



## ACRONYMS

ARI	Acute Respiratory Infection
GTP	Growth and Transformation Plan
MWA	Millennium Water Alliance
SDG	Sustainable Development Goal
WaSH	Water, Sanitation and Hygiene
IWRM	Integrated Water Resource Management
HEW	Health Extension Worker
HWF	Hand Washing Facilities
CLTSH	Community Lead Total Sanitation and Hygiene
SLTSH	School Lead Total Sanitation and Hygiene
WaSHCO	Water Supply and Sanitation and Hygiene Committee
MDG	Milliniue water alliance
GCM	General Circulation model
SDM	Static downscaling model
WEO	Woreda Education Office
UTI	Urinary tract infection



The overall purpose of this strategic plan is to identify the need to attain full coverage by 2030 through a thorough Life Cycle Cost estimation of WASH facilities. Specifically, this strategic plan aims to improve access to universal, safe and affordable water supply, sanitation and hygiene coverage of the woreda., Moreover, it will work to strengthen community development and natural resources conservation and protection efforts that will respond to the critical importance of water to economic development and to a great improvement in the health and living conditions of the target communities to contribute towards poverty reduction and sustainable development.

The implementation timeline of the strategic plan will cover the period from 2019 to 2030. The strategic plan is expected to be implemented in a coordinated manner by the Woredas government with full participation of communities, the private sector, Non Governmental Organizations (NGOs) and all other stakeholders.

The total budget planned over the five years' period for the program is 1,824,218,000 Birr. From the total, budget for water is 1,704,000,000 birr, sanitation 68,800,000 birr, hygiene component 9,480,000 and others 41,938,000 birr. The major share of the estimated budget is expected to come from various sources. These includes the government (40.6%), the user communities (8%), NGOs and Bilateral (51.4%). A resource mobilization plan will be prepared and coordinated by the woreda WASH Team (WWT) to enable the mapping and attract potential funders



**Economic Activities:** Predominantly North Mecha woreda is dependent on agriculture, which accounts 85% of the total population are dependent on. The woreda is one of the major Teff (staple food) producing areas in West Gojjam Zone. Barely, wheat, maize, wheat, beans and peas are major crops produced in large quantities. Koga is one of the large scale dum with 7,000 hectare irrigation capacity found in the region is located in the woredas. Eucalyptus tree is one of the major cash tree

**WATER RESOURCES:** Abbay basin is one of the 12 river basins in the country and it is subdivided into 16 sub-basins. This basin accounts for 20% of Ethiopia's land area, Eucalyptus for about 50% of its total average annual runoff and for over 40% of its agricultural production (Girma & B. Awulachew, 2007). It contains Lake Tana which has an estimated mean annual flow of 54.8 Bm<sup>3</sup> being the biggest freshwater reservoir in the country. Tana is one of the main Abbay sub-basins with a catchment area of 15054 km<sup>2</sup>.

North Mecha woreda which is part of the Gilgel Abay catchment is mostly composed of Quaternary Volcanic basalt (Ministry of Water Resources, 2010). Gilgel Abay, Rib and Gumara catchments contain large rivers which feed Lake Tana. During the rainy season, the river in the floodplain overflows due to poor drainage conditions. These areas are flooded for a large part of the year. These frequent floodings are a major problem in the downstream areas of Gumara watershed and in Dera woreda. Gumara catchment suffers severe soil erosion (1.643 Mg/km<sup>2</sup>/year) annually in the upstream area. By comparison, Koga catchment, located within Gilgel Abay catchment, has an annual erosion of 1.66 Mg/km<sup>2</sup>/year (Alemayehu & Hagos, 2009).

The majority of the runoff occurs during the rainy season and there is significant spatial variation between the catchment areas. Gilgel Abay runoff has the highest value, even when compared to its rainfall which could be due to sub-surface flow from outside of the catchment area (Ministry of Water Resources, 2010). Gilgel Abay being the catchment producing the highest runoff is being corroborated by other reports such as (Dessie, 2015). The results obtained indicated that 60% of inflow to the Lake Tana is from the Gilgel Abay (Dessie, 2015).

**Table 1: Main characteristic of the catchment studied. Source: Ministry of Water Resources 2010.**

Catchment	Area (km <sup>2</sup> )	Precipitation (mm/year)	Runoff (mm/year)
Gilgel Abay	1664	1759	1088
Gumara	1394	1328	673
Rib	1592	1245	270
Gelda	1500[1]	NI	600[2]
North Gojam	NI	NI	NI

## 1.2. Current status of Water, Sanitation and Hygiene Situation of the Woreda

Apart from the ongoing enormous effort, water supply and sanitation sectors are still recognized with low coverage, poor integration, and low level of reliable and sustainable services nation wide. A report by WaterAid Ethiopia in 2016 estimated that 42.2 million Ethiopians were living without access to safe water. This is despite the gains made by the country in reaching the Millennium Development Goal (MDG) target related to water. However, with all the limitations, currently, the national water supply coverage grown to 65% according to the MDG definition (WHO/UNICEF Joint Monitoring Program report of 2016).

As the first growth and transformation plan was finalized on the mid of 2015 this Second Growth and Transformation Plan (GTP-2) covering the period from 2016-2020 is prepared. The main focus of the plan is to increase water access of the country with the assumption of providing potable water within 0.5km radius and 30 - 100 liters per capita per day for urban peoples and 1.5km radius with 25 liters per capita per day for rural peoples based on GTP 2 plan of the water access of the country. It has been planned (GTP-2) to increase water access of the country from 68.5% to 98.5% with the assumption of providing potable water within 0.5km radius and 30 - 100 liters per capita per day for urban peoples and 1.5km radius with 25 liters per capita per day for rural peoples based on GTP 2 plan of the water access of the country.

According to service delivery and equity analysis assessment report MWA, 2018, the water supply coverage of North Mecha woreda is very low which about 40% for rural and 36% for urban population. However, more than 60% (199,631) of North mecha's population do not have access to safe drinking water supply.

**Table 2: Status of North Mecha Woreda Water service levels as per the SDG Definition**

S/No	Level of service	Coverage
1	safely managed	1%
2	Basic	40%
3	Limited	24%
4	unimproved/surface water	34%

The infrastructure used for delivery of water services in the District includes 49 community rope pump, 50 spring on spot, 439 HDWs, 64 Shallow wells, 5 deep well with distribution, 10 spring with distribution and one motorized spring with distribution.

**Table 3: Served community by technology and kebele, 2018**

S/N	KEBELE	Popn	RP	spring (on spot)	HDW	SS	SW	DW	Spring (RPS)	% Served
1	Abiyot Fana	6725	1	0	7	0	5	0	1	58
2	Deremene	4802	0	0	4	0	1	0	0	19
3	Addis Amba	5840	0	1	14	0	0	0	0	42

4	Addis Lidet	3836	0	0	8	0	0	0	0	33
5	Bachime	12321	0	0	7	0	1	0	0	11
6	Berta Gebere	3993	0	0	13	0	0	0	0	52
7	Berakat	13573	1	0	26	0	1	1	2	70
8	Degi Abit	20227	3	2	14	0	0	1	0	24
9	Dil Betigil	8933	3	5	0	0	0	0	2	46
10	Ediget Behibret	8860	2	0	27	0	0	0	0	50
11	Enamirit	6862	1	0	10	0	0	0	0	24
12	Enashenifalen	9885	1	0	8	0	5	0	0	26
13	Gora Got	6720	2	0	17	0	0	0	0	42
14	Kudmi	11455	1	0	8	0	7	0	0	27
15	Mekeni warka	6708	0	0	9	0	1	1	0	55
16	Taringa	7720	4	0	12	0	11	0	0	63
17	Agamina	3721	0	0	10	0	0	0	0	43
18	Teleta	7230	0	0	5	0	0	0	0	11
19	Tekle Dib	10089	3	1	23	0	1	0	0	42
20	Ambo Mseke	8890	3	0	11	0	5	0	0	36
21	Aweta	6771	0	1	9	0	1	0	0	28
22	Kolela	4828	0	0	4	0	2	0	2	86
23	Felege Berehan	8818	2	0	22	0	0	0	1	58
24	Kurt Bahir	8600	3	0	9	0	8	0	0	42
25	Memdere Genet	7360	1	0	33	0	1	0	0	76
26	Rim	16410	0	0	17	0	3	0	2	39
27	Tatek Gebere	7719	0	0	23	0	0	0	0	48
28	Tatek Lesera	7619	4	1	22	0	0	0	0	51
29	Wetet Ber	8664	0	0	22	0	0	0	0	41
30	Zemene Hiwot	11786	0	0	23	0	0	0	0	31
31	Dagali a/alem	6435	0	1	9	0	0	0	0	25
32	Eneguti	7782	1	2	13	0	4	0	0	45
33	Wetet Abay	11720	0	0	0	0	0	2	0	34
	TOTAL	282902	36	14	439	0	57	5	10	40

From the total 562 water scheme found in the woredas, 13 community rope pump, 36 spring on spot, 60 HDWs, 7 Shallow wells, are non- functional. Hence, the functionality rate of the woreda is 17 % (Asset inventory, 2018).

