

Report on Evaluation of WASH - Joint Action Plan (JAP) implementation in eight water insecure Woredas in Afar Regional state



**Submitted to UNICEF – Ethiopia WASH Section/Afar
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Acronyms

AISDA: *Action for Integrated Sustainable Development Association*

APDA: Afar People Development Association

BCC: Behavioral Change Communication

CSA: Central Statistical Authority

GO: Government Offices

IRC: International Rescue Committee - IRC

LVIA: Lay Volunteers International Association

JAP: Joint Action Plan

M&E: Monitoring and evaluation

MDG: Millennium Development Goals

NGO: Non-Governmental Organization

OWNP: One WASH National Program

RWB: Regional Water resource development Bureau

REB: Regional Education Bureau

RHB: Regional Health Bureau

SCI: Save the Children International

UNICEF: United Nations Children's Fund

WASH: Water, Sanitation and Hygiene

WASHCOs: Water, Sanitation and Hygiene Committees

WT: Water Trucking

WVO: Woreda Water Office

WWT: Woreda WASH Team

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Executive Summary

The Joint Action Plan (JAP) was initiated by Afar Water Resources Development Bureau to coordinate all water supply interventions which should be accomplished by all partners in order to reduce water insecure Woredas through reduction of water trucking requests by 80% from July 2013 – December 2015. Accordingly, The JAP was targeting 8 vulnerable Woredas with their 24 Kebeles to create access of feasible Water supply schemes by application of practical strategies and approaches. Developments of ground and surface water sources, strengthen mobile maintenance team, capacity building supports for WASHCOs and Inventory/vulnerability assessments are among the practical strategies; consequently, evaluation of JAP has been conducted from September 26, 2015 to November 13, 2015. It focuses on what have been accomplished so far, best practices and lessons and encountered challenges in the course of JAP so as to prepare the next phase two year plan.

The evaluation has been carried out using different methods of data collection such as desk reviews of different documents, Informant Interview (KII), Focus Group Discussion (FGD), compiling cases and on spot observation. Observational checklists and interview/discussion guides have been used. Those collected quantitative and qualitative data were analyzed using data analyzing methods like excel spreadsheet for and thematic analysis respectively.

The evaluation findings shows that the JAP I was relevance to the principles of One WASH National Program (OWNP). It is responding the demand and felt needs of the community. The plan itself was comprehensive document that depicted the situations clearly, the goal, the strategies, and the target areas. In spite of these, the document lacks detailed operational plan and timely update. With respect to reduction of water trucking, 10 out of 24 target kebeles (42%) reduced Water Trucking (WT) request in all seasons whereas 8 kebeles (33%) still have not been reduced WT request. Specifically target areas such as Teru and Yalow were achieving the reduction of WT request by 100%.

This shows that JAP has bright future for the elimination of worst and least water supply alternative through WT. In other hand, taking performance indicators as means of achievement in terms of rehabilitation, maintenance, expansion and constructions of new schemes have been achieved successfully; however, there were less attention given to target all the 24 target kebeles. Therefore, in the course of JAP implementation, weakness for targeting kebeles, monitoring and reviewing of JAP in scheduled manner and currently facing droughts were observed as major challenges beside familiar challenges of WASH sectors.

1. Introduction

Afar National Regional State is one of the developing regions in Ethiopia which is located in the north eastern part of Ethiopia. The geological resources, culture of the people, archeological sites, Denakil depression, the Ertalie active volcano, and other various tourist attractions and socio-economic values are some of the greatest assets for the region and the country as well. The region has 32 woredas and 2 town administrations in five administrative zones. According to CSA July 2015 population projection, there are 1,723,007 number of peoples; of which 82.1% are leaving in the rural areas and 17.9% in urban areas.

In the region, water borne diseases for example diarrhea is ranked at second among under five children and at third above five years of age from ten top diseases¹. At the mid of 2015, regional safe water coverage is 63% from which 60% is rural and 83% is urban coverages with 853,344 (384,005 females) and 235178 (105,828 females) users respectively². There are 428 formal schools and 427 Alternative Basic Education centers (ABECs). Based on multi-agency Mehar Assessment report (2015), 27% (79) schools have separate latrines for boys and girls, 55% (159) schools have latrines and 23% (69) schools have safe drinking water in all 15 assessed Woredas from a total of 288 schools. In other hand there are a total of 482 governmental health facilities (84 health centers, 392 health posts and 6 hospitals) and 177 private health facilities (70 Clinics, 1 Pharmacy, 62 Drugstores and 11 drug vendors and 3 Laboratories). All the health centers and most of the health posts were constructed based on the standard requirements of latrines, drainages and fittings.

The Regional Water Bureau (RWB) tried to solve safe water supply problems of the region with unreserved efforts. However, due to geological, topographical, socioeconomic, climatic and other problems, the region has complicated problems to cover in terms of development and to build over all capacity. Particularly to create access for drought prone Woredas, due to the need of drilling very deep ground water sources with expensive costs, efficiency of drilling equipment, better technical capacity, maintaining water quality standards and provision safe water access, are the major issues in the region. For short term intervention, water trucking is taken as the only option and for long term, RWB has decided to reduce water trucking by 80% up to the end of Dec 2015³ by replacing sustainable water supply alternatives.

In principle, water trucking should be practiced only under emergency at which localities without any options. It is expensive interventions that need special attention in terms of water quality and safety from the sources of water to the point of use; for instance, over 180,000 ETB need for one truck water for one month.

¹ Multi- Agency Mehar Assessment, 2015

² Afar Regional Water Bureau (RWB) 2007 EFY annual report

³ JAP plan

It depends on road access from the sources of water to the final destinations and villages. Inaccessible creates the question of exclusive services. That means it is difficult to address the problems of girls, women, old aged and debilitated persons with water rations as the center may not within acceptable distance and time. It may also create shortage of water at the sources of water trucking places by depletion of existing water sources. It may not fulfill the requirements of adequacy of water one can have a right to access 15 – 20 liters per day with in 1.5 kilometer radius. The need of obeying of food and additives rules and regulations of the country, high probability of non-functionality of trucks at any time and places, high risk of work defects and exposed for corruptions are some of the drawbacks of water trucking.

Consequently, JAP which was initiated by RWB, has been implemented in last two and half years by coordinating all water supply interventions aiming reduction of Water Trucking request by 80%. It try to address 24 target kebeles in 8 Woredas through feasible strategies and approaches such as construction of new contextual water supply schemes, using mobile maintenance team, capacity building supports for WASHCOs and Inventory/vulnerability assessments. The JAP performance indicators were new construction of 15 double cisterns, 15 rain water detention basin (dam or pond), 5 sub-surface dams, 24 shallow wells, 21 deep wells, 2 springs developed, One new pipe line installation, one new water storage, maintenance and rehabilitation(one dam maintenance, 22 schemes rehabilitation, 80% of maintenance of non-functional schemes). In addition capacity building such as provision of six motor cycles, establishment and launch of the mobile maintenance team, one round joint assessment, establishments of one central database management system, and one vulnerability assessments were also indicated. Generally JAP I was planned to intervene 79,000 direct beneficiaries and 321,000.00 indirect beneficiaries (total 400,000.00) through allocation of 8.8 million USD (there were 4.5 USD gaps)

This is therefore, JAP evaluation report by giving emphasis for the effectiveness of the implementation of JAP, best practices, challenges and recommendations for next phase JAP plan have been discussed in detailed

