Research Terms of Reference

DSA WASH Water Point Mapping
SOM1707a
Somalia

18/10/2018
Version 1

REACH Informing more effective humanitarian action

1. Executive Summary

Country of intervention	Somalia					
Type of Emergency	**X**	**Natural disaster**	**X**	**Conflict**		
Type of Crisis		Sudden onset		Slow onset	**X**	**Protracted**
Mandating Body/ Agency	*OCHA*					
Project Code	*27DGT*					
Overall Research Timeframe *(from research design to final outputs / M&E)*	01/10/2018 – 15/02/2019					
Research Timeframe *Add planned deadlines (for first cycle if more than 1)*	1. Start collect data: 01/11/2018		5. Preliminary presentation: N/A			
	2. Data collected: 15/12/2018		6. Outputs sent for validation: 15/01/2019			
	3. Data analysed: 22/12/2018		7. Outputs published: 31/01/2019			
	4. Data sent for validation: 29/12/2018		8. Final presentation: 15/02/2019			
Number of assessments	X	Single assessment (one cycle)				
		Multi assessment (more than one cycle) *[Describe here the frequency of the cycle]*				
Humanitarian milestones *Specify **what** will the assessment inform and **when** e.g. The shelter cluster will use this data to draft its Revised Flash Appeal;*	**Milestone**		**Deadline**			
	□	Donor plan/strategy	_ _/_ _/_ _ _ _			
	□	Inter-cluster plan/strategy	_ _/_ _/_ _ _ _			
	X	Cluster plan/strategy for WASH cluster	31/01/2019			
	□	NGO platform plan/strategy	_ _/_ _/_ _ _ _			
	□	Other (Specify):	_ _/_ _/_ _ _ _			
Audience Type & Dissemination *Specify **who** will the assessment inform and **how** you will disseminate to inform the audience*	**Audience type**		**Dissemination**			
	X Strategic		**X** General Product Mailing (e.g. mail to NGO consortium; HCT participants; Donors)			
	X Programmatic		X Cluster Mailing (Education, Shelter and WASH) and presentation of findings at next cluster meeting			
	X Operational					
	□ [Other, Specify]		□ Presentation of findings (e.g. at HCT meeting; Cluster meeting)			

				X Website Dissemination (Relief Web & REACH Resource Centre) □ [Other, Specify]	
Detailed dissemination plan required	□	Yes	X	No	
General Objective	*Inform the Water Sanitation and Hygiene (WASH) cluster on the current status[1] of the water points[2] in the riverine regions of Somalia to support the planing of the rehabilitation of these districts for 2019.*				
Specific Objective(s)	*Identify functional and non-functional water points in the 5 districts worst-affected by the flooding in 2018* *Estimate the damages caused to the identified water points by the flooding in 2018* *Assess the quality[3] of the water available from the identified water points* *Estimate the population covered by the identified water points*				
Research Questions	*How many and what type of water points are existing in the 5 districts worst-affected by the flooding in 2018? To what extent are these functional?* *What has been the extent of damage caused to the identified water points by the flooding in 2018 (only for wells and boreholes)?* *What is the quality of the water of the identified water points ?* *How many households are covered by the identified water point?*				
Geographic Coverage	*Bulo Burto, Beletweyne, Jowhar, Baardheere, Luuq districts*				
Secondary data sources	*DSA grid maps* *WASH infrastructure mapping* *Flood damage mapping from SWALIM*				
Population(s) *Select all that apply*	X	IDPs in camp	X	IDPs in informal sites	
	X	IDPs in host communities	□	IDPs [Other, Specify]	
	□	Refugees in camp	□	Refugees in informal sites	
	□	Refugees in host communities	□	Refugees [Other, Specify]	
	X	Host communities	□	[Other, Specify]	
Stratification *Select type(s) and enter number of strata*	X	Geographical #: 5 districts Population size per strata is known? □ Yes □ No	□	Group #: _ _ _ Population size per strata is known? □ Yes □ No	□ *[Other Specify]* #: _ _ Population size per strata is known? □ Yes □ No
Data collection tool(s)	X	Structured (Quantitative)	□	Semi-structured (Qualitative)	
	Sampling method		**Data collection method**		
(Semi-)Structured data collection tool # 1 *Select sampling and data collection method and specify target # interviews*	□ Probability / Stratified cluster sampling X Grid search methodology (see below for details)		X Key informant interview (Target #): (if person in charge present) One interview per person in charge of all water points identified through the grid search methodology X Direct observations (if owner not present) (Target #): All water points identified through the grid search methodology		