**Table 4: Functional and non functional water supply systems**

	Rope pump (Community )		Capped spring (on spot)		Hand dug well with hand pump		Self supply		Shallow well (borehole )		Deep well with distribution (RPS)		Spring with distribution (RPS)		Motorized Spring with distribution (RPS)		Total
	F	NF	F	NF	F	NF	F	NF	F	NF	F	NF	F	NF	F	NF	
Rural	36	13	14	36	439	60	0	0	57	7	5	0	10	0	0	0	677
Urban	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	36	13	14	36	439	60	0	0	57	7	5	0	10	0	1	0	678

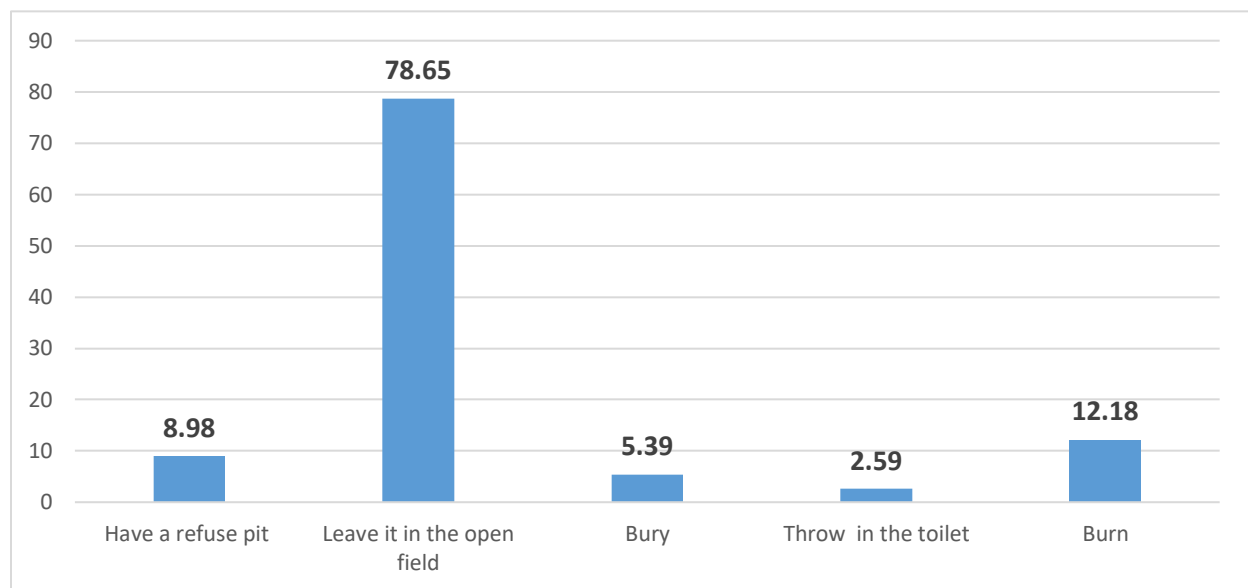




Regardless of the expected standard for latrines to have hand washing facilities with soap/white ash or sand, it is widely observed that most latrines lack above basic requirements. During the survey, 99% of the HH do not have Hand Washing Facilities within their compound. Handwashing with soap at critical times (such as after contact with feces and before handling food) has been shown to substantially reduce the risk of diarrhea and acute respiratory infections (ARIs). However, 73% of the community wash their hands with soap to remove dirt/make clean their hands.

On the other hand, the level of awareness of the people on environmental hygiene practices towards household solid waste / refuse management is very low, as it was observed almost all of the HHs of the woreda dispose their waste every where in their compounds and do not have in yard/on site refuse disposal pit. In general, the poor situation of water supply and sanitation is further aggravated by inappropriate knowledge, attitude and practices in use of drinking water and sanitary facilities by communities. Almost 77% of the communities leave out their solid waste in their compound.

**Graph 2: Solid waste management system**



Institutional WASH also suffers from both accessibility and meeting standard quality in the woreda there are 77 primary and secondary schools. The monitoring report of the district education office indicates that only 15 out of 77 schools (19%) have water supply service. With regards to latrine service, only 8 schools have access to improved latrines and the remaining 92% of the schools have no latrine, the latrines are not of good standard and the latrines have no sex segregated rooms or blocks which encourages female students to use latrines during school days. The majority of schools burn their solid waste within or near the school compound and almost of the schools throw their solid waste on a refusal dump within or near the school. In aggregate there are about





based Full WASH Coverage start-up initiative. Key stakeholders at the workshop welcomed the initiative and pledged to cooperate with all the partners and participate actively in the development of the master plan and its implementation.

Consequently, assessment for master planning was done to support the planning process with realistic information. This process required extensive assessment and information gathering, as well as reflection, brainstorming, planning and partnership building. Generally, several assessments were done so far to support woreda master plan preparation and to serve as base line. Among the assessments conducted to date: Community asset inventory & management, understand woreda level costs and expenditure (LCCA), Assess service levels and service providers, Water resource assessment, private sector & local financing assessment, Assessment of WASH in health care facilities and schools, WASH sustainability check, Stakeholders & network analysis, Socio-economic assessment in WASH. Asset inventory & management and Political economy analysis.

Several strategic planning workshops were also held to establish the needs, vision, defined outcomes, strategies, implementation arrangements and funding mechanisms towards achieving full WASH coverage. The forum provided a common platform for discussions on the challenges and opportunities of achieving full coverage of WASH in the District by 2030. The discussions were informed by the service monitoring data and context analyses reports that formed the basis for the master plan. Throughout the planning workshop the results of different assessments were presented for workshop participants for validation.

Detailed context and gap analyses were done to take stock of the existing WASH situation in the district and identify the needs and requirements for full WASH coverage. The process focused on key areas of WASH delivery including: policy environment, capacity for WASH delivery, operational and service delivery issues and key opportunities, success factors and challenges. In addition, a stakeholder analysis was carried out to map all the key stakeholders in the district and outside, and opportunities to build partnerships to influence support for the initiative.

Monitoring, Evaluation and Learning (MEL) approach that brings clarity and consistency to documenting progress, managing performance and reporting on accomplishments was also given special attention. MEL system includes a standard set of tools with ten (10) building blocks and four (4) system outcomes were developed to assist implementing partners in designing, implementing and managing the program.

During the planning process SDG planning tool was developed and filled with several data to enhance planning process and help as data pocket. The SDG tool comprises woreda information, planning assumption, technology option, costing and finance. Generally, the strategic plan documents use data from this tool. In this tool there is different consideration used in the planning process (Annex).

### 3. Assessment of strengths and gaps in the existing system

North Mecha woreda is a recently established administrative structure following the split of one big woreda in two (North and South Mecha). Regardless of its recent re-establishment and frequent restructuring to address comprehensive governance problem, the WASH sector that comprises water, health, education, agriculture, administration, women affair and finance offices at the woreda level has demonstrated strength in a range of areas. These includes: high commitment of local government to wards water sanitation and hygiene implementation, Increased monitoring and evaluation of the organization, increased communities' ownership, management, good community based watershed/water resource management practice, government and NGO gives due attention for water, sanitation and hygiene, increased women participation in WASH implementation, monitoring, evaluation and management.

lack of access to safe water and improved sanitation and hygiene facilities is the greatest problem facing the communities in North Mecha woreda. It is known with less safe water supply, sanitation and hygiene service coverage. The sanitation situations in the targeted communities were worst not only in terms of quality, but also in the availability of such services. The poor situation of water supply and sanitation is further aggravated by inappropriate knowledge, attitude and practices in use of drinking water and sanitary facilities by communities.

Several factors contributed towards poor status of water, sanitation and hygiene in North Mecha woreda. Among the inherent gaps identified by the strategic planning team include: lack of well organized plan, participatory and poor documentation problem, poor budget allocation and usage, weak integration of WWT, WTT, WASHCO and non functionality of established WASHCOMs, poor construction quality of WASH facilities/scheme and maintenance. Moreover, the following weaknesses and gaps are frequent challenges posed to the WASH system of the woreda:

- Lack of integrated watershed management and water safety plan
- Poor water quality test & treatment, less household water treatment and safe storage practice in the community
- Low hygiene and sanitation practice among community
- Lack of adequately skill man power
- Lack of private sector spare part suppliers

In the context of systems thinking in WASH, we use the term 'building block' to mean a sub-system of the larger WASH system. The building blocks define and describe key components to serve as a framework for how we understand, assess, and identify strategic priorities for systems strengthening. Critically, identifying and working with building blocks of the system makes it possible to prioritise actions and measure progress over time at a point upstream of the ultimate goal of improved service delivery.

**Institution:** The institution is the formal organisational arrangements in a country and its wash sector; the capacity and resources that each organisation has to perform its role,

and the coordination mechanisms amongst the organisations. main institutional roles in wash is (1) service authorities (or holders of regulatory power); (2) service providers; and (3) service users. In the context of North Mecha woreda water office at least 86% of the required number of staff. eventhough most of the positions requied are filled, staff have not been sufficiently trained on wash planning, management and monitoring. at the woreda level, staffing technical roles is particularly challenging, specially attracting highly skilled professional at woreda level. as a result, the woreda's ability to support washcos are minimal. 37% of the washcos reported to receive support from the wwo when needed within 3 days. similarly, there is no any mechanism for monitoring water services and performance of washcos. however; washco has by-laws but, are not legally established and registered. clarity on roles and responsibility related to major maintenance is a major issue.

**Policy and legislation:** The policy and legislation comprises the mechanisms by which a government sets out its vision for the sector (policy) and determines the legal framework for achieving that vision (legislation). to address the challenge of the sdgs, national policy must identify targets for improving wash services and then provide guidance on the institutional arrangements and strategies for achieving these targets. legislation is particularly important where non-state actors (e.g., communities, the private sector) are service providers. with this regard woredas have clear understanding on the requiremns of th regional proclamation on washco legislation. but, at washco level it was very minimal. hence, none of washco's have written by laws and mechanism to enforce the by laws in place.

**Regulation and accountability:** Good policy and legislation are effective only if they are applied and enforced. the regulation and accountability mechanisms and enforcement processes as well as other mechanisms to hold decision makers, service providers and users to account and ensure that the interests of each group of actors are respected. both the service provider and the service itself must be regulated and accountable.

however, the major gap observed in the woreda is woreda checks on construction quality are performed on all schemes and action is taken when faults are observed, most of the water schemes do not have tariff system (53%). to some extent the entity uses diffirent regulatory system (by law a washco level) to guide performance management, and apply effective enforcement (incentives, penalties) in the three areas of regulation. but there is no mechanism for enforcement, incentives and penalty and the use of monitoring data is minimal. as the time there is no mechanims for the public to make complaints or hold service providers accountable.

**Planning:** North Mecha has a strategic plan linked to GTP 2 which has district level targets to 2020 with the indications of source of financing (government, community, ngo, other developmental organization). but it does'nt give due in phases for hygiene and sanitation aspect. the planning process by pass consultation of key stakeholders, formal discussion with other sector office and copy of national planning document.

the government budget on wash is almost exclusively capital expenditure on infrastructure while other important cost components like planning and designing, capital maintenance, source sustainability, water quality, etc., receive little or no allocation. the capital infrastructure budget has been allocated by the government. ngos and communities have also some contribution to the capital cost. however, the amount of budget allocated by the local government is insufficient to fulfill the community needs. for this reason the woredas focuses on low cost technologies.