2. Objectives of Evaluation

2.1. General Objective

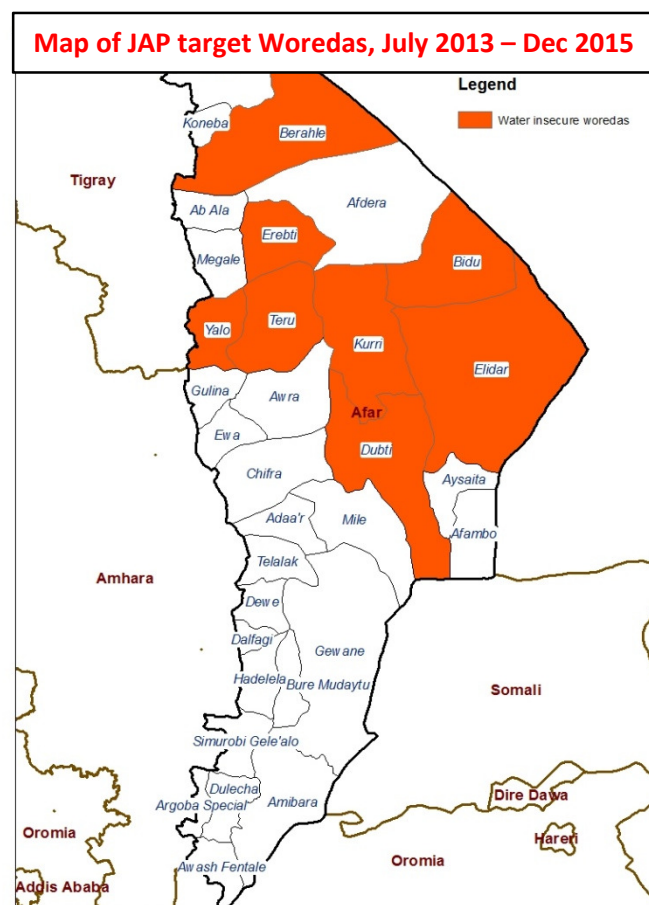
- To evaluate WASH Joint Action Plan (JAP) in Afar regional state which was planned to be accomplished from July 2013 to December 2015 by focusing on what have been accomplished so far, learnt lessons and encountered challenges in order to prepare next phase plan from January 2016 to Dec 2017.

2.2. Specific objectives

- To assess water supply JAP implementation effectiveness based on the comparison of baseline JAP plan and accomplished activities from July 2013 to December 2015.
- To ensure the presence of reduction of water trucking request because of sustainable and constructed sustainable water schemes
- To identify best practices and lessons in the course of WASH JAP implementation in the last two and half years of JAP period
- To use the findings of JAP evaluation for evidence based decision making and JAP II planning.

3. Methods of Evaluation

- a) **Target Areas and Period of Evaluation:** evaluation of JAP was conducted from September 26, 2015 – November 13, 2015 in water insecure eight Woredas (drought prone Woredas) namely Dubti, kori, Bidu, Erebti, Elide'ar, Berhale , Teru and Yalow. There are 24 water insecure kebeles in these target woredas. These kebeles are Meskanagelebule , Adginunatemakule , Burenaandaba ,Wuhalimat ,Preadizo – Dobe, Debuana-Wuha in Elide'ar, Albo ,Fiatu, Hayeta and Andergolo in Erebti, Agum, Sedometa and Teao in Bidu, Guyah, Gulubule, Teasule, Lubekda, Duba, Musle in Kori, Serdo kebele in Dubti, Rekubdora and Mesegied in Yalow, Guben kebele in Berahale and Teru kebele in Teru woreda. (For 8 JAP target Woredas from July 2013 – Dec 2015, see the following map)



- b) Evaluation Study Design:** this evaluation study is a cross-sectional study design with utilization of both qualitative and quantitative methods to generate the performance indicators that were accomplished in the last two and half years of JAP. The evaluation was focusing on the effectiveness of JAP implantation, best practices and encountered problems during the courses of JAP.
- c) Sampling methods, procedures and sample size:** majority of the data were collected using purposive sampling methods through incorporation of documents which were containing accomplished activities in the target Woredas and their kebeles. The size of documents, information sources and informants were determined based on saturation or redundancy of data under consideration. All accomplished activities in the target woredas were recorded for analysis.
- d) Data collection methods:** In this JAP evaluation, different kind of data collection methods were applied. These were
- **Desk Review (literature Review):** documents that were recorded during the courses of JAP, official reports and plans were reviewed and included.
 - **Key Informant Interview (KII) and Focus Group Discussion (FGD):** There were 13 key Informants were participating 5 from regional level, 6 were at Woreda levels, 2 at community level whereas five FGDs were conducted 3 at Woreda level (Erabti, Elide'ar and Dubti) and 2 at community level 2 (Erabti and Teru) .
 - **Observations and compilation of Case studies:** Four cases were compiled shortly to underlined best practices in the period of JAP. These are multi-village MDG projects of Teru Woreda, rain water detention dam in Elide'ar and desalination plant in Afdera and steam water collection scheme in Elide'ar.
- e) Participating in Regional WASH Meetings and Mehar assessments**
- f) Data collection tools:**
- o **FGD and KII guide, Observational and case compilation checklists and Excel Spread Sheet data recording template.**
- g) Data quality:** The quality of the data was maintained through Triangulation techniques , using Official documents and incorporating Comments
- h) Summarization and analysis of Evaluation Data:** Collected qualitative data have been analyzed by using thematic analysis (content analysis) methods and quantitative data were also analyzed using descriptive statistic.
- i) Limitations of the JAP evaluation:** this evaluation did not try to investigate the impact of JAP (over all social benefits for example in the reduction of morbidity and mortality of Water borne diseases) and cost efficiency of JAP implementation.
- j) Ethical considerations:** before going to collecting data, each government authorities, and NGOs have been convinced about the process of evaluation, the methods and the use of the findings. Consents were also asked for participants KII, FGD, and observation of practices, review documents and individual cases.

3. JAP Evaluation Findings

The JAP evaluation findings have been described by dividing the overall JAP evaluation into thematic areas such as JAP design, assumptions of JAP, Strategies of JAP, coordination and follow up, plan versus achievement, best practices/lessons, encountered challenges and considerations for next plan.

a) Design of the Joint Action Plan (JAP): the JAP is a comprehensive plan shows the direction of implementation, goals, objectives and targets; however, there were no detail annual operational plan that include specific activities, role and responsibilities of each WASH sector, communication plan which shall describe when to be reviewed, reporting and data follow for responsible bodies. All the documents and key informants indicated that there were no any scheduled review of JAP. In the two year annual report of RWB, there are no special attention given for the JAP description (Plan versus achievement description) except some issues and achievements described as water insecure Woredas. In other hand, the JAP targets were not properly mentioned and indicated in the document, some of the key informants listed out more than 8 water insecure Woredas the other sort out less than 8 Woredas. For instance Dalol and Afdera were not included in the plan document but informants were listed out them as water insecure Woredas at normal weather condition.

b) Assumptions of the JAP plan: to create common understanding with in the cooperative platform, there were 10 assumptions in the JAP document. Even though some of the assumptions were realized, under listed assumptions were not becoming real in the course of JAP implementation.

1. The JAP documents were not updated regularly based on needs and situations
2. Government was not taking the lead for the regular coordination of all efforts and resources as required for the reduction of WT. This means the RWB was not monitoring, coordinating and reviewing the status of JAP.
3. Required funds for prioritized gaps for 24 Kebeles at the first stage was not clearly indicated whether gaps were filled or not or whether resources were mobilized or not for such gaps.
4. Partners or RWB were not making available the reports of all completed activities those were based on JAP plan

c) Strategies of JAP: to achieve the goal of JAP, there are many means or strategies to implement JAP activities. The finding with respect to implementation strategies described as follows.

