

This project has two components: construction of water schemes and community hygiene and sanitation programmes. The construction of the water schemes goes in full-fledged part that comprise of the construction of the scheme part and establishment of the WASH Committee part. Community hygiene and sanitation part goes in awareness creation about personal and environmental hygiene at community level through HEW and triggering and expand to the whole community until the community declares ODF. The two implementation modalities are described below:

8.1 Implementation Modality of the Water schemes development

REST will follow the following implementation modality devised for the construction and functioning of the water schemes in different Woredas in Tigray:

- Feasibility Study: REST feasibility study experts with the water resources development department consults respective Woreda Resources Offices for prioritized water scarce Tabias;
- Confirmation of the information will be carried out with consultation of the community representatives and local administrations;
- Investigation follows using aerial photo, top map and data of the previously constructed water schemes in the areas. The geological and hydro-geological study helped to select the ground potential of the sites. During the investigation priority will be given to their potential for each technology;
- REST requests acceptance letter of confirmation to construct the schemes from the community Baito including their role and contribution during the scheme development;
- REST will mobilize its construction crew and materials and equipment to construct the schemes;
- As part of natural resources management, REST Rural Water Supply Department will work in close collaboration with ERAD (Environmental Rehabilitation and Agricultural Development) Department for the construction of soil and water conservation structures in a bid improve the recharge of the water supply schemes;
- Monitoring and follow starting from pre-feasibility study to construction and post-implementation of the water schemes;
- REST in collaboration water quality analysis of the completed schemes;
- REST will establish and train WASH Committees for hygiene, maintenance and operation of the water points through fee collection and administrations;
- REST will provide initial spare parts to the WASH committees;
- The Completed water schemes will be linked to the Post Implementation Monitoring System (PIMS) established by REST for post implementation management and sustainability of the schemes for major maintenance and long lasting spare parts supply;

8.1.1 Main training contents for WASH Committees:

- Hand washing during critical times;
- Personal hygiene;
- Safe and proper disposal of human excreta and solid wastes;
- Diseases related to hygiene and sanitation and their control methods;
- Operation and proper utilization of facilities (schemes);
- Inspection and keeping the cleanliness of facilities (schemes);
- Storing, issuing and using of WASH equipment and tools;
- Treatment of water supply schemes;
- Establishing administrative relationship;
- Allocation of responsibilities among committee members;
- Scheduling of committee meetings and routine activities;
- Financial resources allocation and utilization;

- Capacity building of members on technical aspects of scheme for minor maintenance;
- Community mobilization;
- Environmental sustainability and rehabilitation issues.

8.2 Environmental Hygiene and Sanitation part of the Project

To improve the hygiene and sanitation of the community in the project Woredas, intensive training will be given to model household farmers selected by the community with potential to influence their neighbors and share their skill and know-how to the project beneficiaries in their surroundings. Therefore, it is planned to train 41 community health extension workers and 80 model farmers in personal and environmental personal and environmental hygiene and sanitation. Communities will be linked with potential suppliers of slabs for private latrine constructions. The use of slabs would have significant importance in protecting termites and sustaining the latrine utilizations.

8.2.1 Main training contents for community hygiene and sanitation part:

- Promotion of water, sanitation and hygiene;
- Maternal and child health care and reproductive health promotion;
- Nutrition promotion;
- Infectious diseases prevention like malaria and tuberculosis;
- The role of women involvement in water and sanitation;
- The role of community participation and sense of ownership;
- Intersectoral collaboration/integration and project sustainability;
- Health education teaching methodologies; programme follow up; supervision and monitoring skills;