**Monitoring:** At each level there is a planning, monitoring, and evaluation (pme) team. coordination of M&E takes place with strong leadership from government, however wider stakeholder participation is focused only at the regional level rather than in woredas, which may limit the role of data in local decision making. clarity on roles and responsibility related to major maintenance is a major issue. At woreda level there is regular data collection and a solid reporting structure with responsibilities from woreda to zone and from zone to region. At each level the data is aggregated and consolidated and report compliant with the formats.

the woreda water offices are often not able to fulfil all monitoring responsibilities, caused by a shortage of equipment and supplies. quality and regularity of data collection and reporting can suffer through these shortages. There is also limited data available for hard to reach kebeles, therefore it is more difficult to plan and target resources. the reporting system is paper-based reporting and national WASH M&E MIS is not in use.

**Finance:** Nationally, 49% of new water infrastructure investment from the government treasury, 31% from donors in terms of loan and grant, 4% from CSOs, and 16% from beneficiary communities and urban utilities. according to North Mecha context almost all of the capex is financed by government and community contribute. But NGO support on the project basis. The amount of budget allocated to water offices from the total woreda administration offices is very small and insufficient to fulfill the community needs. As a result other important cost components like capital maintenance, rehabilitation, source sustainability, water quality, etc., receive little or no allocation.

**Infrastructure development:** Beside the physical component that actually delivers the service the mechanisms and processes for developing new infrastructure and maintaining existing facilities essential. Woreda followed bid process for any procurements and infrastructure development as per specification set. Checks on construction quality are performed on all schemes and action is taken when faults are observed considering procurement and implementation manual WMP.

**Infrastructure management:** Poor water schemes management contributes to up to 40% of the nonfunctionality. Woreda water office maintain non functional scheme on regular bases and request support zone and region as needed. The majority of water sources in North Mecha woreda are community managed where the woreda water office provides support upon the request from WASHCOs. Woredas provide support to WASHCOs to do O&M within their capabilities occasionally and when requested.



**Learning and adaptation:** Research results are typically not seen by woredas and zone, unless it has been with a partner organization in their legislative area. There are some platforms where research outcomes are presented, such as the WASH Forum and the Multi Stakeholder meeting. There is no routine communication of WASH or water information products. At regional level there is a Joint Technical Review (JTR). This is a meeting with other sectors (health and education amongst others). The JTR is scheduled quarterly in the guidelines, currently the JTR is once every six months. The report from the JTR is shared with partners at regional level. The JTR is performed with signatory partners. The woreda's, zone, and regional bureau all have no access to the national water database. But, at woreda level there is no learning and adaptation mechanism in place.

**Water Resource Management:** At woreda level there is a capacity problem to identify the availability of water resource, they consider water source indicator and other impact. But there are mechanisms in place for managing any conflicts or rather synergies between users of water for drinking and other uses (agriculture/livestock) that minimize the effect of the performance of schemes. At community level, none of the community-managed facilities was reported to have a Water Safety Plan in place.

## **4. Vision and objectives**

**4.1. Vision:** By 2030, achieve universal and equitable access to safe and affordable drinking water, improved sanitation and hygiene paying special attention to the needs of women and girls and those in vulnerable situations for all people living in North Mecha woreda by 2030.

### **4.2. General objective of the program**

The general objective of the program is to improve the health and socio–economic status of the target community by increasing access to safe, adequate, and accessible water supply, improved sanitation, and proper hygiene practice.

### **4.3. Specific Objective of the program**

1. To increase access to safely managed and basic water supply coverage of the target community from current 0% to 45% and 40% to 55% respectively in North Mecha Woreda by 2030.
2. To improve institutional water supply coverage from current (Health facilities, 10.6% and school 19.5%) to 100% in North Mecha by 2030.
3. To ensure access to improved hygiene and sanitation status of peoples from 14.5% to 100% in North Mecha Woreda by 2030.
4. To improve institutional hygiene and sanitation covage from current (Health institution 36% and school 10.3%) to 100% in North Mecha woreda by 2030.
5. To ensure the effectiveness and efficiency of the water management committee /utility through capacity building activities in North Mecha woreda by 2030.
6. Strengthen operational and manaintenance activities to reduce non functionality and ensure water scheme sustainability in North Mecha woreda by 2030.
7. Implement integrated water resource management and protection to enhance ground water recharge and prevent water pollution in North Mecha by 2030.

## 5. Strategies to achieve the WASH SDGs in North Mecha

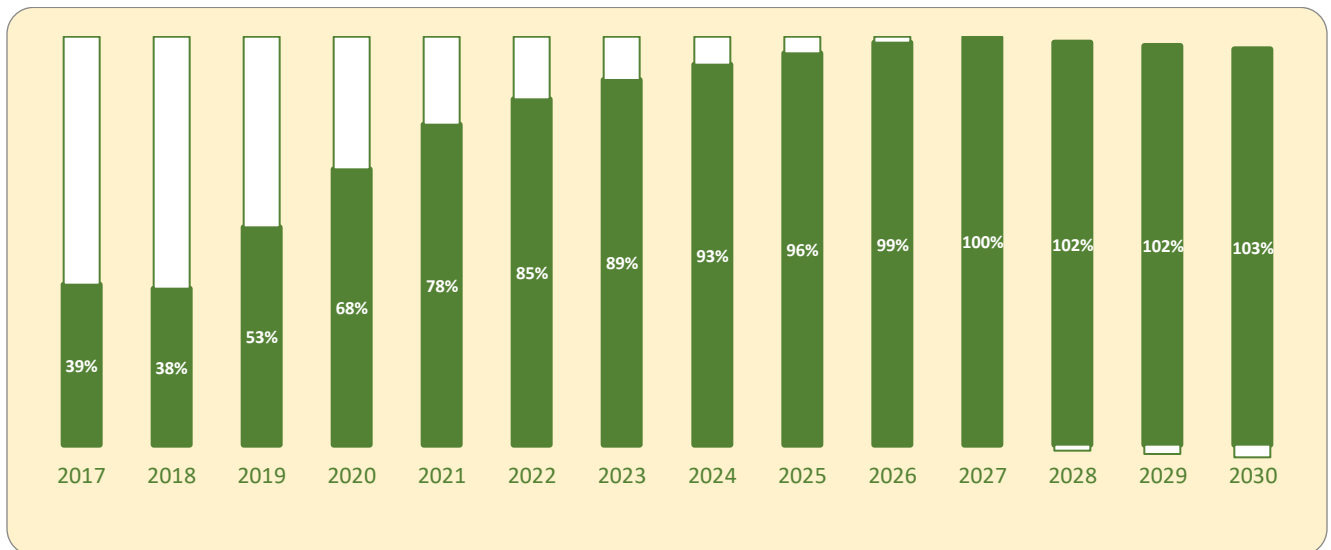
1. To **professionalise** support to service providers (both utilities and WASHCOs) by 1) clustering (town water) utilities into one or 2 groups in order to share resources and improve the performance in urban service delivery and facilitate provision of support by the zone and region; 2) legalising and grouping WASHCOs and providing increased support from town water utilities who will extend their capacities to support rural scheme management in their vicinity; 3) adopt infrastructure asset management both within town water utilities and in their support to WASHCOs.
2. To adopt new technology increasing reliance on deeper groundwater sources and extending piped water supply supplies (with less reliance on shallow wells with hand pumps), promoting a switch from use of diesel to solar-powered pumping, and where needed (where groundwater sources are not available) the adoption surface water treatment for supply.
3. Promoting local private sector development with enterprises (enterprises) established and selling rural water spare parts and providing maintenance services to WASHCOs, utilities and the woreda (with a business model, potentially including subsidy, and balancing income streams from utilities, rehabilitations funded by woreda and direct repairs with WASHCOs).
4. To reduce risks associated with poor water quality through 1) surveillance and testing led by town water utilities 2) water safety planning, 3) source protection (related to pollution, contamination and over extraction) and 4) improving local markets and increasing demand for Household Water Treatment and Safe Storage (HWTSS).
5. To integrate improvements in sanitation and hygiene through application of community led total sanitation and hygiene (CLTSH), school-led total sanitation & hygiene (SLTSH) and sanitation marketing.
6. To extend water supplies to all schools and health facilities through connection to rural piped schemes or stand alone water supplies; and to integrate improvements in water, sanitation and hygiene.
7. To explore diverse funding sources through direct request to bi-lateral sources, attracting new NGOs working in WASH and increase community participation, etc.

## 6. Planned activities and Results

### 6.1. Water Supply activities

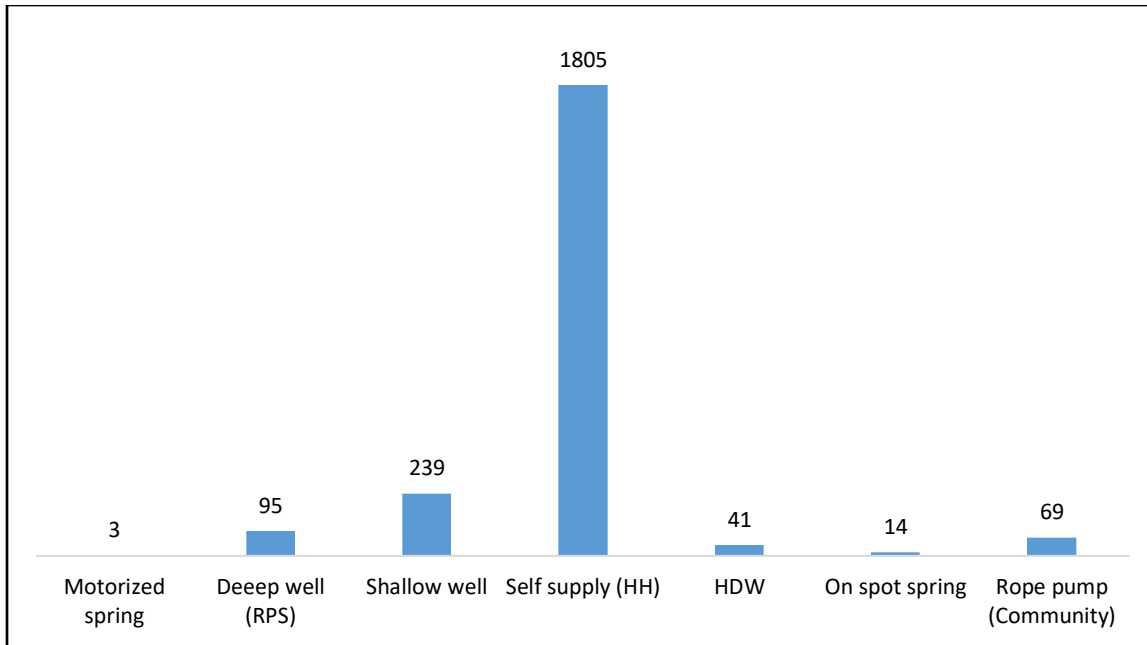
The current trend of water supply system in North Mecha woreda is surrounded by various problems. On top of low water supply coverage, water quality issues, low technology water supply scheme currently in use, small scale (village level water supply system), high non-functionality rate, along with high rate population growth and urbanization in the district made the situation worst. In this strategic plan document there is a shift in technology from current in use to rural pipe system to alleviate the problem. The woreda strategic plan aims to provide 45% safely managed water and 55% basic water supply to unserved community in the woreda. In terms of technology household self supply (Rope pump) and rural pipe system (RPS) were selected as technology options to deliver safely managed water supply. The remaining community will be served using hand dug well, shallow well with hand pump, spring on spot and other technology options.