- **Establishing and strengthen mobile maintenance Team:** the RWB established and strengthen only two mobile workshops in centralized way for 32 Woredas because the pledged mobile workshops were not received from donors or Federal Ministry of Water resources. It has a negative effect on the capacity of WASHCOs/ scheme takers, Woredas Water office experts and system of scheme management. Beside small number, the establishment team has a lot of problems in accomplishing the work because of technical competency to operate computerized maintenance workshop.

- **Capacity Building:** only WASHCOs from 20 schemes and 17 experts from two target Woredas have been provided capacity building training. As per JAP plan and WASH program norms, these were given less attention. Evidences show that number of days, contents of training and the target groups were not appropriately considered before the delivery of training. Even after delivering, there were not established bylaws, financial and material guidelines. In other hand, motor cycle purchasing plan was not accomplished sufficiently. Only one of the six planned has been done.
- **Inventory and Vulnerability Assessment:** ground and surface water feasibility study (for example by RWB), hydro-geological mapping (by UNICEF) and collection of hydro-metrological data activities (RWB) have been undertaken effectively. These efforts should be taken as best practices which will be considered as an input for next JAP. However water supply scheme inventory with establishment of regional database and vulnerability assessment were not implemented effectively as planned. Evidences shows that failing to practice these strategies under questioning the sustainability of products of JAP, and thus considering implementing such strategies effectively for next phase planning will ensure the sustainability of water supply schemes.

Table 1: Capacity Building Activities (strategy of JAP) achievement from July 2013 – June 30, 2015, October 2015, JAP evaluation.

#	WASH activities	Plan	Achievement		Remark
			Number	%	
1	Capacity Building and knowledge management				
	Ground & surface water sources feasibility assessment	*	23		Dubti 4, Dalol 3, Yalo 3, Berahale 4, Kori 2, Bidu 1, Erabti 5 & Elidear 1
	Purchase of geophysical instrument	1	-		No evidence
	Training of WASHCOs	*	20		Elidear 3, Erabti 1, Yalo 1, Bidu 3, Teru 1, Afder 3 & Kori 8 sites
	Training of WWO experts	*	17		Elidear & Dubti (AMREF)
	Purchase of motor cycles	6	1	17%	Elidear 1(AMREF)
2	Inventory, mapping and vulnerability assessment				
	Regional Database	1	0	0%	Water supply scheme Inventory
	Hydrogeological mapping	*	2	-	Erabti & Elidear
	Hydro-metrology data	*	1	-	Collected in five Zones
	Water supply schemes Inventory	2	0	0%	Erabti, Dubti, kori, Elidear, Afdera
	Vulnerability assessment	1	0	0%	
*No plan					

d) Coordination, Follow up and Review of JAP: the regional WASH forum have conducted monthly meeting (biweekly during emergency) to update regional WASH program implementation status, burning issues and concerns that need higher level decisions. Members are governmental Sectors such as Health, Education, Finance and Economic development, and NGOs such as UNICEF, IRC, SCI, APDA, LVIA, AMREF, AISDA and CARE Ethiopia. Members have presented their monthly major achievements, project progresses and next month plan. For issues that needs special attentions are recorded as action points and further communication and efforts.

Regarding JAP, the WASH forum was not giving sufficient attentions. At Woreda level, Bidu, Elide'a, Teru, Erabti and Dubti have not any form of active and functional Woreda WASH Team (WWT). Retrospectively there were WWT in those Woredas before 2-3 years. This weakness, poor coordination at Woreda level also have been found by the current multi agency Mehar Assessment so that it indicates appropriate measures and solutions should be in place for the next plan.

e) Plan versus Achievement of JAP (Achievements of Performance Indicators): construction of schemes such as double cistern (Birka), subsurface dams, Deep Wells (DWs) and anti-scalant (water treatment) were achieved by 173%, 100%, 143% and 100% respectively. Whereas construction of rain water detention basin (pond), Shallow Wells (SWs) and Spring Development (SPD) were achieved by 69%, 4% and 50% respectively. Planned scheme maintenance, rehabilitation & expansion were achieved by more than 100% (table 2). According to this planned versus achievement review, new construction, maintenances, rehabilitation, expansion accomplishments can be taken as successful achievement except shallow well and spring development. Despite the achievements and success, the JAP implementations were not targeting those planned 24 kebeles while undertaking constructions and other interventions so as to achieve the goal of JAP. In addition to this, there were no any records or incomplete records about the number of beneficiaries, intervention on sanitation and Institutional WASH in all reviewed documents.

Table 2: Plan versus achievement of JAP from July 2013 – June 30, 2015 (Performance Indicators), October 2015, JAP evaluation.

S/N	WASH activities	JAP Target	Achievement	
			Number	Percent
1	Surface Water Development			
	Double Cistern (Birka)	15	26	173%
	Rain Water Detention Basin(Pond)	15	11	69%
	Subsurface dam	5	5	100%
2	Ground Water Development			
	Deep Wells	28	40	143%
	Shallow Wells ⁴	24	1	4%
	Expansion and upgrading	*	2	-
	Spring Development	2	1	50%
	Hand Dug wells	*	9	-
	Anti-scalant (water treatment)	1	1	100%
3	Maintenance/Rehabilitation & expansion of schemes			
	Expansion & electromechanical equipment ins. (Teru)	1	1	100%
	Pipe line & electro-mechanical ⁵ installation	1	1	100%
	Maintenance of Hand Dug Wells	9	10	111%
	Maintenance of schemes	11	34	309%
	Rehabilitation of schemes	10	11	110%
	Maintenance of Dams	1	2	200%

f) Distributions of achieved performance indicators: The distribution of JAP achieved interventions shows that implementation of JAP were not focusing on the priority areas and the extent of the problems. As indicated in table 2, eight target Woredas have not proportional allocations of interventions for instance Dubti woreda has one target kebele but there were 14 newly constructed water supply schemes majority of them constructed outside the target kebele (Serdo) which would be prioritized than any other kebeles. Berahele Woreda also has one target kebele with 8 newly constructed schemes that were not located in the target Kebele (Guben). These cases indicate that during implementation of JAP there were no contextualized and localized prioritization interventions. Generally the distributions of newly constructed schemes were not based on the JAP plan and prioritization except for example, Teru Woredas which were reducing Water Trucking (WT) request by 100% Woreda (see annex 1 & 2 for distribution of intervention with in the woreda and its target kebeles)

Highlighted contributions were made by donors and Developmental Partners such as AfDB, MDG project by Federal Agricultural ministry, Save the Children International, Afar People Developmental Association (APDA), AMREF, Care Ethiopia, Tigray development partner, UNICEF and FAO for the identified Water insecure Woredas (see Annex 3)