8.2.2 Trainees selection criteria (committee membership & participation in trainings);

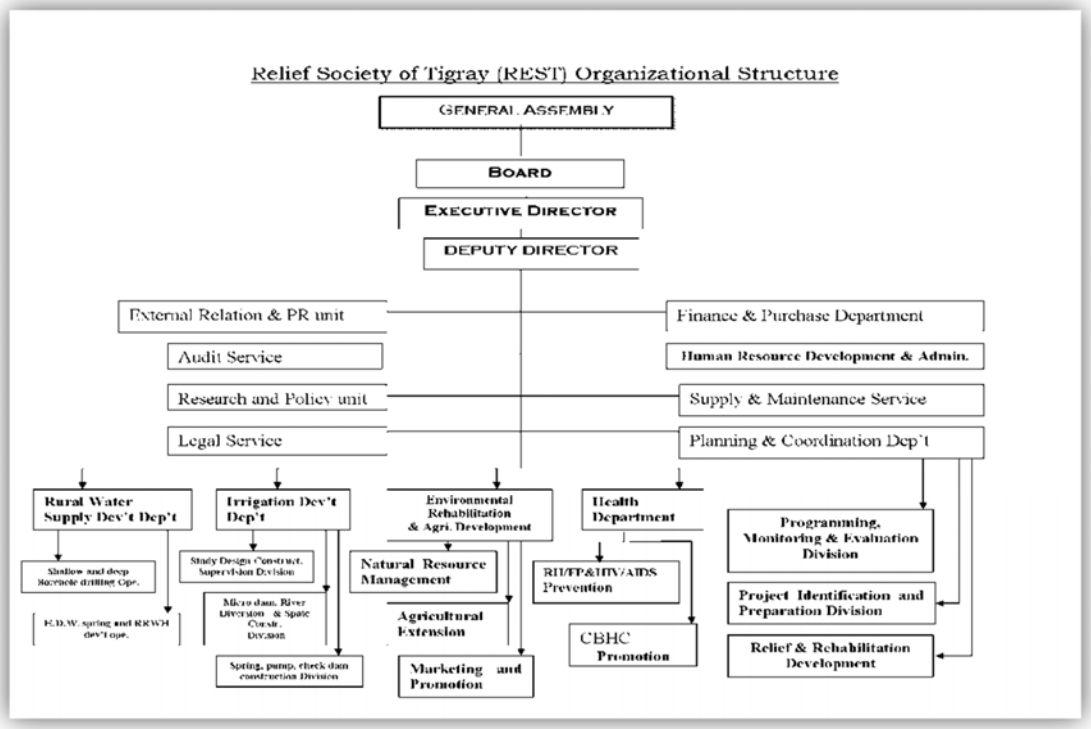
- Households near to the water points;
- Women with more child bearing age;
- Willing to participate and work on food security initiatives and become model for their community;
- Highly influential in skill and knowledge and experience;
- Active participant in health intervention programmes;
- Preferably who are able to read and write

9. Implementation Period

The project in the calendar year to December 31st 2016. The total numbers of water schemes that are going to be constructed during the two phases are 41 in number. The number of schemes that are going to be implemented will be 41 in number; that is, 35 NHDW and 6 RHDW. Besides, 5 NHDW have been budgeted to compensate for the dry Hand Dug Wells, which is 15% of the total wells planned to be constructed during the project implementation.

10. Organizational Profile

10.1 Organizational Structure: REST has a General Assembly of about 500 peoples (120 females and 380 males) drawn from different stakeholders as the community at target community at large, private sectors, government institutions, and funding organizations. The general assembly meets every year and elects board of directors every five years, and gives role and responsibilities to them. The board of directors elect meets every quarter and assesses the progress of the organizations. The board of directors recruits the Executive Director and Deputy Director and gives each their role and responsibilities. The Executive Director has the responsibilities to manage day to day activities of the organization and represents REST in meetings and workshops of national and international. The Executive Director leads a Management Committee. The Management Committees are those heads of each department under the umbrella of the organizations. The management committee follows the technical, financial and administrative works of the organization and they are accountable to the Executive Director.