[1] Location, functionality, extent of the damage and population coverage.
[2] Water point is defined as the facility where individuals collect water (borehole, berkad, well, river, etc.)
[3] Quality will be assessed through questions (taste, color, smell of the water, source of the water and presence of source of contamination). No chemical test will be performed.

Target level of precision if probability sampling	_ _% level of confidence Not applicable			_ _+/- % margin of error Not applicable		
Data management platform(s)	□	IMPACT		X	UNHCR[4]	
	□	[Other, Specify]				
Expected ouput type(s)	□	Situation overview #: _ _	□	Report #: _ _	□	Profile #: _ _
	□	Presentation (Preliminary findings) #: _ _	X	Presentation (Final) #: 1	□	Factsheet #: _ _
	□	Interactive dashboard #:_	□	Webmap #: _ _	X	Map #: 5 (one map showing location and funcitonality of water points per district)
	X	Dataset #: 1				
Access	X	Public (available on REACH resource center and other humanitarian platforms)				
	□	Restricted (bilateral dissemination only upon agreed dissemination list, no publication on REACH or other platforms)				
Visibility *Specify which **logos** should be on outputs*	*REACH, ECHO, WASH cluster*					

2. Rationale

2.1. Rationale

In April and May 2018, floods occurred along the Juba and Shabelle rivers in Somalia. Jubaland and South West States were severely affected. In total, 830,000 people were affected by floods, with 359,000 temporarily displaced since January 2018[5]. Whilst the WASH cluster responded to the flooding in the immediate term, there is now the need to respond to the rehabilitation of infrastructure. This assessment is designed to provide up to date information on the location and functionality of all accessible water points in the five districts worst-affected by the flooding. This research will take place alongside the second round of the Detailed Site Assessment[6] (DSA).

3. Methodology

2.1. Methodology overview

- Using the grid methodology developed for the DSA, REACH will conduct a water points mapping exercise. See section 2.4 for details.
- Map the existing water points facility (if available).

[4] This aassessment is conducted along site the Detailed Site Assessment (DSA). The questionnaires for the DSA are hosted on the UNCHR server. The same server will be used for the WASH component to avoid the enumerators to change server when uploading the data.

[5] United Nations Office for the Coordination of Humanitarian Affairs, "Flash Update #7."

[6] DSA is mapping exercise where enumerators have to register the IDP sites found within grids assign in different region.

- Create a grid search blueprint in each district of interests around the (a) known water points, (b) known inhabited locations (static settlements and previous known location of IDP settlements) and (c) worst cities affected by the floods.

2.2. Population of interest

- Seven districts were prioritized by the WASH cluster. However, due to ongoing insecurity, REACH is only able to assess five of them. Three in Hir-Shabelle state: Bulo Burto, Beletweyne (Hiraan region); Jowhar (Middle Shabelle region) and two in Jubaland state: Baardheere, Luuq (Gedo region).
- As the assessment targets the water points themselves through direct observation by enumerators no specific population will be sampled for interview. However, the population of interest will be the entire population in these districts relying on/ using these water points.

2.3. Secondary data review (outline key bibliography/sources you will use and for what).

- GPS coordinates from the water points if available from the WASH cluster.
- DSA research grids methodology.