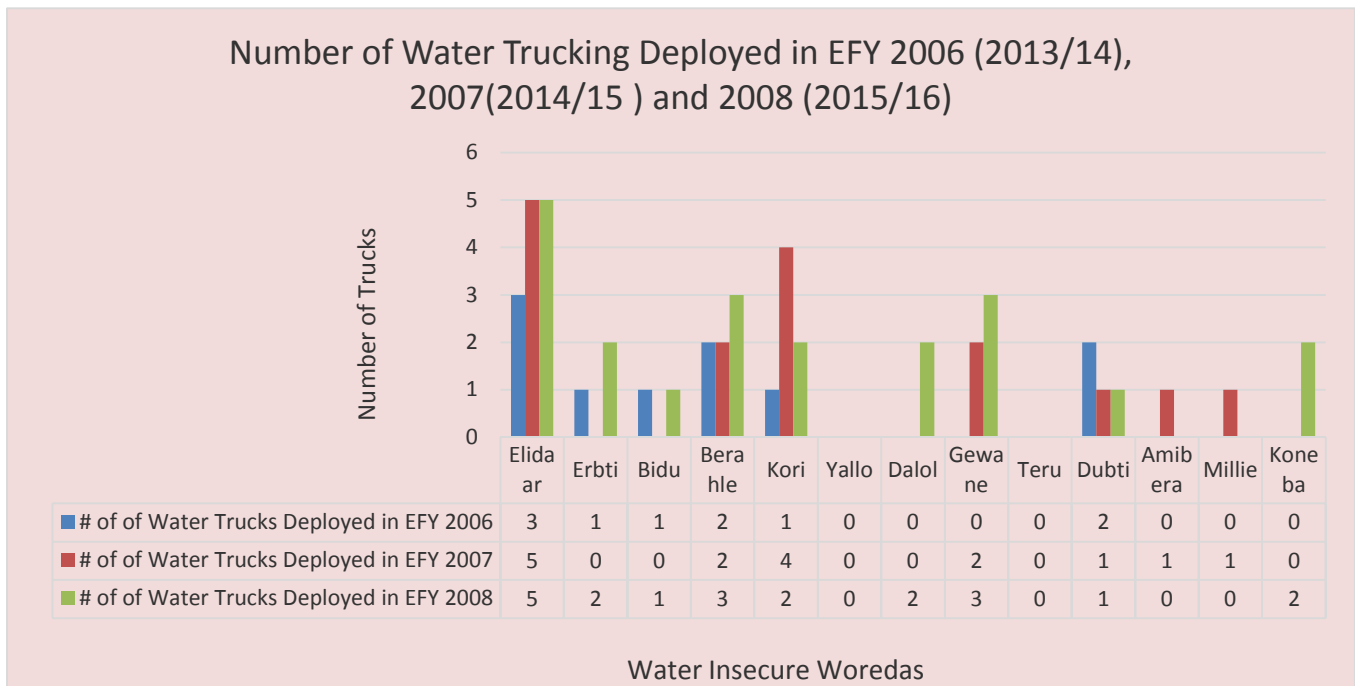
g) Water Trucking Trends and Outcomes of JAP: among 24 water insecure kebeles which were depend on water trucking options, there are only 10 kebeles (42%) were supplied with sustainable permanent water alternatives in all seasons of the year. The other 6 kebeles (25%) are reducing partially in wet season. The rest 8 kebeles (33%) should be reconsidered in the next phase for sustainable water options that considers the local geological, topographical and seasonal settlement patterns of the pastoralist community. In other hand, there were effective implementation of JAP according to field visit report and KII for example in Teru Woreda 7 kebele, Bidu woreda 2 kebeles and Erabti Woreda 2 kebeles, Water trucking demands were reduced permanently through implementation of multi-village water supply projects. In addition, the 2 dams constructed by Elidear Woreda and maintained by FAO were advanced interventions that should be continued and taken as best practices in the region and for similar context (table 3)

Water Trucking Trends: There were only 8 trucks at the beginning of the JAP period but after the JAP launching, water trucks were becoming 14 and 21 trucks in the consecutive years (figure 1). This incremental of water trucking requests may be because of factors associated with the current drought and/poorly serving constructed schemes or implementation of JAP was focusing on non-targeted kebeles. On top of this, more kebeles were entered to the water trucking options during the emergency response. According to multi-agency Mehar Assessment findings, there are 31 kebeles which are getting water supply by truck (see table 4). The drought effect also add new woredas for water truck targets for example Gulina and Ewa woredas

Table 3: JAP implementations in 24 target kebeles from July 2013 – June 30, 2015, October 2015, JAP evaluation

S/N	Woredas	Reduced WT request permanently in all seasons	Reduced in Wet seasons	Not reduced
1	Elidar	Wuhalimat	Meskanagelebule	Adginunatemakule
		Preadizo Dobe		Burenaandaba DebuanaWuha
2	Erabti	Albo	Fiatu	
			Hayeta	
			Andergolo	
3	Bidu	Sedometa		Teao
		Agum		
4	Kori	Guyah	Teasule	Duba
		Gulubule	Lubekda	Musle
5	Dubti			Serdo
6	Yalo	Rekubdora		
		Mesegied		
7	Berhala			Guben
8	Teru	Teru		
# of Kebeles		10	6	8
Reduction %		42%	25%	33%

Figure 1: Number of Water trucking Deployed in 2013/14, 2014/15 and 2015/16, JAP evaluation, October 2015.



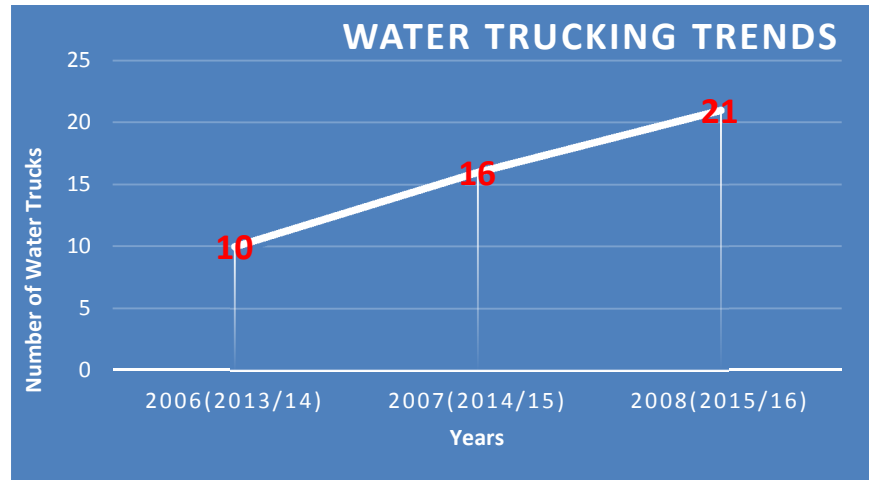


Figure 2: WT trends in Water Insecure Woredas, JAP evaluation, October 2015

5. Best Practices and Lessons

During JAP implementation period, there were best practices which can have a potential to achieve sustainable results and lessons which were seen in the courses and taken as experiences. The following lists are major best experiences and lessons

- a) **Implementing Multi Village Water Supply Projects:** Implementation of multi village water supply projects can be taken as best practices. These Water supply interventions reduced water trucking in Teru, Bidu and Erabti by 100%, 66% and 25% respectively. These projects have comparative advantage than other options because of their expandability, sustainability, centralized management and multiple uses (animals and vegetables).
- b) **Experience of prioritizing problems:** with the efforts of RWB and regional WASH coordination forum have experience of prioritizing problems; for instance selecting drought prone districts and working accordingly are the best practices to have sustainable water supply schemes with in limited resources. In other hand the effort exerted through conducting regular monthly meeting (twice per month because of Emergency) has been a means of resource mapping and advising new NGOs to participate in the prioritized areas. It is not true for some partners which are still persistent with their interests not stand with the priority areas.
- c) **Surface water development best fit Water supply alternatives:** Water supply alternatives should be investigated in areas where groundwater is scarce and having water quality problem. As per the JAP pillars, it is possible to develop surface water to alleviate the water supply problem of the community as well as the livestock until the next rainy season. In this case there were two rain water detention dams rehabilitated in Elide'ar Woredas of JAP target. These two dams have very good advantages for the local community. Key informant indicates that there is one water detention dam like Elide'ar in Kori woreda in Gouyah kebele which was constructed

by Chinese road Construction Company for other purpose but it gives service for the community throughout the year.