10.2 Areas of Expertise:

REST has been pioneer in the area of natural resources management through introduction of best practices and innovative solutions to the land degradation in Tigray as area enclosure, catchment treatment, check dam development, percolation structures

constructions, reforestation and afforestation, and alternative energy sources. Currently, REST is implementing a bench terrace based food security development to the landless youths in Tigray. Food security is another area of focus for REST to enhance the livelihood and income generation of target farmers. REST has been implementing a natural resources based food security development in different project areas. As a result of the reclamation of the natural resources base of the environment, the productive and reproductive capacity of the land has been enhanced for cereal, fruit, horticulture, grass, etc. All the food security and institutional developments of REST are implemented under the Environmental Rehabilitation and Agricultural Development Department (ERAD). REST has been constructing different irrigation schemes both at household and community level as households and community based ponds, river diversions, irrigation springs, mini-dams, irrigation check dams, subsurface dams, water lifting irrigations, etc. The construction of such irrigation schemes are done through in-house built capacity under the irrigation development department. Rural water supply development is another area of expertise for REST, under the Rural Water Supply Department (RuWaS). Different water supply schemes are constructed by the department as shallow boreholes, deep borehole, spring protection; multi-village water development and hand dug wells. REST covers the whole Tigray in the construction of such rural water supply schemes. Currently, REST is the sole responsible body for construction of potable water supply in the rural areas of Tigray vested by the regional government of Tigray to it.

10.3 Role in Civil Society:

REST is an active member in the ACSOT (Alliance for civil society organization in Tigray) where different civil society organizations participate. REST also participate in national civil society forums as CCRDA (Consortium for Christian Relief and Development Agency). REST is also represented in different civil society organizations in the region; for example, Executive Director of REST is a board chairman of Tigray Farmers Associations (TFA). REST also implement different projects that enhance the role of civil society organizations in the Region with funds secured from Civil society support programs (CSSP), Social Accountability from Management Agency (MA) fund secured from the USAID & World Bank, etc., Social protections in support of older people with the fund secured from A German Cooperation Development (BMZ), grass root institutions or community based organizations (CBO) development with the fund security from Civil Society fund (CSF) of the European Union. Hence, REST mainly works in the establishment, strengthening and empowering of community based organizations as Cooperatives, /associations, Self-Help Groups (SHG), Community Core Coalition (CCC), Community based Disaster Risk Management Committee (CBDRMC), WASHCos (Water, Sanitation and Hygiene Committees), etc. in a bid strengthen and empower their voices to be heard and be an active agent of civil rights and their developments.

11. Stakeholders Analysis

Stakeholder analysis has significant importance in identifying the main stakeholders during the implementation of the project. Each stakeholder would have played their role and responsibilities in delivering the planned activities and mobilizing, monitoring and evaluation of projects. The table below depicts the type of stakeholders and their role in the project management:

Planned				**Monitoring**
Stakeholders	Why are they involved?	How are they involved?	When might they be involved?	What is the stakeholders' opinion about the project?
Population				
1.Target group	Direct beneficiaries	Beneficiaries, monitoring and evaluation of project	At all times	Most of the beneficiaries believe that the project will contribute more to improve their health and reduce water borne diseases.
Public sector				
1. local administration /tabia and wereda/	Project stakeholders	Beneficiary selection, community mobilization, monitoring and evaluation of the project	At all times	They believe that the project will change the target groups health conditions for the better; bring social equity and environmental stability
2. agriculture and rural development office	Project stakeholders	Natural resources management, monitoring and evaluation of the project	At all times	They believe that the project will change the target groups health conditions for the better; bring social equity and environmental stability
3. Water, mine and energy office	Project stakeholders	Beneficiary selection, monitoring and evaluation of the project	At all times	They believe that the project will change the target groups health conditions for the better; bring social equity and environmental stability
4. Health office	Project stakeholders	Beneficiary selection, monitoring and evaluation of the project	At all times	They believe that the project will change the target groups health conditions for the better; bring social equity and environmental stability
Private Sector				
Input Suppliers	Project stakeholders	Input supply during direct purchase and purchase through tendering	At the beginning	They would have significant importance in stabilizing markets and enhance availability of materials and