2.4. Primary Data Collection

- Enumerators will be collecting data during the month of November and December 2018. They will follow the grid search methodology. Imaginary square of 1 km length are created and placed on a map of the assessed area. Each enumerator has to navigate around his/her assigned squares, if a water point is encountered he/she will fill in the questionnaire/observation tool. If none are encountered, he/she will fill the empty grid form.
- MAPinr[7] will be used as tool for the enumerators to navigate around their squares.
- Kobo will be used for the 2 forms: empty grid and questionnaire. The empty grid form will be used when no water point is found to ensure that we are having full coverage of the grids. The questionnaire is comprised of the questions, GPS coordinates, photo. To avoid having too many questionnaire forms, the same tool will be used for KII and observation[8]. The questionnaire was designed in support from the WASH cluster.
- The population estimation collected through the KI interviews will be triangulated with the support of spatial analysis when possible.

2.5. Data Processing & Analysis

- Data entry will be done through Kobo.
- Daily coverage update will be done (if data are updated on time) to support the field team by the GIS team. A dashboard[9] will be created to support the data collection supervision.
- Data cleaning will be done by the field officers and the assessment officer.
- Data analysis will be done by the assessment team.
- Analysis of the photo to categorise the damages on the water points will be done in coordination with the WASH cluster
- Spatial analysis to estimate population served by the water points (if satellite imagery available for the areas) will be done by the GIS team and the assessment team.
- The contact details of the water point management key informants will also be captured for future data collection on water price monitoring.

[7] Navigation application
[8] A question in the tool asks whether or not the owner is present to answer the questions. That will determine if it is a KII or observation from the enumerator.
[9] Dashboard made by the GIS specialist on ArcGIS online

3. Roles and responsibilities

Table 2: Description of roles and responsibilities

Task Description	Responsible	Accountable	Consulted	Informed
Research design	Senior Assessment Officer	Assessment Manager	Assessment Manager, GIS Specialist, Research Design Unit	Country Coordinator, WASH Cluster lead
Supervising data collection	Field officer, Assessment Officer, GIS Specialist	Senior Assessment Officer	Assessment Manager	Country Coordinator
Data processing (checking, cleaning)	Assessment Officer, Senior Assessment, Officer	Senior Assessment Officer	Assessment Manager, GIS Specialist, Data Analysis Unit	Country Coordinator, WASH Cluster lead
Data analysis	Assessment Officer, Senior Assessment Officer, GIS Specialist	Senior Assessment Officer	Assessment Manager, Country Director, Data Analysis Unit	WASH Cluster lead
Output production	Assessment Officer, Senior Assessment Officer, GIS Specialist	Senior Assessment Officer	Assessment Manager, WASH Cluster lead, Reporting Unit GIS Unit	Assesment Manager, Country Coordinator
Dissemination	Senior Assessment Officer, WASH Cluster lead	Senior Assessment Officer	Assessment Manager, Communication Unit	Country Coordinator
Monitoring & Evaluation	Senior Assessment Officer	Senior Assessment Officer	Assessment Manager, Research Design Unit	Country Coordinator
Lessons learned	Senior Assessment Officer, GIS Specialist	Senior Assessment Officer	Assessment Manager	Country Coordinator

Data Analysis Plan

Please note, data collection tools will be designed with input from the WASH cluster to ensure that data is relevant and compatible. The below analysis plan may therefore change as a result of this consultation.