- d) Distribution of Water Treatment kits:** distribution of water household water treatment kit which is easily operated, have no objectionable odor and taste and accepted culturally is very important. In this regard the distributed water purification kit by AMREF can be taken as best practices because of its advantage over chemical disinfectants in spite of its affordability issue. The distributed kit known as Tulip water purification kit⁶.
- e) Distribution of Hygiene Kits:** including 20 liter bucket, laundry and toilet soaps and water purification chemicals were distributed to the community by SCI in collaboration with RWB prepositioned by UNICEF's assistance for 2592 households in Kori, Elidar, Bidu and Afdera Woredas. This promotes and demonstrate safe water handling and storage at house household level.
- f) Conduct hydrogeological mapping for reduction of drilling failure:** It is justified that ground water drilling in arid areas is characterized by failure due to low drilling success rates as the result of limited and fragmented hydrogeological information. To fill this gap, UNICEF with collaboration with UNESCO conducting hydrogeological map for those Woredas targeted in the JAP. It will use to improve drilling success and demonstrate the need of hydrogeological mapping for other areas to efficient and effective ground water supply projects⁷
- g) Capacity building:** despite the weakness and less attention given for capacity building at woreda and WASHCO level, there were different capacity building activities for example, provision of training on hydrogeology and geophysics RWB experts and training for motorized schemes operators, woreda water office experts and Artesians, Hygiene promotion trainings in Elida'ar woreda; Bure, Su'ula & Elida'ar kebeles and in Berahle woreda; Guben kebeles and provision of toolkits for Woreda water offices (tool box, chain block, dies and pipe threader).
- h) Installation of desalination plant for areas with water quality problems:** when there is water quality problems which is more than the WHO water quality standards, desalination plant is the option. This kind of desalination plant also exists in Afdera and Elide'ar Woreda Galafi kebele. However, there was an issue of non-functionality and high operational cost which should be considered before installation.
- i) Construction of Birka (Cisterns) and pond:** it has dual benefits for the community: firstly stored water for certain periods for three months and secondly used as water tankers during emergency water trucking activities. It is used for livestock and human being consumptions. However, for long dry months, these are not advised to be implemented as this may not reduce water trucking request. For instance, in

⁶ Tulip Water Filters are one point-of-use (POU) treatment option available to residents without access to improved water sources and capable of removing over 99% of bacteria, turbidity, and protozoa in water. (<https://experiment.com/u/scNfPA>)

⁷ Source: <http://www.unesco.org/new/en/addisababa/natural-sciences/improving-available-information-and-drilling-success-rates-afar-regional-state-of-ethiopia/>

Erabti and Elide'ar Birkas and ponds were constructed in the target Kebeles but the communities are still using water trucking services⁸. Thus this type of schemes should be taken for supplementary options for example for animal consumption, for short time solutions and for relief. In other hand, preventive maintenances and rehabilitation should be done for Birkas because these schemes are exposed for seasonal sand and silt deposits, clogged silt traps, breakage of woods that support the roof and the roof itself.

6. Encountered challenges and bottlenecks

1. High proportion of Non – Functional Water supply schemes: for example in Erabti Woreda, from 13 water supply schemes 8 of theme (61%) were non-functional
2. Failure in Drilling: drilling failure is one of the challenges for example in Berahale (Guben sit), one drilled well was dried and still the community depend on water trucking.
3. Water quality Problem after drilling completion: Well drilled by APDA in Serdo kebele of Dubti woreda was ending up with the problem of water quality. The well has 5mg/lit Fluoride, 512.56mg/l Chloride and 520 mg/lit which is beyond the allowable amount.
4. Project delay and late transfer of budget: SCI was starting implementation of water projects after 6 months of JAP and late transfer of allocated fund were exhibited in the project implementation of APDA.
5. Reoccurring drought: the current year drought creates more water insecure woredas. It also creates difficulty to track records of water requests because most surface water sources which are constructed by JAP are dried.
6. Contractor's limited capacity/commitment: Contractors who have limited capacity and poor commitment affects the performance of JAP.
7. Hard rock formation and Scarcity of water for Birka constructions
8. Lack of skilled manpower at RWB and WWO levels.
9. Lack of transportation facilities at RWB and WWO: to provide technical supports for WWO, WASHCOs and to conduct schedule monitoring visits
10. Lack of sufficient budget at Woreda level
11. Lack of machineries, tools and equipment for water supply scheme Operation and maintenance: shortage of mobile workshops for decentralized maintenance of nonfunctional schemes
12. Delays in the approval of projects by FMOW, Delay in OWNP starting, Sula-Manda project are some of the delays

⁸ Elide'ar: Meskana – gelebule (1 Birka and 1 pond), Adginuna - temakule (1 Birka and 1 Pond), - Andaba (5 Birkas), Wuhalimat (2 Birka, 1 pond), Preadizo – Dobe(2 Birka and 2 pond), DebuanaWuha (security Problem) (1 Birka) and In Erabti: Fiatu (1 Birka) Hayeta (1) Birka, 1Haffir Dam and Andergolo (1 Birka)

13. Unavailability of sufficient data and information: there were no timely updated, consistently and comprehensive inventoried WASH facilities and documents.
14. Poor coordination and integration of Woreda WASH Team (WWT)
15. Poor community participation and sense of ownership:
16. Poor attentions were given for Institutional WASH, hygiene promotion and Water quality

7. Conclusion

This JAP evaluation indicates that the JAP is relevance to the principles of One WASH Program, responding the demand and felt needs of the community. The plan itself is comprehensive document that depicted the situations clearly, the goal, the strategies, and the target areas. In spite of these, the document lacks detailed operational plan, monitoring and evaluation plan and responsibility matrix. The outcome, reduction of water trucking demand by 80% in the JAP period have not achieved fully that is 42% of target kebeles reduced water trucking request in all seasons whereas 25% of the target kebele reduced water trucking request in the wet seasons and the other 33% target kebeles still have been served by water trucking . Specifically the target area such as Teru and Yalow are reduced water trucking by 100%. Taking performance indicators as means of achievement new constructions, rehabilitation and maintenance have been achieved successfully except shallow well constructions.

Therefore, in the course of JAP implementation, weakness for targeting kebeles, monitoring and reviewing of JAP in scheduled manner and currently facing droughts were observed as major challenges beside familiar challenges of WASH sectors. All the cases shows that JAP has bright future for the elimination of worst and least water supply alternative – Water Trucking.

8. Recommendations

As per the findings of JAP evaluation the following recommendations have been forwarded for JAP next planning and Implementation.

1. Mainstreaming JAP in the general WASH program: all WASH cluster members and development partners should mainstream the priority of water insecure Woredas.
2. Preparation of contractor profiles and recordings: the WASH sector should keep records and share the profiles of those contractors in order to motivate and discourage contractors based on their performances.
3. Establishing Matching funds for sustainable and mini grand projects: the coordination forum has a potential to establish huge projects which can address sever water shortage problems to be solved permanently through the application of matching fund principles rather than construction of unsustainable water supply options separately.