**Graph 3: Percentage of Served to Total Woreda Population: 2017 - 2030**



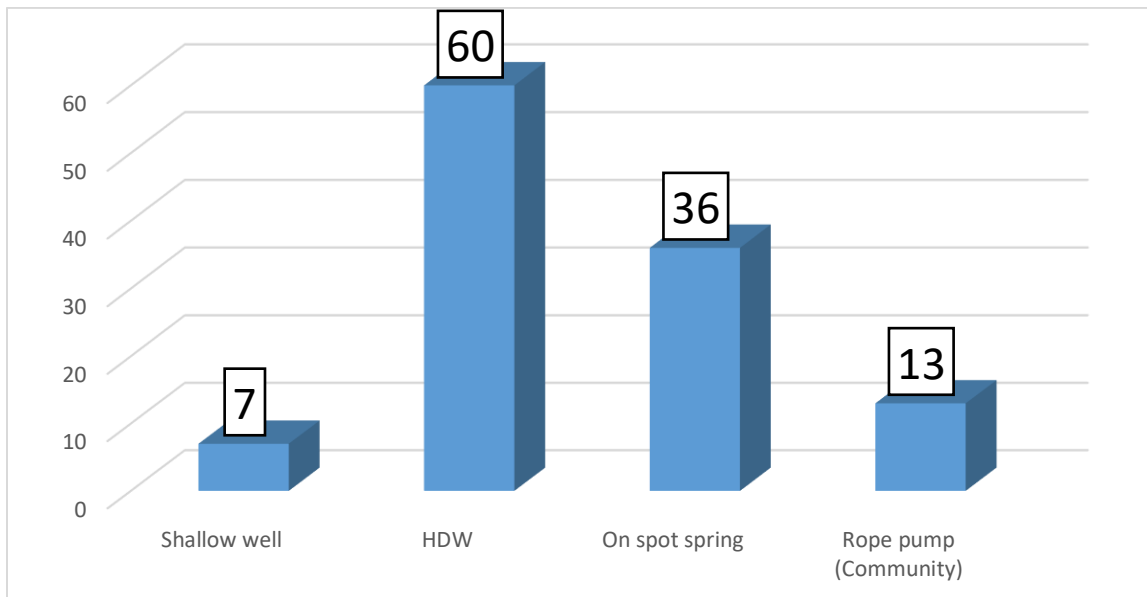
#### 6.1.1. New infrastructure construction and Maintenance plan

Generally, the strategic plan is designed to develop 3 motorized springs with distribution (RPS), 95 deep wells with distribution (RPS), 239 shallow wells, 1805 self-supply systems, 41 dug wells with hand pump, 14 capped springs (on spot) and 69 rope pumps (community).



**Graph 4: Technology option plan, 2018**

Similarly, rehabilitation will be undertaken for 7 shallow wells, 60 hand dug wells with hand pumps, 36 capped springs (on spot), 13 rope pumps (community) for non-functional water supply schemes over the five-year period.



**Graph 5: Maintenance plan, 2018.**

### **6.1.2. Hygiene and Sanitation activities**

The strategic plan will attempt to go beyond the direct transfer of information and focus on changing hygiene and sanitation behaviours. This is a long-term goal and will require cultural shift that is unlikely to occur in a short period of time. However, through a participatory process where community members come up with their own hygiene solutions, and understand the reasons how these changes could improve health, there is a high chance of success. This is part of the empowering approach that encompasses methodologies like Community-Led Total Sanitation and Hygiene (CLTSH). CLTSH won't necessarily leave behind a community structure but working through the community-led process will give communities the power to solve problems on their own and will give people an understanding that they don't always need to rely on high levels of external investment to solve the issues affecting them.

The community will construct hand washing facilities near their latrines. Besides to improve personnel hygiene showers and cloth washing facilities will be constructed through CLTSH approach. Similarly WaSH clubs in schools play vital in bringing behavioral changes. Menstrual hygiene management is also the main focus of the project in order to enhance girls' education and to break the silence. Generally; the following activities will be carried out;

#### **Sanitation:**

- Construction of 138 gender segregated VIPL in schools
- Construction of 60 gender segregated VIPL in HF (HP&HC)
- Establishment of integrated san. mark for 2 towns
- Create 32 ODF kebeles
- Construction of 32 demonstration VIPL with HWFs
- Celebrating 12 International/ National days

#### **Hygiene:**

- Cloth washing facility construction (10 per kebele)
- Shower house construction (two per town)
- IEC /BCC materials prepared and distributed
- Celebrating International/National Hand washing day.

### **5.1.3. Capacity Building activities**

Capacity building activities are important for sustainable development and operation of WaSH facilities. These activities are mainly designed to build the capacity of the WaSHCO/Board and target groups so that proper and sustainable operation of schemes would be practiced and the benefits would be long lasting. The capacity building component mainly encompasses institutionalization; basic capacity building trainings, capacity building with provision of basic start up items. Capacity building actions for the

end beneficiary's, project and government office staffs like giving training; provision of operational documents, equipment and tools; establishing and strengthening the committee shall develop sense of ownership that will ensure sustainability of the outcomes of the action. The following activities will be carried out;

- Water quality test and treatment training (5 per town)
- CLTSH facilitators trained (WoHO, HC & HP)
- SLTSH training for school community (5 per school)
- School WaSH club established and strengthened
- WASHCO established and training (10 WASHCO/ kebele)
- WaSH Board established and training (1 board/town)
- Caretakers training (2 care taker per kebele)
- Startup material purchased and supply for WASHCO (10 WASHCO/kebele)
- Startup items purchased and supplied for Board
- Startup purchased and supplied for san mark.
- Training of Woreda WaSH Team (WWT) & WTT
- Training of artisans (5/kebele)
- Experience sharing visit
- WRM awareness raising programs (20/kebele)
- Office equipment and computer purchase for water, education, health office, board & utility
- Motor bike purchased for water, education, health office, board & utility
- Water point database establishment and mapping
- Business plan preparation and tariff Setting for WASHCO & board(10/kebele)

#### **6.1.4. Community Mobilization and sensitization**

Having continuous, regular meetings and discussions with the members of the beneficiary community will help a lot for establishing stronger relationships between the project personnel and the beneficiaries and for consistent monitoring of status of implementation of the project. Besides, it will be a greater opportunity for transforming the health, hygiene, sanitation and development knowledge and concepts to the members of the targeted communities. The meetings will also have importance in strengthening the participation of the local community and maximizing ownership. In addition to ensuring transparency and accountability, it is also important to transfer knowledge and approach and build capacity of local beneficiaries to fully manage and handle the services and facilities of the action following its completion. some of the activities were; community meetings & sensitizations activities and community voice meeting.

#### **6.1.5. Water sources protection and management**

The primary objective of WRM is to rehabilitate the natural resources by reducing soil erosion and pressure over hillsides in order to increase runoff infiltration rate at the upstream and surroundings springs which are the sources of water supply systems. This will substantially reduce the burden on the natural resources base and improve both the

upper and downstream reaches of the watershed system, which in turn has positive impact on crop production and land productivity in addition to the increased recharge of the sub-surface water. To this end various awareness training programs and WRM interventions will be carried out. This will ensure the sustainable management of the water resources at the hillsides by protecting and developing the catchments of the spring areas through WRM activities around water source and fruit trees vegetables plantation and other measure.

**Table 7: Major activities, results/outputs, cost and outcome**

Objective	Major Activities	Results /Outputs	Cost	Outcome
1. To increase access to safely managed and basic water supply coverage of the target community from current 0% to 45% and 40% to 55% respectively	<ul style="list-style-type: none"> <li>Development of 3 motorized Spring with distribution (RPS),</li> <li>Development of 95 deep well with distribution (RPS),</li> <li>Development of 239 shallow well</li> <li>Development 1805 self-supply</li> <li>Development 41 Hand dug well with hand pump,</li> <li>Development of 14 Capped spring (on spot) and</li> <li>Development of 69 Rope pump (community).</li> </ul>	<ul style="list-style-type: none"> <li>Two (3) motorized Spring with distribution (RPS) developed,</li> <li>Fourth (95) deep well with distribution (RPS) developed,</li> <li>Hundred (239) shallow well developed</li> <li>1805 self-supply developed</li> <li>Fifteen (41) hand dug well with hand pump developed,</li> <li>Five (14) capped spring (on spot) developed.</li> <li>Thirty (69) rope pump (community) developed.</li> </ul>	1,481,000,001	<ul style="list-style-type: none"> <li>Access to safely managed water increased from 0% to 45% and basic water supply increased from 40% to 100%.</li> <li>Daily workload and time spent for fetching water is reduced.</li> <li>Increased per capita water consumption from 15 l/C/d to 25 15 l/C/d</li> <li>Decreased average distance from water points from 3 km to 1 km in the program area</li> </ul>
	<ul style="list-style-type: none"> <li>Rehabilitation of 7 Shallow well</li> <li>Rehabilitation of 60 Hand dug well with hand pump,</li> <li>Rehabilitation of 36 Capped spring (on spot),</li> <li>Rehabilitation of 13 Rope pump (community)</li> </ul>	<ul style="list-style-type: none"> <li>Five (7) shallow well rehabilitated</li> <li>Twenty-five (60) hand dug well with hand pump rehabilitated,</li> <li>Five (36) capped spring (on spot) rehabilitated,</li> <li>Five (13) rope pump (community) rehabilitated</li> </ul>		