				equipment on market needed by the project
Civil Society				
1. Farmer, youth and women associations	Target groups and project stakeholders	Community mobilization, monitoring and evaluation of the project	At all times	They have positive opinion toward the project. Most of the project beneficiaries are believed to be members of these institutions and these would have significant importance in scaling up successful projects and improve living conditions of their members especially in relation with WASH programmes
2.WASH committee	Target groups and project stakeholders	Community mobilization, monitoring and evaluation of the project	At all times	They have positive opinion toward the project. WASH committees have significant role in successfully implementing the projects through advocacy work and mobilizing the local community. WASHCos are the main bridge between the project holder and the community for technical terms in close collaboration with local administrations and sustainability of the schemes.
Donor Organization				
Watertothrive	Project stakeholders	Project funding, monitoring and evaluations	At all times	They have positive opinion towards funding of the project for successful implementation and its sustainability.

12. Monitoring and Evaluations

Monitoring and evaluation for REST is a management tool. M&E enables REST to see how it is doing against objectives, whether it is having an impact, whether it is working efficiently, and learn how to do it better. REST will employ a participatory project management approach where all the relevant stakeholders such as Woreda agriculture offices, Woreda water resources offices, Woreda women and youth affaires offices, Woreda administration, etc. participate from problem identification, beneficiary selection, implementation, monitoring and evaluation processes.

Especially during project monitoring and evaluation stakeholders will have important role. Planning of M&E is geared towards learning from what and how REST is doing its projects/programmes mainly focusing on determining: *Relevance, Efficiency, effectiveness, impact* and *sustainability* orientations of the projects/programmes planned. **Relevance** tells the extent to which the objective of development intervention is consistent with beneficiaries' requirements, needs, priorities, and partner' and donor's policies. **Efficiency** tells that the input into the work is appropriate in terms of the output. This could be input in terms of money, time, staff, equipment and so on. In other words, it measures how economically resources/inputs (funds, expertise, time, etc.) are converted into results. **Effectiveness** is a measure of the extent to which a development programmes or project achieves the specific objectives it set. Efficiency makes comparison between the results achieved and the planning; that is, how far the planned objectives are achieved. **Impact** tells whether or not what one did made a difference to the problem situation one was trying to address. The positive and negative, primary and secondary long term effects produced by a development intervention, directly or indirectly, intended or unintended are considered. **Sustainability** is the continuation of benefits from a development intervention after major development assistance has been completed. It is probability of continued long-term benefits. The resilience to risk of the net benefit flows over time.

Why Monitoring? Monitoring is the systematic collection and analysis of information as a project progresses. It is aimed at improving the efficiency and effectiveness of a project or programmes. It is based on targets set and activities planned during the planning phases of work. It helps to keep the work on track, and can let management know when things are going wrong. If done properly, it is an invaluable tool for good management, and it provides a useful base for evaluation. It enables REST and the donor to determine whether the resources we have available are sufficient and are being well used, whether the capacity we have is sufficient and appropriate, and whether we are doing what we planned to do

Monitoring will be carried out by the grass root level project management bodies as REST coordination offices in collaboration with Woreda Water Resources, Agriculture and rural development offices professionals, DAs, and Community Representatives. During the project monitoring all the project management processes will be addressed as input distribution, training of SMS & DAs, and delivery of trainings and demonstration to farmers, farmers exercise or practices of the lessons learnt at their fields. Reports produced during the monitoring processes would have significant importance in addressing the critical problems encountered during the process of implementation of the project. In addition to the monitoring by professionals at the grass root level, head quarter senior experts, professionals from the funding agency and sector offices experts will also have significant importance in conducting joint monitoring of the projects and discuss challenges and problems on the spot and come up with agreed solutions and way forwards to improve the implementation capacities.