4. Mapping available skills and resources: adoptions and innovation of WASH program focus skills and building pooled regional skills should be considered; for instance working with Universities, Private companies and/ other ministries for new technology (different pump installation, maintenances skills, solar panel installation, electro-mechanical system maintenance & operations)
5. Conduct WASH Inventory using local resources and developmental partners
6. Prepare regional WASH guideline regarding to integration of Water supply services (water supply for human consumption and water supply for livestock) through considering the settlement patterns and grassing lands and develop minimum design requirements for ground and surface water schemes in order to serve in the most driest periods of the year.
7. Use renewable energy for Water supply power generation like solar power
8. Link completed water supply projects through designing effective phase out strategies:
9. Re-established and strengthen WWT at Woreda level and activate the capacity of WASHCOs at each water supply scheme:
10. Facilitate and shorten the delay of “feedback from FMOW”, OWNPs and Sula - Manda water supply project by negotiation with concerned bodies
11. Use centralized resources for hydrogeological mapping, gap assessment findings, WASH inventory results, and IEC/BCC materials in order to reduce duplicate resources.
12. Relay on sustainable approach that withstands frequent occurring droughts! For example, Sand dam, detention dam, motorized water schemes
13. Increase Community Participation and sense of ownership: create comfortable ground for community participation, contributions and mobilization
14. Water Trucking guidelines: it is the worst and unimproved water supply options for permanent residences; however, if there is no any other options during man-made and natural disasters, water trucking transportation, sources of water, tanker specification should be aligned or framed with the requirements of national food and drug administration proclamation.

Annexes

1. Considerations for next planning (SWOT analysis)

		Organizational	
Environmental factors	Opportunity	Strengths (RWB)	
		<ul style="list-style-type: none"> • OWNP, governmental WASH policies and strategies • Political commitment to GTP2 (advanced form of GTP1) • Presence of UN-agencies, INGOs and local NGOs • Regional partners such as Amhara Water Works, Tigray developmental partner • Water supply is one of the priority areas of Afar regional government and sectors • Productive safety net Program • Presence of ground and surface water sources • Good pool of Contractors at country level. 	<ul style="list-style-type: none"> • Having drilling machines and capacity • Skilled and committed staffs at RWB • RWB organizational structure – • Have ample experiences to solve safe water problems (best practices) • Hydrogeological mapping and different assessment and feasibility study findings
	Threats	Weakness	
		<ul style="list-style-type: none"> • Frequent drought and minimum amount of annual rainfall • Less Ground water potential with in the settlement pattern • Delay in the approval of big projects by FMOW • Less capacity of contractors and suppliers • Ground water quality problems (salt water) • Availability of funds from donors • Delay in the release of budgets from donors and IPs • Material Price incremental • Remoteness and hard to reach areas • Absence of road to project areas 	<ul style="list-style-type: none"> • Less participate in the WASH coordination forum (health and Education bureaus) • Less budget and skilled manpower for O&M for nonfunctional schemes because of wider areas and problems • Inactive WASHCOs at scheme level • Less follow up and supervise projects and • Not conducting vulnerability of schemes for Non-functionality • Unavailability of timely and comprehensive inventoried data in both WWO & RWB levels. • Weak at review projects and its performance timely • Weak to give feedback and technical support for WWOs • Less attention for water quality (treatment and testing) by RWB • Less capacity or absence of local Artisans • Poor integration and coordination of WWT • Less manpower at WWO level • Lack of transportation facilities and running costs at Woreda level

2. Cases

Case 1: Teru Woreda Multivillage Water supply Project

Teru Woreda multi village water supply project reduces water trucking request by 100% because of MDG mulita-village water project sponsored by Federal Agricultural Ministry. It is exemplary not only for Afar regional state but also for the country as well. It addresses the safe and adequate water supply demand for 13 kebeles through construction of 37 water points (12 for semi-urban and 25 for rural areas). The project provides water supply services for 78,870 beneficiaries directly for 7 kebeles and indirectly 5 kebeles and for a total of 198,000 animals. Subjectively, it is very huge project which has 92 Km main line with 103 Km distribution lines. Despite the presence of water supply board at zone level and WASHCO in each kebele, the capacity of each structure should be strengthened in order to ensure the sustainability of the services and to manage day to day activities of such huge project without significant interruption of services. In this case, it is important to have water Supply board at Woreda level to manage and administer all 37 water points and its related issues. During the field visits, 2 water points did not functional because of poor operation and maintenances.

Case 2: Rain Water detention Dam in Elide'ar Woreda

Elide'ar woreda is one of the water insecure woredas in Afar region and which was targeted in the JAP, in 2013/14 there were 7,300 peoples in 7 kebeles, in 2014/15 were 55,080 peoples in 7 kebeles and in 2015/116 were 50,080 persons in 5 kebeles getting water by 5 to 2 trucks in dry seasons as well as in the time of drought. However the Woreda create access of two dams for two sites. These two dams were constructed before JAP period but rehabilitated and upgraded in the JAP period by FAO with collaboration of Woreda Administrations.

Currently the dams functional and used for human and animal drinking water source the local informant Ato Dawud Humed living in Elidear – Harsalie sub kebele says “it is very important water source for all use such as drinking, washing, cooking and for animal water supply, these dam serve for 3 sub-kebeles of Elide'ar kebele around Elide'ar Woreda (Elide'ar, Regedenafura and Harselie) which almost 3hours walking distance to the center of Elide'ar Woreda to get water. But now after rehabilitation, we are not searching water just we came and fetch it even it takes 1-4 hours per trip. Even more than 20 -40 students were coming near the dam by using the bridge as temporary school bottom side of the dam. There are no any water source other than this dam around”. Ato Dawud Humed suggested that adding the height of the dam in order to prevent over flow erosion of the earthen dam and increasing the amount of water up to the next rainy season. The suggestion is valid and concrete for concerned bodies to increase the height of the dam to save sufficient water and prevent overtop and erosions of the dam structure.

Case 3: Installation of Desalination plant for water Quality Improvement

Afdera is one of the water insecure woredas, based on Care Ethiopia's External Magazine “L'andafta” Volume 14, No 39, August 2014. Desalination technology was installed in Afdera woreda with a capacity of 120,000 liter per day for 7,000. The desalination reduce the salt to less than 500 ppm (with in WHO standard). This technology can be a solution for areas with high salty water and can be replicated for similar areas. The cost of treated water was 4 birr per 20-liter Jeri-can, this was cheaper than residents paying 20 birr per Jeri-can at that time. The total cost of the desalination plant was 250,000 USD. The desalination plant works through reverse osmosis to produce fresh water by using membrane inside the plan. For day to day operation and maintenance, there were trainings for government staffs and WASH committee. On top of this practices, spare parts for the plant when needed, provision of refresher training for trained staffs and WASHCO members and new training for replaced members should be reconsidered for sustainable use.

Case 4: Steam Well

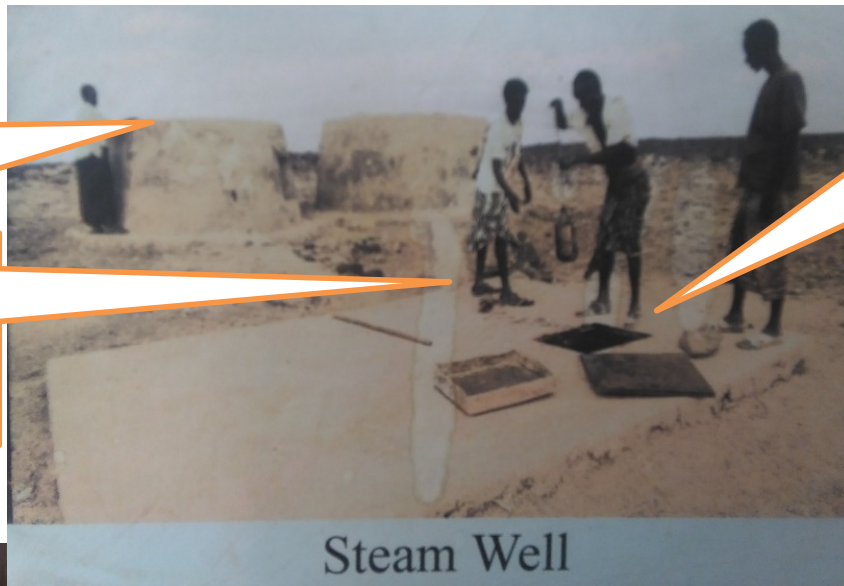
Afar Pastoralist Development Association (APDA) is one of the local NGO operating in Afar regional state. APDA in collaboration with international donors has worked in JAP target Woredas aiming at creation of safe drinking water access, food security, and malnutrition and fodder production. Accordingly, APDA has innovated steam well in Elidear Woreda to scale up local skills and use locally available resources.