Research questions	IN #	Data collection method	Indicator / Variable	Questionnaire Question	Instructions	Questionnaire Responses	Data collection level	Sampling	Maps planned?
	A.1.1	*KI Interview*	*Region*	*In which region is the assessment being conducted?*	*Select one*	*Admin list*	*Community level*		
	A.1.2	*KI Interview*	*District*	*In which district is the assessment being conducted?*	*Select one*	*Admin list*	*Community level*		
	A.1.3	*KI Interview*	*Settlement*	*In which city/ town/village/settlement is the assessment being conducted?*	*Select one*	*Admin list*	*Community level*		
	A.1.4	*KI Interview*	*Settlement*	*If other, please specify*	*Enter name*		*Community level*		
	A.1.5	*KI Interview*	*Within IDP settlement*	*Is the facility within an IDP settlement?*	*Select one*	*Yes; No*	*Community level*		
	A.1.6	*KI Interview*	*Key Informant present*	*Is the owner present to answer the questions?*	*Select one*	*Yes; No*	*Community level*		
	A.1.6	*KI Interview*	*Consent*	*Hello, my name is xxxx , and I am working for AGENCY, on behalf of REACH. We are conducting interviews in order to inform the humanitarian response in Somalia. This interview will take around 10 minutes.. Do you agree to participate?*	*Select one*	*Yes; No*	*Water point*		

How many and what type of water points are existing in the 5 districts worst-affected by the flooding in 2018? To what extent are these functional?	B.1.1	KI Interview - Observation	# water points per type per district	What is the type of water point?	Select one	Water kiosk; Burkad; River; Water Tank and tap; Water trucking distribution point; Borehole with submersible pump; Other piped system; Protected well with hand pump; Protected well without hand pump; Unprotected well; Other	Water point		Yes
	B.1.2	KI Interview - Observation		If other, please specify	Enter name		Water point		
	B.1.3	KI Interview - Observation	# type of source of water per district	Where does the water come from for this water point? (River, rain water, well)	Select one;	Water from the river; Water collected from rain; Water from well or borehole; Don't know;	Water point		
	B.1.4	KI Interview - Observation	Average number of tap per water point in each district	How many taps does the water point have?	Enter Number		Water point		
	B.1.5	KI Interview - Observation	Average number of water point connected to municipal supply in each district	Is the water point connected to the municipal supply?	Select one	Yes; No	Water point		
	B.1.6	KI Interview -	Average volume capacity for water point in each district	What is the capacity of the water point in cubic metres? (enter 999 for unknown, and 888 for unlimited)	Enter Number		Water point		

	B.1.7	KI Interview - Observation	Water point functioning	Is the waterpoint functioning?	Select one	Yes; No	Water point		Yes
How many households are covered by the identified water point?	C.1.1	KI Interview - Observation	Estimation of population covered by the water points in each district	How many families use this water point?	Enter Number		Water point		
What is the quality of the water of the identified water points ?	D.1.1	KI Interview - Observation	# of water points per water quality in each district ₹	Is there a source of contamination within 30 meters radius (latrine, septic tank)?	Select one	yes/no/don't know	Water point		
What is the quality of the water of the identified water points ?	E.1.1	KI Interview - Observation		Does/Did the water have a color?	Select one	yes/no/don't know	Water point		Yes
	E.1.2	KI Interview - Observation		Does/did the water have a smell?	Select one	yes/no/don't know	Water point		
	E.1.3	KI Interview - Observation		Does/did the water have a good taste?	Select one	yes/no/don't know	Water point		
How many households are covered by the identified water point?	F.1.1	KI Interview - Observation	# of water points accessible free of charge Population assessing water source free of charge per district	Is there a charge for water at this waterpoint?	Select one	Yes; No	Water point		Yes
	F.1.2	KI Interview -	Current average of price of a 20 L Jerry Can per district	How much does a 20L Jerry Can of water cost, in shillings? (enter 999 for unknown)	Enter number		Water point		
	F.1.2	KI Interview -	Average of price of a 20 L Jerry Can a month prior the assessment per district	How much did a 20L Jerry Can of water cost a month ago, in shillings? (enter 999 for unknown)	Enter number		Water point		
	F.1.3	KI Interview -	Average price of a 20 L Jerry Can when the water point was	How much did a 20L Jerry Can of water cost when the water point was functioning, in	Enter number		Water point		