2. To improve institutional water supply coverage from current (Health facilities, 10.6% & school 19.5%) to 100%	<ul style="list-style-type: none"> <li>Construction of 138 gender segregated VIPL in schools</li> <li>Construction of 60 gender segregated VIPL in HF (HP&amp;HC)</li> <li>Establishment of integrated san. mark for 2 town</li> <li>Create 32 ODF kebeles</li> <li>Construction of 32 demonstration VIPL with HWFs</li> <li>Celebrating 12 International/ National day</li> </ul>	<ul style="list-style-type: none"> <li>138 gender segregated VIPL constructed in schools</li> <li>60 gender segregated VIPL in HF (HP&amp; HC)</li> <li>Two (2) integrated san. mark established</li> <li>32 ODF kebeles created</li> <li>32 demonstration VIPL with HWFs constructed</li> <li>12 International/ National day celebrated</li> </ul>	<b>68,800,000</b>	<ul style="list-style-type: none"> <li>Improved sanitation coverage increased from 9.2 percent to 100 percent</li> <li>Increased ODF status to 80 %</li> <li>Number of people washed hands with Soap /at critical times increased from 8.21 % to 77 %</li> <li>Community awareness towards hygiene and sanitation is increased.</li> <li>School and health facilities hygiene and sanitation coverage and practice will be increased.</li> </ul>
	<b>Hygiene</b>			
	<ul style="list-style-type: none"> <li>Cloth washing facility construction (10 per kebele)</li> <li>Shower house construction (two per town)</li> <li>IEC /BCC materials prepared and distributed</li> <li>Celebrating International/National Hand washing day.</li> </ul>	<ul style="list-style-type: none"> <li>140 cloth washing facility constructed</li> <li>Five (5) shower house constructed</li> <li>Fifteen (15) IEC /BCC materials prepared and distributed</li> <li>Five (5) International/National day celebrated</li> </ul>	<b>9,480,000</b>	
3. Insure water safety plan	<ul style="list-style-type: none"> <li>Conduct water quality testing, treating and monitoring</li> <li>Supply water quality test kit (Bacteriologic and photometer) (2 /town)</li> <li>HH water treatment and safe storage practice</li> </ul>	<ul style="list-style-type: none"> <li>Conduct water quality testing, treating and monitoring quarterl</li> <li>10 water quality test kit (Bacteriologic and photometer) provided</li> <li>10 kebeles practiced HH water treatment and safe storage practice</li> </ul>	<b>21,870,000</b>	<ul style="list-style-type: none"> <li>Community safe water supply coverage and use is improved</li> <li>Household water treatment and safe storage practice of the community is improved.</li> </ul>

<p style="text-align: center;">4: Capacity Building Activities</p>	<ul style="list-style-type: none"> <li>• Water quality test and treatment training (5 per town)</li> <li>• CLTSH facilitators trained (WoHO, HC &amp; HP)</li> <li>• SLTSH training for school community (5 per school)</li> <li>• School WaSH club established and strengthened</li> <li>• WASHCO established and training (10 WASHCO/ kebele)</li> <li>• WaSH Board established and training (1 board/town)</li> <li>• Care takers training (2 care taker per kebele)</li> <li>• Startup material purchased and supply for WASHCO (10 WASHCO/kebele)</li> <li>• Startup items Purchased and supplied for Board</li> <li>• Startup Purchased and supplied for san mark.</li> <li>• Training of Woreda WaSH Team (WWT) &amp; WTT</li> <li>• Training of artisans (5/kebele)</li> <li>• Experience sharing visit</li> <li>• WRM awareness raising programs (20/kebele)</li> <li>• Office equipment and computer purchase for water, education, health office, board &amp; utility</li> <li>• Motor bike purchased for water, education, health office, board &amp; utility</li> <li>• Water point database establishment and mapping</li> <li>• Business plan preparation and tariff Setting for WASHCO &amp; board(10/kebele)</li> </ul>	<ul style="list-style-type: none"> <li>• 10 water technician received water quality test and treatment</li> <li>• 55 health workers received CLTSH facilitation training</li> <li>• 190 teachers received SLTSH training</li> <li>• 30 school WaSH club established and strengthened</li> <li>• 960 WASHCO established and trained</li> <li>• 35 WaSH board established and trained</li> <li>• 275 care takers trained</li> <li>• 137 WASHCOs supplied startup material purchased</li> <li>• Startup material purchased and supplied for 3 Board</li> <li>• Startup items Purchased and supplied for 1 san mark.</li> <li>• 10 Woreda WaSH Team (WWT) &amp; WTT trained</li> <li>• 70 artisans trained</li> <li>• 5 session experience sharing visit conducted</li> <li>• 275 people participated on WRM awareness raising programs</li> <li>• Office equipment and computer purchased for water, education, health office, board &amp; utility</li> <li>• 7 motor bikes purchased for water, education, health office, board &amp; utility</li> <li>• 5 sessions water point database establishment and mapping conducted</li> <li>• Business plan preparation and tariff</li> </ul>	<p style="text-align: center;"><b>11,022,000</b></p>	<ul style="list-style-type: none"> <li>• WaSH Committee and WaSH Management Board and Administrative office members as well water technicians gained sufficient skills to properly manage, operate and maintain the water supply scheme.</li> <li>• Well-functioning water scheme, WaSH com and WASH Management Board are in place</li> </ul>
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		Setting done for 28 WASHCO & board		
<b>5. Water sources protection and management</b>	<ul style="list-style-type: none"> <li>WRM activities around water source carried out</li> <li>Fruit trees and vegetables seeds purchased and supplied</li> </ul>	<ul style="list-style-type: none"> <li>WRM activities carried out around 10 water source</li> <li>Fruit trees and vegetables seeds purchased and supplied for 10 water sources</li> </ul>	<b>1,566,000</b>	<ul style="list-style-type: none"> <li>Target communities adopt and practiced multiple use various natural resources conservations, development and activities.</li> <li>Community awareness regarding WRM. raised</li> </ul>
<b>6. Community Mobilizati</b>	<ul style="list-style-type: none"> <li>Community meetings &amp; sensitizations activities</li> <li>Conduct community voice leasing meeting</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<b>1,000,000</b>	<ul style="list-style-type: none"> <li></li> </ul>
<b>7. Monitoring, Evaluation and Learning</b>	<ul style="list-style-type: none"> <li>Woreda WaSH team meeting</li> <li>Case story Collected and documentation</li> <li>Regular monitoring carried out</li> <li>Mid-term evaluation carried out</li> <li>Terminal Evaluation with gov bureaus carried out</li> <li>External final evaluation carried out</li> <li>Documentation of learning</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<b>6,480,000</b>	<ul style="list-style-type: none"> <li></li> </ul>

## 7. Cross-cutting Themes

**Equity and Inclusion:** Although the idea of equity and inclusion is new and is not well disseminated in Ethiopia, use of equity and inclusion principle in all its activities at all stages are important. Access to safe drinking water is a basic human right and essential for everybody. “The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.” The program will consider equity and inclusion in all project activities. It is clear that women and girls spent more time on fetching water.

Implementing the water supply activities nearby their villages and surrounding will have a positive effect on reducing burden of women and children. Traditionally and due to resource scarcity, in most parts of the country the disabled, marginalized and poor segments of the community were not getting necessary services from development activities that are undergoing by different development actors. To overcome the challenge, they are facing the project will perform the project activities for the benefit of these community members and use different mechanisms for empowering them and create awareness to the community to be considered. In so doing the project will contribute on improving the health status of all community members of the target project kebeles. Apart from this, the project will use inclusive designs in the construction VIP latrines, water distribution points, washing basins, shower rooms, etc. Separate rooms for male and female in institutional facilities construction will be considered to reduce violence against females.

Concerns for ensuring privacy and security will be considered. Generally, the participation of women will be ensured during planning, implementation, management, monitoring and evaluation of the project activities. Affirmative action for female committee members will be exercised so that they will develop skills of management. Culturally girls are highly excluded in the decision making process, public meetings and forwarding own ideas. Their responsibilities is mainly in household activities like fetching water, managing families, food preparation, collection of fire wood, take care of children, etc. Therefore, empowering them for participation and to play a key role in WaSH committees will be one of the project activities.

In summary, some the major areas of equity and inclusion consideration with regard to this project include the following: Use inclusive designs in implementing VIP Latrines, water points, showers, 50 percent plus women participation will be ensured in WASHCOs and Board establishment and women will play leading role in WASHCOs.

**Gender:** Establishing an institutional ‘playing field’ for women and men will promote gender equality. When development results in better infrastructure, like accessing safe water in such rural areas, reduces the time required for carrying out household responsibilities, and other community and household activities, enabling girls to go to school and to mothers and girls to involve in other useful social and economic activities. The health of all community members in general and women and children in particular will be improved through the sanitation and hygiene promotion activities. The project will

give due attention to gender issues and will involve women at all stages of the project cycle. Women will be encouraged to play leadership roles through WASH committees and this shall be practiced in the project implementation as well as in the project operation and maintenance stages. At least, 50% of the trainees in all training programs and in various committees will be women. There will also be at least 50% representation of women in the water management board during the operation and maintenance stage. The project will contribute in addressing issues of equality and equity of women and men by mainstreaming gender issues in all project activities.

**Poverty/vulnerability:** The current interest to achieve total sanitation will also enable poor society members contribute and support the hygiene and sanitation activities. Accordingly, CLTSH will be employed and construction of school and health center VIPLs will be constructed to address disabled community members. In addition, water supply facilities shall be located and constructed in a way that they are more useful for poor peoples to get water with low water fee closer to their residence. As part of contribution to towards poverty reduction through the provision of basic social services, like water supply and sanitation. The project also brings employment opportunities during implementation as well as O&M stage.

## 8. Stakeholders Analysis

Building a broad base participation and support will be critical to the successful implementation of the program and sustainability of the program results accordingly. The WaSH program requires the participation of stakeholders at different levels. Woreda administration, private sectors, Woreda WaSH teams in collaboration with local communities is responsible for implementation and sustainability of the program. The National/Regional level WASH sectors and Woreda Administration play the coordination and facilitation role in the program.

The Key stakeholders for the program includes the local community like WaSHCO, Government institutions like, Woreda Water, mineral and energy office, Woreda Health Office, Woreda education office, woreda finance and economic office, Regional and national level stakeholders, etc; Private sectors including Acsl and NGO.