The invented steam well is constructed on steam that comes out from the ground and collected in specialized designed container in which gravels and crushed stones inside. The inside structure help the steam to condense in to liquid and the liquid flow to the specialized designed pipe towards the final collection chamber. The collector rise 1.5 meters from the ground with holes for overflow. There are four tankers (steam collectors) each of them is connected to the condensed water collector which has a capacity to hold water from each collector tanker and at which users are fetching Water. It can be larger depend on the budget and can be more suitable using water lifting technics

Steam collector

Condensed water Collection chamber

Users fetching water



*The inventor of this steam well, Ato Girma Gebre-Ezgi said that I was constructing such steam wells in Elide'ar Wored. I tried to construct it by observing the local community who were collecting the condensed muddy water from the soil known as **“Boyna Water”**. After that with the organization APDA, I thought that it is possible to construct steam well and I was started working and now I proud, the community have clear and safe water with in their surroundings. If someone want to construct similar products, it is welcomed.*

This invention in terms of JAP should be motivated as can be taken best practice as it shows utilization of local skills, alternatives and self-supply options.

3. JAP intervention distribution in each 10 hotspot Woredas from July 2013 – June 30, 2015, October 2015, JAP evaluation

Woreda	Kebele	Type of schemes	2006	2007	Progress	Total	NGO/GO	Remarks	
Elidar Six Kebeles	Meskanagelebule	Birka	1	1		1	APDA	In Galabulu	
	Adginunatemakule		0	0		0			
	Burenaandaba	Birka	1	0		0		Andaba	
	Wuhalimat		0	0		0			
	Preadizo- Dobe	Deep Well		2	0		2	RWB	100% completed
		WT		1	0		1	SCI	1 WT(SCUK)
	DebuanaWuha		0	0		0			
	Galafi	Subsurface dam	0	1		1	RWB	With 63, 000,000 litres	
	Su'ula	Birka	0	2		2	SCI		
	Burie	Birka	1	2		2	2 =SCI/1=APDA		
	High school	Birka	0	1		1	SCI		
	Emino Kebele	HDWs		0	4		4	SCI	
		Water trucking		3	0		3	SCI	3 kebeles
	Esilu,	Birka	1	0		1	APDA		
	Gawa	Birka	1	0		1	APDA		
	Lee	Birka	1	0		1	APDA		
Dada'o,	Birka	1	0		1	APDA			
Fodo	Birka	1	0		1	APDA			
Manda,	Birka	1	0		1	APDA			
Erabti	Albo	Haffir dam	1	0		1	RWB	63,000,000 liters	
		Deep Well	2	0		2	MDG		
	Fiatu		0	0		0			
	Hayeta	Haffir Dam	0	1		1	RWB	63,000,000 liters	
	Andergolo	SPD	1	0		1	TDP	Tigray Development Partner	
Bidu 3 kebeles	Agum		0	0		0		Water points from Sedometa DW	
	Sedometa	Pond	0	1		1	APDA		
		Deep Wells	0	2		2	MDG	1 additional borehole drilling	
	Teao		0	0		0			
Bermo	Birka	0	1		1	APDA			
Kori Six kebeles		Birka Maintenance	2	0		2	SCI		
	Guyah	WT	1	0		1	SCI	1 kebele Water Trucking	
	Gulubule	Birka Maintenance	1	0		1	SCI	1 Birak maintained,	

		WT	1	0		1	SCI	Water trucking (SCUK),
		Pond	0	1		1	APDA	
	Teasule	WT	1	0		1		
		Pond	1	1		2	APDA	
	Lubekda	Birka	0	1		1	APDA	
	Duba	Pond	1	0		1	APDA	
	Musle	Birka	0	1		1	APDA	
	Agbuli	Haffir dam	0	1		1	RWB	63, 000,000 liters
	Asa	WT	1	0		1	SCI	water Trucking for one Kebele SCI
	Gagu	Birka	0	1		1	APDA	
	Ada'al	Birka	0	2		2	APDA	
	Ugu	Birka	0	1		1	APDA	
	Kori center	Civil Works	0	1		1	RWB	Fluoride treatment vessel and 120
Dubti		Deep Well	1	0		1	APDA	Higher concentration of fluoride
	Serdo	Deep Well	0	1		1	FMOW	Test Well
	Dietbahri	HDWs	0	1		1	AMREF	
	Sientimengieytre	HDWs	0	1		1	AMREF	
	Udaburi and Gasuri	Pipe line Extension	0	1		1	FMOCW	from Awash river water treatment
	Undaburi	What	1	0		1	FMOW	
	Gasuri	What	1	0		1	FMOW	
	Udeleberi	What	1	0		1	FMOW	
	Kifilu	What	0	1		1	RWB	
	Dieroesi	What	0	1		1	RWB	
	Waydied'esi	What	0	1		1	RWB	
	Saha	HDWs	0	1	1	2	APDA	
Saha	Birka	0	1		1	APDA		
Yalo	Rekubdora		0	0		0		
	Mesegied		0	0		0		
	Wokredi	Motorized borehole	0	1		1	AfDB	
	Menafesha	Deep Well	1	0	0	1	AfDB	
	Muhurgolo	Deep Well	0	1	0	1	AfDB	
Berhala	Guben	Borehole	0	1	0	1	RWB	dried
	Adae kebelle (bora site)	Borehole	0	1	0	1	RWB	
	Gergiera	Borehole	1	0		1	TDP	
	Dintu	Borehole	0	1		1	RWB	
	Ayshet Plain	Borehole	0	4		4	RWB	

Teru	Teru	Deep Well	0	1	1	MDG	Multi-village Water supply project
	Barentu	Birka	0	1	1	APDA	
	Barentu	Pond	1	0	1	APDA	
	Debaho	Pond	1	0	1	APDA	
	Nmara	Pond	1	0	1	APDA	
	Ewedi	Pond	0	1	1	APDA	
	Yowadilul	Pond	0	1	1	APDA	
	Asaber	Expansion and upgrading	0	1	1	UNICEF	
Afdera	Yelibah	Haffir Dam	0	1	1	RWB	63,000,000 liters
	Kusraward	SWs	1	0	1	RWB	self-capacity completed 100%
	Kusraward	HDWs	2	0	2	SCI	
	Kurswa	Upgrading	1	0	1	CARE	Generator, distribution & Water point
	Sereba	Borehole	0	1	1	RWB	By Road construction contractor
	Afdera Woreda center	Upgrade	1	0	1	CARE	Water distribution and anti-scalant
	Libahie	Borehole	0	1	1	RWB	On spot water supply
	Libahie	Deep Well/ Borehole	0	1	1	AfDB	
	Horahor	Birka	0	1	1	APDA	
	Engeltu	Birka	0	1	1	APDA	
	Aytura'a	Pond	0	1	1	APDA	
Dalol	Asgedli	Borehole	0	1	1	RWB	
	Elifen	Borehole	0	1	1	RWB	
	Admerug	Borehole	0	1	1	RWB	
	Badaerimilie	Borehole	0	2	2	RWB	
	Ayshet Plain	Drilled Borehole	0	4	4	RWB	