			functioning per district	*shillings? (enter 999 for unknown)*					
What has been the extent of damage caused to the identified water points by the flooding in 2018 (only for wells and boreholes)?	***G.1.1***	*KI Interview - Observation*	*Most common reasons for water points not functioning per district*	*Why is the water point not functioning?*	*Select one*	*Storage tanks broken* *Taps are broken* *Water is contaminated* *Water trucking has stopped* *Broken pipes* *Insecurity* *No fuel for pump/ generator* *Pump or Generator Broken* *Dry* *Unknown* *Other*	*Water point*		*Yes*
	Type of damage (for wells and boreholes)		*Note*						
	G.1.2	Observation	Most common damages to wells and boreholes per district	Water intake damage (underground part of the well – in the water table)	*Select one*	yes/likely/no/don't know	*Water point*		*Yes*
	G.1.3	Observation		Shaft/casing (underground part not in the water table)	*Select one*	yes/likely/no/don't know	*Water point*		
	G.1.4	Observation		Surface Apron	*Select one*	yes/likely/no/don't know	*Water point*		
	G.1.5	Observation		Pumping equipment	*Select one*	yes/likely/no/don't know	*Water point*		
	G.1.6	Observation		Direct surrounding of the well	*Select one*	yes/likely/no/don't know	*Water point*		
	G.1.7	Observation	Verification	Please take a photo of the facility (do not include people)	Photo		*Water point*		

	H.1.1	Observation	Location	Please take the GPS coordinates of the facility, if inside hold the phone by a window or leave the building, please wait for accuracy to drop below 10 metres	GPS		*Water point*		Yes

5. Data Management Plan

- *Please complete the Data Management Plan below*

Administrative Data				
Research Cycle name	*DSA WASH water point mapping*			
Project Code	*SOM1707 27DGT*			
Donor	*ECHO*			
Project partners	*WASH Cluster*			
Research Contacts	*Yann Say yann.say@reach-initiative.org*			
Data Management Plan Version	*Date: 18/10/2018*		*Version: 1*	
Related Policies	*[List any relevant policies/procedures on data management, data sharing and data security that this project will be based on]*			
Documentation and Metadata				
What documentation and metadata will accompany the data? *Select all that apply*	X	Data analysis plan	X	Data Cleaning Log, including: □ Deletion Log □ Value Change Log
	X	Code book	□	Data Dictionary
	□	Metadata based on HDX Standards	□	[Other, Specify]
Ethics and Legal Compliance				
Which ethical and legal measures will be taken?	x	Consent of participants to participate	□	Consent of participants to share personal information with other agencies
		No collection of personally identifiable data will take place	□	Gender, child protection and other protection issues are taken into account
	□	All participants reached age of majority		[Other, Specify]
Who will own the copyright and Intellectual Property Rights for the data that is collected?	*REACH*			
Storage and Backup				
Where will data be stored and backed up during the research?	□	IMPACT/REACH Kobo Server	X	Other Kobo Server: *UNHCR*
	□	IMPACT Global Physical / Cloud Server	□	Country/Internal Server
	□	On devices held by REACH staff	□	Physical location *[specify]*
	□	[Other, Specify]		
Which data access and security measures have been taken?	X	Password protection on devices/servers	□	Data access is limited to *[specify, e.g. REACH staff]*
	□	Form and data encryption on data collection server		
	□	[Other, Specify]		
Preservation				
Where will data be stored for long-term preservation?	□	IMPACT / REACH Global Cloud / Physical Server	□	OCHA HDX
	X	REACH Country Server	□	[Other, Specify]
Data Sharing				

Will the data be shared publically?	X	Yes	□	No, only with mandating agency / body
Will all data be shared?	□	Yes	X	No, only anonymized/ cleaned/ consolidated data will be shared
	□	No, [Other, Specify]		
Where will you share the data?	X	REACH Resource Centre	□	OCHA HDX
	□	HumanitarianResponse	□	[Other, Specify]