Why Evaluation? Evaluation is the comparison of actual project impacts against the agreed strategic plans. It looks at what one sets out to do, at what one have accomplished, and how one accomplished it.

Evaluation of the project will be conducted in two ways: Evaluation by internal staffs where REST senior experts will develop ToR and conduct evaluation against the developed ToR at an interval periods, mostly by quarter. The result of the internal evaluation will be forwarded to REST management body and department heads for immediate solution of challenges and problems (if any). The results of the internal evaluation will also be shared with all stakeholders including the funding agency. The result of the internal evaluation will also be circulated among all stakeholders to be discussed during the Woreda steering committee meeting in a bid enhance the project performances. This type of evaluation is called **Formative Evaluation** (taking place during the life of a project with the intention of improving the strategy or way of function of the project). The second evaluation system will be conducted by external consultants through ToR deployment and formal tender process where the winner will conduct the final evaluation of the project at the end of the project period against the set indicators and expected results and make comparison with the baseline survey conducted at the beginning of the project. This type of evaluation is called **Summative Evaluation** (drawing learning from completed projects that are no longer functioning).

13. Sustainability and Exit Strategy

13.1 Sustainability

Sustainable development was popularized in *Our Common Future*, a report published by the World Commission on Environment and Development (WCED), in 1987. Also known as the Brundtland report, *Our Common Future* included the "classic" definition of sustainable development: "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (IISD 2010)[15]. According to the Scarborough Borough Council (2010-2013)[16], it is the overall aim for improvements in local people's 'quality of life' through a combination of economic development, environmental stewardship, and social progress, whilst using resources in a sensible manner for present and future generations to enjoy. Sustainable development is important because there has been a growing realization that the current mode of development is unsustainable. It has become increasingly clear that on a global scale people are living beyond the limits of the environment, and their lifestyles that many of them have become accustomed to placing an increasing burden on the planet. People are putting increasing stress on resources and environmental systems such as water, land and air and the planet cannot support these lifestyles forever. Natural resources are under pressure as they are only in finite supply and

[15] IISD. 2010. Sustainable Development from Brundtland to Rio 2012. High level panel on Global Sustainability. United Nations Head Quarter, NY.

[16] Scarborough Borough Council. 2010. Sustainable Development Strategy. website: www.scarborough.gov.uk

therefore are running out. Furthermore, sustainable development is important because as the availability of finite natural resources decreases the financial cost increases and hence poor and marginalized people will have no capability the means for survival and the inequality dimension widens (*ibid*).

The following REST's sustainability approach; that is, technical/technological development, financial development, Institutional development and governance of completed projects will address the three pillars of Sustainable Development adopted by the WCED in 1987 and further by Rio submit in 1992. This Sustainable Development (SD) comprises of Economic development, Social equity and Environmental protection. Environmental friendly technologies or assets in line with relevant capacity building will enhance the economic development; communities will also be mobilized for natural resources conservation and moisture harvesting on farm and communal lands coupled with plantation on agro-forestry and communal lands which will enhance the environmental viability of the project which have significant importance on the water table potential of the area in both surface and ground levels. Farmers will also be encouraged to enhance their institutional development for different community based organizations (CBO) establishment such as watershed committees, water users associations (WUA), producers and marketing cooperatives, WASH Committees, etc. These institutions with enhanced income generations with pro-poor development approach will propel social equality and hence Sustainable Development (SD). Water governance has, according to UNDP (2004 cited in AfDB (2008)[17] been described as "… the range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services, at different levels of society." Good governance mainly depends on the quality of leadership, the strength of the institutions and how efficiently, effectively, sustainably and transparently the resources are managed by sector institutions and main stakeholders. Hence, in managing the water schemes and enhancing water sector governance and develop ownership by the community at large, the following four governance pillars will be given due emphasis:

Institutional setup: Local institutions such as this WASH Committees will be established and their capacity will be built to take over responsibilities as a phase over and phase out strategies where their role will be crucial in sustaining the development endeavors carried out. Leaders from Tabia to Woreda and to regional level will recognize the role and responsibility of the local institutions play. Clear role and responsibility of each local institution will be designated and agreed upon by all parties and taken up as rules and regulations of each enterprise.