**Table 8: North Mecha Woreda SDG planning Stakeholder Analysis, 2018.**

Stakeholder	Rate	Expected contribution	Expected benefit	Risk if contribution /expectation not met
Water,mineral & energy office	H	<ul style="list-style-type: none"> <li>Program planning, implementation, monitoring and evaluation</li> <li>Community mobilization</li> <li>Technical support</li> </ul>	<ul style="list-style-type: none"> <li>Achieving their SDG goal</li> <li>Increased water coverage</li> </ul>	<ul style="list-style-type: none"> <li>Loss universal wash coverage</li> <li>Affect target on health, education and others</li> </ul>

Health office	H	<ul style="list-style-type: none"> <li>Awareness creation on hygiene and sanitation</li> </ul>	<ul style="list-style-type: none"> <li>Decrease Wash related morbidity and mortality</li> <li>Decrease disease burden and medical cost</li> </ul>	<ul style="list-style-type: none"> <li>High Wash related morbidity and mortality</li> <li>Increased burden to HF and medical cost</li> </ul>
Education office	M	<ul style="list-style-type: none"> <li>Awareness creation about wash in school</li> <li>Establish Wash clubs in the school</li> <li>Follow the implementation of Wash in the school</li> </ul>	<ul style="list-style-type: none"> <li>Increase school WASH coverage of the woreda.</li> <li>Improve health status of the school community</li> <li>Decrease dropout rate</li> <li>Increase female student enrollement</li> </ul>	<ul style="list-style-type: none"> <li>No quality of education &amp; coverage</li> <li>Low enrollement of female student</li> <li>Impaires health status of the school community</li> <li>Low quality education</li> </ul>
Community	H	<ul style="list-style-type: none"> <li>Contribute money, labor and material for construction</li> <li>Supervise and help in construction</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Secure potable water, good sanitation facilities and hygiene practices</li> <li>Reduce Women"s workload</li> <li>Improves community health conditions</li> </ul>	<ul style="list-style-type: none"> <li>objective of the program will not be realized</li> <li>Living standard of the community will be decreased</li> <li>Create hindrances in similar projects/ programs arouse</li> </ul>
WASHCO	H	<ul style="list-style-type: none"> <li>Coordinate the user community to organize, plan and implement the program</li> <li>Involve in operation, maintenance and managements of the project</li> </ul>	<ul style="list-style-type: none"> <li>Acquire knowledge and skills on how to manage the project</li> <li>Help program sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Create a difficulty in organizing , planning implementation and sustainability of the project</li> </ul>
Agriculture	M	<ul style="list-style-type: none"> <li>Watershed management &amp; soil water conservation</li> </ul>	<ul style="list-style-type: none"> <li>Increases ground water recharge</li> <li>Improve soil fertility and Productivity</li> <li>Increase irrigation efficiency, animal production, Vegetation and horticulture.</li> </ul>	<ul style="list-style-type: none"> <li>Decrease ground water potential</li> <li>Low agriculture production</li> <li>Environmental depletion</li> <li>Food insecurity and drought</li> </ul>
Land administratio n	M	<ul style="list-style-type: none"> <li>Secure land ownership</li> <li>Right off land (compensation and resettlement)</li> </ul>	<ul style="list-style-type: none"> <li>Minimize conflict realted to land owmer ship.</li> </ul>	<ul style="list-style-type: none"> <li>Icreased conflict realted owner ship</li> </ul>
Tvt	H	<ul style="list-style-type: none"> <li>Organizing and provide capacity building training</li> <li>Innovation and modification of new technology</li> </ul>	<ul style="list-style-type: none"> <li>Job creation opportunity and income generate</li> <li>Minimize illiteracy</li> <li>Increases skilled man power</li> </ul>	<ul style="list-style-type: none"> <li>Increase unemployment</li> <li>Lack of skilled man power</li> </ul>
Woreda finance	H	<ul style="list-style-type: none"> <li>Allocate and facilitate efficient use budget</li> </ul>	<ul style="list-style-type: none"> <li>Increase proper budget utilization</li> </ul>	<ul style="list-style-type: none"> <li>Harms effective and efficient use of budget</li> </ul>

Woreda Administration	H	<ul style="list-style-type: none"> <li>Budget allocation</li> <li>Monitoring and evaluation</li> <li>Community mobilization</li> <li>Setting direction</li> </ul>	<ul style="list-style-type: none"> <li>Achieving program plan</li> <li>Good governance</li> <li>Equity in the service provision</li> <li>Political acceptance</li> </ul>	<ul style="list-style-type: none"> <li>Failing to achieve planned activity and difficult to sustain program</li> <li>Low acceptance by the community</li> </ul>
Women`s and child affair	M	<ul style="list-style-type: none"> <li>Scheme management, female participation and mobilization</li> </ul>	<ul style="list-style-type: none"> <li>Minimize women`s burden and increase participation</li> </ul>	<ul style="list-style-type: none"> <li>Increase burdens of women</li> </ul>
Communication	M	<ul style="list-style-type: none"> <li>Awareness creation and community mobilization</li> </ul>	<ul style="list-style-type: none"> <li>Increase community sensitization and awareness</li> </ul>	<ul style="list-style-type: none"> <li>Information barrier /gap/</li> </ul>
Acsl	M	<ul style="list-style-type: none"> <li>Credit and saving</li> </ul>	<ul style="list-style-type: none"> <li>Increasing saving and financial access</li> </ul>	<ul style="list-style-type: none"> <li>No saving and financial source</li> </ul>
Ngo`s	M	<ul style="list-style-type: none"> <li>Capacity building and technical support</li> <li>Budget and material support supporting</li> <li>Program implementation</li> </ul>	<ul style="list-style-type: none"> <li>Increase community usage and contribute for SDG</li> </ul>	<ul style="list-style-type: none"> <li>Fail to achieve goal and community demand</li> </ul>

## 9. Risks and Assumptions for water resources

### 9.1. Risks

**Inflation rate:** Major risks expected to be faced during the program period are assumed to be the ever-increasing inflation rate and cost of construction materials that is highly dependent on various economic determinant factors of the country as well as the global situation. It is planned to manage this risk with close follow up, coordination and consultation of all participant stakeholders up on the occurrence of the problem. Besides consideration of such challenge up on its occurrence, is highly demanded in order to achieve the expected program objective. Sufficient and adequate timely fund release from donor and government is very crucial for the proper project implementation.

**Community participation:** Additionally, low community participation, staff turnover, lack of capacity at woreda level may affect smooth implementation. As a risk mitigation strategies various awareness creation events, work closely with community & WASHCO, effective need based mobilization, planning & implementation, training opportunities & other incentives schemes for staff, in-service training & supervision.

**Population growth:** Population growth is a risk in the region, with an annual growth of 3%, increasing pressure over water resources has to be expected. Projections indicate that population increased will continue in the future, the World Bank predicts that by 2050, Ethiopia will gain 89.1 additional millions of people (World Bank Group, 2015). More precisely in Tana Basin, it is expected 3.5 million inhabitants in 2025 and 4.1 million in 2035 (Achenef, 2016).

**Climate change:** Climate change will impact hydrology in the woredas; however, the scope of this impact varies between sources. Most of the information only focuses on Gilgel Abbay catchment. In summary, until 2030 projections predict a decrease in runoff, annual and monthly rainfall and an increase in maximum temperatures and monthly evapo-transpiration. Some projections predict a decrease on the annual and seasonal runoff in Gilgel Abbay based on General Circulation Models (GCM) outputs converted in daily meteorological variables by Statistical Downscaling Model (SDM) (Abdo, 2008). The results of the model indicate: significant variation in the seasonal and monthly flow; a runoff reduction of 12% during the rainy season (June – September) in 2080; and as much as 33% reduction of the seasonal and annual runoff if there is an increase of 2C and decrease of 20% rainfall simultaneously in the catchment.

**Sanitation risk:** Limited access to improved sanitation services is a threat to the quality of water resources in the woredas. With very limited access to improved sanitation (for example 14.5% in North Mecha), contamination of surface and groundwater resources in the area is very likely. In addition, the lack of control regarding livestock access to surface water streams is another major source of contamination. Finally, during the field visit, it was common to see vehicles being cleaned in the stream, which can be a source of water pollution through heavy metals and oil.

## 9.2. Assumptions

Basic assumptions, which are important for the successful achievements of the program results is that beneficiary communities are recognized as willing to participate at all stages of the project implementation process and they also have promising experiences in taking active parts in other development activities undertaken in their areas so far. It is, therefore, considered that this opportunity will contribute a lot for effective implementation of the designed project. Systematic approach using the woreda leaders, the community influential from the beginning of the project implementation up to the end to smoothly run and finalize the project implementation. This is expected to increase community involvement in program implementation.

Currently the government is in fever of WaSH programs and showing strong commitments in this regard. Donors are also signed agreement with the government to fund the program. As a result, the financial support from the regional government and donor agencies for program implementation will be actualized. There is will and commitment in the Woreda to implement R-WaSH program. Over all concerned stakeholders actively and genuinely participate, persistently support and closely lead the overall project implementation.