**4. Number of affected kebeles and populations in Water insecure Woredas from J
2013 - June 30, 2015, October 2015, JAP evaluation**

S/ N	Woreda	No of affected kebeles			No of affected population		
		2006	2007	2008	2006	2007	2008
1	Elidaar	7	7	5	7,300	55,080	50,080
2	Erbti	4	5	4	5,100	17,670	17,670
3	Bidu	2	0	0	3,000	0	0
4	Berahle	6	4	9	6,200	14,500	14,500
5	Kori	1	4	1	1,800	6,175	6,175
6	Yallo	0	3	0	0	2,450	0
7	Dalol	0	2	2	2	4,100	4,100
8	Gewane	0	2	2	0	5,000	5,000
9	Teru	0	2	0	0	2,235	0
10	Dubti	1	2	1	2,100	2,100	2,100
11	Amibera	0	1	3	0	2,000	2,000
12	Millie	0	1	0	0	2,000	0
14	Megale	0	1	0	0	2,100	0
15	Ewa	0	0	3	0	0	5,347
16	Gulina	0	0	2	0	0	7,530
Total		21	34	31	25,507	115,410	114,502

5. JAP intervention distribution in 10 hotspot Woredas from July 2013 – June 30, 2015, October 2015, JAP evaluation.

S/N	WASH activities	Dubti	Kori	Elidear	Bidu	Erabti	Yalo	Teru	Berhale	Afdera	Dalol	Total
	Number of target Kebeles	1	6	6	3	4	2	1	1	*	*	24
1	Surface Water Development											
	Double Cistern (Birka)	1	6	15	1	0	0	1	0	2	0	26
	Rain Water Detention Basin(Pond)	0	4	0	1	0	0	5	0	1	0	11
	Subsurface dam (Hiffer Dam)	0	1	1	0	2	0	0	0	1	0	5
	Total	1	11	16	2	2	0	6	0	4	0	42
2	Ground Water Development											
	Deep Wells	8	1	2	2	2	3	1	8	4	9	40
	Drilling of Shallow Wells	0	0	0	0	0	0	0	0	1	0	1
	Expansion and upgrading	1	0	0	0	0	0	1	0	0	0	2
	Spring Development	0	0	0	0	1	0	0	0	0	0	1
	Hand Dug well	4	0	4	0	0	0	0	0	2	0	10
	Anti-scalant (water treatment)	0	0	0	0	0	0	0	0	1	0	1
	Total	13	1	6	2	3	3	2	8	8	9	55
3	Maintenance/Rehabilitation & expansion of schemes											
	Expansion of schemes and installation of electromechanical equipment	0	0	0	0	0	0	1	0	0	0	1
	9Pipe line & electro-mechanical equipment installation	0	0	1	0	0	0	0	0	0	0	1
	Maintenance of Hand Dug Wells	0	0	6	0	0	4	0	0	0	0	10
	Maintenance of schemes	1	1	10	4	5	4	5	0	3	1	34
	Rehabilitation of schemes	0	0	0	1	0	10	0	0	0		11
	Maintenance of Dam	0	0	2	0	0	0	0	0	0	0	2

6. Contribution of NGOs in 10 hotspot Woredas from July 2013 – June 30, 2015, October 2015, JAP evaluation

WASH activities	AfDB	FMOW	MDG project	RWB	SCI	APDA	AMREF	CARE	TDP	UNICEF	FAO	Total
Surface Water Development												
Double Cistern (Birka)					5	21						26
Rain Water Detention Basin(Pond)						11						11
Subsurface dam (Hiffer Dam)				5								5
Maintenance of Dam											2	2
Ground Water Development												
Deep Wells[1]	4	4	5	25		1			1			40
Drilling of Shallow Wells				1								1
Expansion and upgrading								1		1		2
Spring Development									1			1
Hand Dug well					6	2	2					10
Anti-scalant (water treatment)								1				1
Maintenance/Rehabilitation & Expansion of schemes												
Expansion of schemes and installation of electromechanical equipment									1			1
Pipe line & electro-mechanical [2]equipment installation		1										1
Maintenance of Hand Dug Wells				10								10
Maintenance of schemes				14	3					17		34
Rehabilitation of schemes				9						2		11
Total	4	5	5	64	14	35	2	2	3	20	2	156

**7. List of collected documents for JAP Evaluation, September 30, 2015 – October 8, 2015.
(Afar Samara)**

S/N	Documents	Source of Documents
1	WASH - JAP plan document	UNICEF Addis, Afar field Office
2	Two year Annual reports (2006 and 2007 FYE)	RWB, planning department
3	WASH inventory (not recently updated)	RWB, WASH department
4	WASH coordination Forum Minutes	RWB, WASH department
5	WASH coordination Forum reports and different presentation	RWB, WASH department
6	RHB – disease and health related data (2007)	RHB, HIMS department
7	Gap assessment Reports sponsored by UNICEF	BoFED, NGOs coordination department
8	GTP2 planning considerations	RWB, WASH Department
9	Water Trucking request (2006, 2007 and 2008 FYE)	Regional Disaster Prevention and control
10	One WASH program , WASH implementation Frame Work ,	From WASH Website??
11	Consolidated WASH Account (Hard copy document)	RWB, WASH department
12	Afar NGO documents	RWB, WASH section

8. List of interviewed persons/info. Sources, JAP evaluation: Sept 30, 2015 – Oct 8, 2015

S/N	Name of individuals	Organization	Responsibilities	Telephone
1	Abdu Shimeles (KII)	RWB	RWB, WASH coordinator	0911929521
2	Mohamed Siraje (KII)	RWB	WASH department	0911570800
3	Mohamed Abrar (KII)	SAVE	Senior WASH coordinator	0913280678
4	Abdi Mohamed (data source)	RWB	Plan and Program	0913287279
5	W/ro Netsanet Kassa	UNICEF (AA)	WASH Officer	
6	Fekadu Tadesse (data sources)	UNICEF (Afar)	WASH Officer	
7	Kamal Ali (KII)	APDA	Relief Coordinator	0912100205
8	Kedir (telephone & email)*	APDA		0914705678
9	Edris Ahmed (Data source)	DPPC	Senior Finance Officer	0910171020
10	Mohamed Hussein (Authorizer)	DPPC	Delegated Bureau Head	
	Ato Derbew	DPPC	DPPC expert	
11	Ali Ahmed (KII)	BOFED	Senior NGO coordinator	0923435364
12	Tesfaye Belay (KII)	RWH	Hygiene & Sanitation Officer	0911574506
13	Awul Jemal Se'ed(KII)	WWO	Elide'ar WWO, expert	(0922895515)
14	Nurhussen Arebu	WWO	Elide'ar WWO, expert	0925029185
15	W/ro Asli Gubelie	WWO	Erabti WWO, delegated head	0925331049
16	Tarikua Amare	WWO	Erabti , design expert	0936208488
17	Gebrehiwot Teklay(KII)	WWO	Sanitation Expert	0925039404
18	Ato Humadn Hamad (KII)	WWO	Bidu Water Office	
19	Ato KKKKKK (KII)	WWO	Teru Water Office Head	
20	Ato Yimer Sisay	WWO	Dubti, O&M expert	0913837781
21	W/ro Sa'eda Mohamed	WWO	Dubti, Sanitation Expert	0912065603