Technical or Technological: The local institutions and the target community at large will receive technical capacity building through trainings, exposure visits and workshops. Capacity building can be categorized in two aspects: communal and individual. Communal: when institutional setup such as this WASH committees formation have been endeavored to respond to group based

[17] African Development Bank (AfDB). 2008. Water Partnership Programme (WPP) for Water Sector Governance in Africa. Legos, Nigeria.

responsibilities, and individually, the members of the institutions will have equal responsibilities to carry out their commitments such as leadership, documentation, financial management, etc which need specific capacity buildings on. Besides, technical experts from REST and Sector offices espcially water resources offices will support them during the process to successfully carry out the implementations and make the projects more sustainable. The WASH Committees will also get trainings on minor maintenance of the water schemes and be linked to service delivery private and government institutions such as for supply of spare parts and major maintenances.

Financial: To sustain the established institutions financial sources will be of great significance for them. The different institutions that have been established shoulder different responsibilities vested upon them by the community. To enable them carry out their commitments, they will apply cash generations through user fees or member contributions. User's fee and member contributions with transparent utilization of the resources will create sense of ownership by all members and community at large. Schemes maintenance using contribution without external support will enable the schemes to be sustainable.

Governance: Good water governance is based on principles of good governance, which include equity, efficiency, participation, decentralization, integration, transparency and accountability. Yet there is also a tendency in the water sector to reduce issues to their component parts and thereby lose sight of the overall governance picture. Until recently, most aspects of governance have been treated in isolation. The application of mitigation measures (e.g. decentralization, participatory planning, etc.) has often been seen as an end in itself. Real improvements in governance have become lost and linkages between sector governance and the wider governance context overlooked (AfDB 2008)[18]. Moreover, recent studies have demonstrated that there is a direct correlation between the countries most lacking water services and those with the weakest governance9. Improving governance in the water sector is therefore not only about government systems and services delivery; it encompasses a much broader range of factors, including engaging civil society, non-state agents and their relationship to government. Sustainable services are not achieved without involvement of other stakeholders and particularly water users in the development of the policies and laws for sector development. This applies equally well to water resources management, with good sector governance backed by appropriate policies and laws being a key determinant of the sustainability of water resources (*.ibid*).

13.2 Exit Strategy

REST/WW will withdraw its resources from the program areas as a step by step approach without creating room for negative impacts on the established enterprises or institutions and sustainable use by beneficiary farmers. A 'step by step' approach mean that activities that will be decreased through time and activities to be taken up by local institutions such as this WASH committees and sector offices be identified and work accordingly. Finally all resources from the program and

[18] African Development Bank (AfDB 2008). Water Partnership Programme (WPP) for Water sector governance in Africa. Legos, Nigeria.

project areas will be withdrawn. REST will work to create conducive ground where community at large and stakeholders understand the need to exit from and aware community, local institutions and sector offices to take their responsibility during the post-implementation programs management. REST follows three main exit strategies of the project as Phase in, phase over and phase out strategies**:**

i) **Phase in strategy:** During the phase in strategy different preparation works will be conducted such as signing of project agreement with funding organization, preparation of operational plans, signing MoU with relevant regional government, distribution of operational plans, MoU with Woreda relevant government sector offices, conducting launching workshops, identify role and responsibilities of all stakeholders, etc.

ii) **Phase over strategy**: during the phase over strategy successfully completed projects will have been consigned over to the community at large and the local administration and Woreda sector offices for sustainable resources utilization. For sustainable management of the water schemes the WASHCo will have gotten full training on the management and resources mobilization after being elected by the community based on the regulations of the national and regional water sector management strategies.