**Table 9: Stakeholder analysis**

Thematic	Risks	Rank	Mitigations
<b>Water supply</b>	<ul style="list-style-type: none"> <li>• Use of small technology at different level</li> <li>• Low coverage of water services</li> <li>• Limited availability of water</li> <li>• Reduce availability of shallow ground water resources</li> <li>• Reduction of ground water resources</li> <li>• Wells abandon because located in flood areas during rainy season</li> </ul>	High	<ul style="list-style-type: none"> <li>• Using mati village pipe system (RPS)</li> <li>• Periodic review of woreda WASH strategic plan</li> <li>• Close partnership and engagement with the government to increase exposure to new ways of working in WASH governance</li> </ul>
<b>Sanitation and hygiene</b>	<ul style="list-style-type: none"> <li>• Threat to the quality of water resources.</li> <li>• water pollution through heavy metals and oil.</li> <li>• Low levels of sanitation services and environmental conditions at household and institutional level</li> <li>• Pollution of surface water</li> </ul>	Medium	<ul style="list-style-type: none"> <li>• Improve liquid and solid waste collection and management practices in households, educational, health and public facilities</li> <li>• Encourage private sector participation in the provision of services in urban areas</li> </ul>
<b>Population</b>	<ul style="list-style-type: none"> <li>• Rapid rate of urbanization resulting in changing demographics and affecting WASH service delivery</li> </ul>	High	<ul style="list-style-type: none"> <li>• Periodic review of woreda WASH strategic plan considering population growth</li> </ul>
<b>Institution</b>	<ul style="list-style-type: none"> <li>• Lack of leadership at woreda level</li> <li>• staff turnover, lack of capacity at woreda level may affect smooth implementation.</li> <li>• Less incentive to attract and retain high professionals</li> </ul>	High	<ul style="list-style-type: none"> <li>• Training opportunities &amp; other incentives schemes for staff</li> <li>• In-service training &amp; supervision.</li> <li>• Work to incentivize staff to remain with the woreda water office through improved trainings and improved work environment</li> </ul>
<b>Infiltration rate</b>	<ul style="list-style-type: none"> <li>• Ever-increasing infiltration rate and cost of construction materials</li> </ul>	High	<ul style="list-style-type: none"> <li>• Close follow up, coordination and consultation of all participant stakeholders up on the occurrence of the problem.</li> <li>• Sufficient and adequate timely fund release from donor and government</li> </ul>
<b>Community participation</b>	<ul style="list-style-type: none"> <li>• Low community participation</li> </ul>	Medium	<ul style="list-style-type: none"> <li>• Increase community awareness creation events,</li> <li>• work closely with community &amp; WaSHCO,</li> <li>• effective need based mobilization, planning &amp; implementation,</li> </ul>
<b>Climate change</b>	<ul style="list-style-type: none"> <li>• Occurrence of natural disaster and disease epidemics</li> </ul>	High	<ul style="list-style-type: none"> <li>• Focus on environmental and natural resource protection</li> </ul>
<b>Local government capacity</b>	<ul style="list-style-type: none"> <li>• Inadequate capacity and systems for WASH implementation, management and coordination</li> </ul>	Medium	<ul style="list-style-type: none"> <li>• Strengthen the local government capacity and systems to manage the delivery of WASH services</li> </ul>
<b>Water Resource Management</b>	<ul style="list-style-type: none"> <li>• No or limited treatment of drinking water</li> <li>• Environmental degradation</li> </ul>	Medium	<ul style="list-style-type: none"> <li>• Properly design water safety plan</li> <li>• Integrated water resource management approach</li> </ul>

## **10. Monitoring, Evaluation and Reporting**

Generally; Water, sanitation, and hygiene programs should be accompanied by monitoring and evaluation. Monitoring and evaluation (M & E) should be designed and applied for physical implementation of the Activities, resources utilization and project impacts. The framework for follow up and monitoring will be prepared to help record the quantities of activities accomplished and resources consumed at different levels. The framework will list key performance indicators, units of measurement, baseline values, cumulative targets, and output levels, identify areas requiring attention, and assess the relative impact of the different strategic objectives to inform the public on overall progress and improvements in WASH services.

### **10.1. Monitoring**

Monitoring of the strategic plan will be a continuous and integral part of the District functions and the plan implementation. Performance monitoring is used to mean a continuous process of collecting, recording, measuring, processing, and communicating information to assist program management. It allows tracking of progress in implementation and effectiveness, as well as identifying bottlenecks for timely resolution.

Using both qualitative and quantitative information, process monitoring will ensure that interventions are being carried out as planned in the most effective and sustainable manner possible. Baseline data on water supply, sanitation, hygiene practice, and capacity of stakeholders should be recorded. Accordingly, baseline indicators are presented at impact, outcomes, outputs, and activities levels in the program-monitoring matrix. Indicators are based on the baseline information collected before planning of this program. Wherever quantifiable information is not available, targets have been set to facilitate future monitoring.

Key process monitoring system such as quarter steering committee meetings, monthly financial reports, and periodic (quarter, biannual and annual) narrative and financial reports will be used. Besides there will be periodic joint monitoring visits in order to better assess the project progress. Joint regular reviews (monthly, Quarterly and Annual) meeting with district level stakeholder meetings like woreda Water, Health and Education offices, local partners, target community representatives and other stakeholders will discuss and explore mechanisms for integrating and coordinating project WaSH activities into the government.

### **10.2. Evaluation**

On the other hand, the strategic plan impact evaluation will be conducted once during the program period. An interim evaluation will be made at the beginning of the end of second

year. The focus of interim evaluation will be to examine progresses made in terms of achieving intended result, the problems encountered, and generally to see how far the changes are going towards intended directions. Where as terminal evaluation will be conducted in the last quarter of final year of the program. The major focus of terminal evaluation will be to examine the extent to which planned impact has been made. It also explores sustainability of achieving results. To strengthen information sharing and draw lesson on process of implementation and follow up bi-annual and annual review meetings will be conducted where key implementing agencies from community, Woreda and private sectors representative participate.

There will also midterm evaluation of the project to be carried out at the middle and end of the project life. The midterm evaluation will be done by internal staff and concerned stakeholders. However, the government terminal evaluation will be done by signatory government bureaus and IP and the final evaluation will be carried out by external consultant. All evaluations will be used for the purpose of extracting lessons and improving similar or other projects. As to this the corresponding reports will be shared to all stakeholders.

### **10.3. Reporting**

Performance reporting is important means of communication to let program management and other concerned stakeholders to updates about the progress of the program. The WWT meets on regular basis to review the reports and pass key decisions on program implement action process. Moreover, planned and unplanned field visits will be arranged by WWT to observe the implementation of activities. This is believed to be important to follow up the achievement and obtaining first hand information and reality reports.

The the implementation process monthly, there will be regular monthly reports, quarterly, biannual and annual reports to be prepared. This will serve as input for the District progress reports to be shared with the Ministry of Water, Mineral and Energy (MWME), development partners, NGOs and other stakeholders.

### **10.4. learning, Documentation and sharing**

Learning, documentation and sharing of lessons, best practices and new insights will be an integral part of the implementation process of the plan. This will involve the documentation and sharing of lessons, best practices and new insights to feed into the next planning phase of review and preparation of the medium-term development plan and to improve performance. The sharing will be done at local and national level using existing platforms.

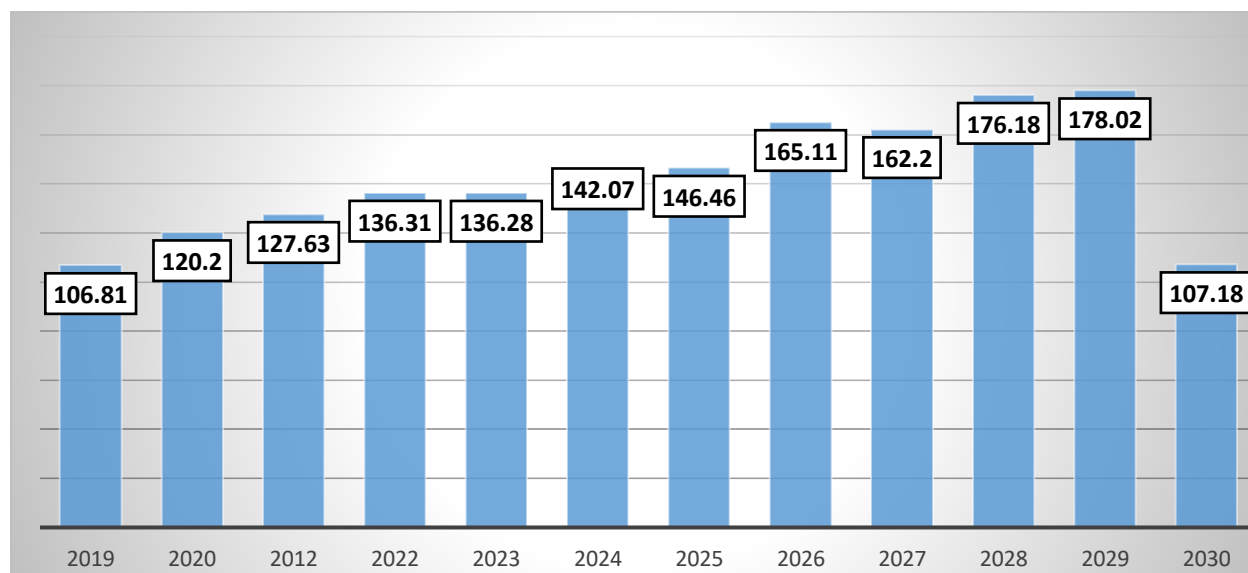
## 11. Costs and financing

### 11.1. Costing

The costing section of the strategic plan describes the cost estimates for covering the investments in WASH infrastructure for providing full coverage. This cost includes WASH institutional WASH (schools and health facilities), capacity development and systems strengthening, water safety plan, monitoring and evaluation. During cost estimation different assumption and assessment results were considered. The assumption and consideration are, current situation of WASH at woreda level, technology type, population growth (unserved population projection), infiltration rate and others. The assessment report of LCCA also used to estimate the cost. The life-cycle cost approach assessment report provides the cost components for delivering sustainable WASH services, which are CapEx, OpEx, CapManEx, and ExpDS. Generally; to estimate the total cost for woreda strategic plan SDG planning tool was used.

#### 11.1.1. Costing for water supply services

Due to the nature of technology type the water facility used, increased demand for water supply and rapid population growth; the costs to achieving water supply target (Basic services for 55% and safely-managed services for 45%) by 2030 are huge. The total cost required for the entire planning period is estimated to be Birr 998.8 million of which the cost components can share CapManEx (73%), OpEx (19%) with the remaining 8% of the cost will for Direct support costs. The combined costs of new investments, rehabilitation and expansion as well as direct support for water service by the year 2030 is estimated to be 1, 704, 000, 000.44 billion birr.



**Graph 6: Summary of costs for achieving 100% water coverage in millions.**

### 11.1.2. Costing of sanitation and Hygiene

The cost component for hygiene and sanitation are the cost which are associated with CapEx and CapManEx, are under taken by the government institution (health institution and school). Support costs for activities, such as awareness creation, promotion, training, technical assistance and others are included. The cost estimation of sanitation and hygiene facilities has been based an extensive micro-planning exercise conducted by UNICEF Ethiopia. Moreover, national sanitation standards guidelines are also referred. The micro plan identified community and institutional level needs for all regions and woredas in Ethiopia. Like in the water cost analysis, direct support costs related to ongoing sanitation and hygiene promotion, and support to service providers are considered. The total amount of cost estimated for sanitation and hygiene is birr 78,280,000 million.

### 11.2. Financing

Funds for the implementation of the strategic plan will be from different sources. The government will make funds. The partners involved in the implementation of the the plan will also provide financial resources and various forms of technical support. User community and other developmental organization will be part of the funding source. Even though, the major share of the program budget is expected to come from donors and the government, the user communities make same significant contribution to the implementation of the program.