iii) **Phase out strategy**: this strategy is the final phase of the project implementation and all preparations will have been finalized to stop resources from infusing into the projects from external sources (the donor) and all resources will have by now been consigned over to the stakeholders for their sustainability. The capacity of the community to managing their endowments and assets and the support giving system of sector offices built during the project implementation period. At the end of the project period there will be an exit strategy workshop where all stakeholders as implementer, sector offices, community representatives, local administrations, Woreda administrations, donor representatives and regional offices participated. During the exit strategy workshop the status or progress of the project against set plan will be presented and discussed; challenges and problems encountered will be discussed; role and responsibilities of all stakeholders during the post-implementation management of the project will also be discussed and way forward issues documented. All stakeholders especially of the community at large, Community based institutions (CBI), Tabia Administrations, Woreda Sector offices, etc. will take their role and responsibilities in a bid make the project sustainable during the post-implementation period. These will be formalized through formal documentation with authorizations.

The project proposal is developed, incorporating all the sustainability approaches; that is, technical/technological, financial, institutional developments and governance, to address these exit strategies from pre-project implementation, during project implementation, final stage of project implementations, and post-implementation stages. During the post-implementation stages all the responsibilities will dwell up on the shoulder of the community, community leaders and local administrations (Woreda Administrations). Binding documents will, with all authorization, be produced depicting the hand over and hand in project results for their sustainability. The project

logical framework with its results/intervention logics, objectively verifiable indicators, means of verifications, and risks and mitigations has been annexed as annex I to this proposal.

14. Risks and mitigation measures

Impact of the risks are calculated using a) severity where 5 scores from catastrophic (5 points) to insignificant (1 point), b) likelihood where 5 scores from almost certain/likely (5 points) to rare (1 point) and c) Risk level where severity are multiplied by likelihood. The minimum score and maximum score for risk level are 1 and 25 in that order. Hence, according to the calculation the risk levels have been calculated to be 7.75 based on the mitigation measures proposed and this risk level is within the capacity of the organization to taking immediate actions successfully to solve problems.

Project Risks	Severity	Likelihood	Risk Level	Risk Management/Mitigation Plan	Responsibility/Timeframe
External Risks					
1 Physical factor (outright rain cease over large area, poor distribution of rain, unpredictable weather changes, etc.).	2	2	4	As a major drought proofing action, the project will create access to water security, household and community level and improving moisture conservations using different techniques, and enhance diversification of income sources	REST Emergency Unit and Government Early warning, emergency response and food security Desk; Rural Water supply Department; ERAD (Environmental Rehabilitation and Agricultural Development) Departments; Situational Analysis at the start of the project
2 Inflation of project inputs as a result of international crisis and increased consumer demands. The ever increasing price of materials such as tools, machineries, etc., could affect the project implementation.	3	3	9	To mitigate this risk REST will promote in bulk purchase and procurement of different materials from source/factory.	REST's Finance and purchase Department and All implementing Departments process bulk purchase on time, immediate after the project is approved
Internal Risks					

Staff Turn over	3	3	9	If experts apply for release need one month to get that release, and in the meantime new staff will be recruited without creating gaps. The challenge will be the new staffs needs time to have good knowledge on the project and will be updated through orientation & on-job trainings	There is one month Notice of Termination (NoT) by the Worker before processes release, the department from which the staff is requesting release and HRD should process recruitment of new staff in place of the leaving staff. This is a continuous process.
Procurement challenges	3	3	9	There are some items not easily available on market that negatively impacts our project. Besides, some suppliers' capacity is limited that may not supply materials on time as scheduled creating negative impact the implementation of the project. Hence, strictly follow the procurement process if there are delays in supply retender for new potential suppliers. Besides, see the record of the suppliers with REST.	Though the procurement depends on time purchase of inputs, requesting and Supply and Transport departments are required to dispatch on time. This is a continuous process.
Risk Average			7.75		