The total budget planned over the five years' period for the program is 1,824,218,000 Birr. From the total, budget for water is 1,704,000,000 birr, sanitation 68,800,000 birr, hygiene component 9,480,000 and others 41,938,000 birr. The major share of the estimated budget is expected to come from various sources. These includes the government (40.6%), the user communities (8%), NGOs and Bilateral (51.4%). A resource mobilization plan will be prepared and coordinated by the woreda WASH Team (WWT) to enable the mapping and attract potential funders

**Table 10:** The budget planned over the 12 year period and the detailed budget breakdown for the program is presented in this table;

S/N	Activity	Total
	Program activity	
1	Water	1,704,000,000.00
2	Sanitation	68,800,000.00
3	Hygiene	9,480,000.00
4	Insure water safety plan	21,870,000.00
5	Capacity Building Activities	11,022,000.00
6	Community Mobilization and sensitization	1,566,000.00
7	Water sources protection and management	1,000,000.00
8	Monitoring, Evaluation and Learning	6,480,000.00
	Grand total	1,824,218,000.00

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## Annex

### Annex 1: 8. Program Outputs and Activities

S/N	Expected Output/ Results	Unit	12 year plan
<b>1</b>	<b>Water</b>		
	<b>Developed New Water Supply Schemes</b>		
1.1	Motorized Spring with distribution (RPS)	No	3
1.2	Deep well with distribution (RPS)	No	95
1.3	Shallow well (Borehole)	No	239
1.4	Self supply	No	1805
1.5	Hand dug well with hand pump	No	41
1.6	Capped spring (on spot)	No	14
1.7	Rope pump (community)	No	69
	<b>Maintenance non- functional Water Supply Schemes</b>		
1.8	Shallow well (Borehole)	No	7
1.9	Hand dug well with hand pump	No	60
1.10	Capped spring (on spot)	No	36
1.11	Rope pump (community)	No	13
<b>2</b>	<b>Sanitation</b>		
10	Gender segregated VIPL construction in schools	Block	138
2.2	Gender segregated VIPL construction in Health facility (HP& HC)	Block	60
2.3	Integrated WASH center establishment (san mark)	Block	2
2.4	Create ODF kebeles (two kebele per year)	kebele	32
2.5	Demonstration of VIPL with HWFs	Block	32
2.6	Celebrating International/ National toilet day	Ls	12
<b>3</b>	<b>Hygiene</b>		
3.1	Cloth washing facility construction (10 per kebele)	No	370
3.2	Shower house constructin (two per town)	Block	2
3.3	Construction of public latrine		2
3.4	IEC /BCC materials prepared and distributed	Ls	24
3.5	Celebrating International/National Hand washing day.	Ls	12
<b>4</b>	<b>Insure water safety plan</b>		
4.1	Conduct water quality testing and treating	Quarter	48
4.2	Supply water quality test kit (Bacteriologic and photometer) (2 /town)	No	16
4.3	Household level water treatment and safe storage practise (water filter)	No	2500
4.4.	Expansion of DSW	No.	2000
<b>5</b>	<b>Capacity Building Activities</b>		
5.1	Water quality test and treament training (5 per town)	Person	18
5.2	Community CLTSH facilitators trained ( WoHO, HC & HP)	Person	167
5.3	SLTSH Orientation for school community conducted (5 per school)	Person	405
5.4	School WaSH club established and strengthened	Club	77
5.5	WASHCO established and basic training (10 WASHCOs per kebele)	Person	2240

5.6	WaSH Board/utility established and training (1 board per town)	Person	35
5.7	Water Technician/ Care takers trained (2 care taker per kebele)	Person	640
5.8	Startup items Purchased and supplied for WASHCO (10 WASHCO/kebele)	No	320
5.9	Startup items Purchased and supplied for Board/utility	No	7
5.10	Startup items Purchased and supplied for san mark.	No	2
5.11	Training of Woreda WaSH Management Team (WWT) & WTT	Ls	24
5.12	Training of Artisans (5/kebele)	No	160
5.13	Experience sharing visit	Ls	12
5.14	WRM awareness raising programs (20/kebele)	Person	320
5.15	Office equipment and computer purchase for water, education, health office, board & utility	No	9
5.16	Motor bike purchased for water, education, health office, board & utility	No	10
5.17	Water point database establishment and mapping	LS	12
5.18	Business plan preparation and tariff setting for WASHCO & board/ utility (10/kebele)	No	326
<b>6</b>	<b>Community Mobilization and sensitization</b>		
6.1	Community meetings & sensitizations activities	Quarter	48
6.2	Conduct community voice leasing meeting	Bi-annual	24
<b>7</b>	<b>Water sources protection and management</b>		
7.1	WRM activities around water supply facilities carried out	No	50
7.2	Fruit trees and vegetables seeds purchased and supplied	No	50
<b>8</b>	<b>Monitoring, Evaluation and Learning</b>		
8.1	Woreda WaSH team meeting	Quarter	48
8.2	Case story collected and documentation	Quarter	48
8.3	Regular monitoring carried out	Quarter	48
8.4	Mid-term evaluation carried out (every two year)	Bi-annual	6
8.5	Terminal Evaluation with gov bureaus carried out	Year	1
8.6	External final evaluation carried out	Year	1
8.7	Documentation of learning	Year	12
<b>12</b>	<b>Community Contribution</b>		
12.1	Access Road cleared and maintained	Km	100%
12.2	Pipeline trenched excavation and backfilled	KM	100%
12.3	Inter site transportation and avail local material	Ls	100%



## ANNEX 2: Roles and responsibilities of Stakeholders

No	Organization /Institution	Role and responsibility of the organization	Stage
1	NGO	<ul style="list-style-type: none"> <li>• Provide financial and material support for the implementation of the project</li> <li>• Ensure the proper utilization of the program equipment and materials</li> <li>• Handover the program activities upon the completion of the project to concerned Bureaus and their respective line department.</li> </ul>	All stage
2	WOREDA ADMINISTRATION OFFICE (WWT)·	<ul style="list-style-type: none"> <li>• Provide the overall direction and leading role as per the project proposal and agreement made</li> <li>• Coordinate and facilitate the WASH sector offices to accomplish their role and responsibilities</li> <li>• Organize regular meetings and monitoring to track the project progresses and take corrective direction and action</li> <li>• Ensure the establishment and proper functioning of WASH sector like WWT, woreda WASH technical committee, water committees at each level.</li> <li>• Lead community participation and contribution and solving conflict in all concerns of the project.</li> <li>• Lead local resource mobilization, ensure the beneficiaries satisfaction in the service and quality of the project implementation</li> <li>• Conduct quarter project monitoring and beneficiary communities' needs mapping by organizing WASH sector offices.</li> <li>• Create good communication and conducive working environment for the success of the project.</li> <li>• Lead the handover of the finished WASH projects and community management of the project after commissioning the service.</li> </ul>	All stage
3	WOREDA WATER, MINERALS AND ENERGY OFFICE	<ul style="list-style-type: none"> <li>• Provide the implementing party with the necessary technical advice follow up and evaluate the project activities jointly</li> <li>• Take lion share responsibility in consultation, participation and securing community contribution and other community mobilization activities</li> <li>• Support in mapping local available materials and resources, writing supportive letter to concerned bodies, creating conducive environment to ensure efficient and effective implementation of the project</li> <li>• Work on identifying potential sources on how to be developed like on spot develop, hand pump, spring</li> </ul>	All stage

		<p>development with distribution, rehabilitation and other related activities.</p> <ul style="list-style-type: none"> <li>• Participate on regular monitoring and quality assurance activities including transparency of the project implementation.</li> <li>• Support the establishment of WASHcos in project kebeles.</li> </ul>	
	WOREDA FINANCE AND ECONOMIC DEVELOPMENT OFFICE	<ul style="list-style-type: none"> <li>• Be the overall co-coordinator of the project in conjunction with IP, WWRO, WEO and WoHo and WWT</li> <li>• Ensure that its staff and relevant partners evaluate the project periodically and that the necessary reports are submitted on time.</li> <li>• Establish system in collection, depositing and managing community contribution.</li> <li>• Based on the decision from the terminal evaluation report shall facilitate the handing over process of the project activities with related equipment and materials.</li> </ul>	All stage
	WOREDA HEALTH OFFICE	<ul style="list-style-type: none"> <li>• Provide the implementing party with the necessary technical advice.</li> <li>• Support in identifying trainees during capacity building trainings.</li> <li>• Ensure the participation of health professionals and HEW in the implementation of Community /School Led Total Sanitation and hygiene to attend ODF status of the project kebeles.</li> <li>• Participate and ensure the quality of WASH facilities constructions in schools and health institutions.</li> <li>• Organize verification of kebeles those declare ODF and certification these kebeles.</li> <li>• Follow up and evaluate the project activities jointly with stakeholders and IP.</li> <li>• Work on post Open Defecation Free status to prevent back slide and sustain the status.</li> </ul>	All stage
	WOREDA EDUCATION OFFICE	<ul style="list-style-type: none"> <li>• Be the overall co-coordinator of the school WASH project in conjunction with WAE, WWRO and WoHo and WWT.</li> <li>• Ensure that its staff and relevant partners evaluate the project periodically and that the necessary reports are submitted on time.</li> <li>• Participate and ensure the quality of WASH facilities constructions in schools' institutions.</li> <li>• Facilitate and take part in School Led Total Sanitation and Hygiene, school hygiene promotion and related activities in school.</li> </ul>	All stage

		<ul style="list-style-type: none"> <li>• Participate on the evaluation report shall facilitate the handing over process of the project activities with related equipment and materials.</li> </ul>	
	WOREDA AGRICULTURAL DEVELOPMENT OFFICE	<ul style="list-style-type: none"> <li>• Be the overall co-coordinator of Community water shed management with IP, WWRO, WEO and WoHo and WWT</li> <li>• Ensure that its staff and relevant partners evaluate the project periodically and that the necessary reports are submitted on time.</li> <li>• Identify water shed resource management trainees, address invitation letter for them and participate on the provision training.</li> <li>• Technical support for site selection of seedling/ nursery of indigenous trees, plantation of the trees around the water sources.</li> </ul>	All stage
	TOWN MANUCIPALITY	<ul style="list-style-type: none"> <li>• Provide the overall direction and leading role as per the project proposal and agreement made for urban water supply, hygiene and sanitation</li> <li>• Coordinate and facilitate the water utilities board and committees to accomplish their role and responsibilities</li> <li>• Organize regular meetings and monitoring to track the project progresses and take corrective direction and action</li> <li>• Conduct quarter project monitoring and beneficiary communities' needs mapping by organizing WASH sector offices.</li> </ul>	All stage