Responsibilities	
Data collection	*Yann Say, Senior Assessment Officer, yann.say@reach-initiative.org*
Data cleaning	*Yann Say, Senior Assessment Officer, yann.say@reach-initiative.org*
Data analysis	*Yann Say, Senior Assessment Officer, yann.say@reach-initiative.org*
Data sharing/uploading	*Yann Say, Senior Assessment Officer, yann.say@reach-initiative.org*

6. Monitoring & Evaluation Plan

IMPACT Objective	External M&E Indicator	Internal M&E Indicator	Focal point	Tool	Will indicator be tracked?
Humanitarian stakeholders are accessing IMPACT products	Number of humanitarian organisations accessing IMPACT services/products Number of individuals accessing IMPACT services/products	# of downloads of x product from Resource Center	Country request to HQ	User_log	X Yes
		# of downloads of x product from Relief Web	Country request to HQ		X Yes
		# of downloads of x product from Country level platforms	Country team		□ Yes
		# of page clicks on x product from REACH global newsletter	Country request to HQ		□ Yes
		# of page clicks on x product from country newsletter, sendingBlue, bit.ly	Country team		X Yes
		# of visits to x webmap/x dashboard	Country request to HQ		□ Yes
IMPACT activities contribute to better program implementation and coordination of the humanitarian response	Number of humanitarian organisations utilizing IMPACT services/products	# references in HPC documents (HNO, SRP, Flash appeals, Cluster/sector strategies)	Country team	Reference_log	*N/A*
		# references in single agency documents			
Humanitarian stakeholders are using IMPACT products	Humanitarian actors use IMPACT evidence/products as a basis for decision making, aid planning and delivery Number of humanitarian documents (HNO, HRP, cluster/agency strategic plans, etc.) directly informed by IMPACT products	Perceived relevance of IMPACT country-programs	Country team	Usage_Feedback *and* Usage_Survey template	*Feedback from the WASH Cluster log in the lessons learned matrix*
		Perceived usefulness and influence of IMPACT outputs			
		Recommendations to strengthen IMPACT programs			
		Perceived capacity of IMPACT staff			
		Perceived quality of outputs/programs			
		Recommendations to strengthen IMPACT programs			
Humanitarian	Number and/or percentage of	# of organisations providing resources (i.e.staff, vehicles,	Country team		N/A

stakeholders are engaged in IMPACT programs throughout the research cycle	humanitarian organizations directly contributing to IMPACT programs *(providing resources, participating to presentations, etc.)*	meeting space, budget, etc.) for activity implementation			
		# of organisations/clusters inputting in research design and joint analysis		Engagement_log	N/A
		# of organisations/clusters attending briefings on findings;			N/A

Annex 1: Traffic light system

		Score		Score		Score
Type of damage (likely to be coded as no)	Important structural. At least 3 of the below: • Intake • Shaft/casing • Apron • Pumping equipment • Surrounding	4	Medium/low structural At least 1 of the below: • Intake • Shaft/casing • Apron • Pumping equipment • Surrounding	2	No structural damages None of the below: • Intake • Shaft/casing • Apron • Pumping equipment • Surrounding	0
Water Quality	At least 2 of the below: • Taste • Color • Smell •	3	At least 1 of the below: • Taste • Color • Smell •	1	None of the below • Taste • Color • Smell •	0
	Presence of contamination point within 30m	1			No Presence of contamination point within 30m	0
Population served	Not meeting sphere standard Maximum number of people using water-based facility ▪ 250 people per tap (based on a flow rate of 7.5 litres/minute) ▪ 500 people per hand pump (based on a flow rate of 17 litres/minute) ▪ 400 people per open hand well (based on a flow rate of 12.5 litres/minute)	4		3	Meeting sphere standard Maximum number of people using water-based facility ▪ 250 people per tap (based on a flow rate of 7.5 litres/minute) ▪ 500 people per hand pump (based on a flow rate of 17 litres/minute) ▪ 400 people per open hand well (based on a flow rate of 12.5 litres/minute)	0

Traffic light system

10-12	7-9	4-6	1-3	0
Critical	High	Medium	Low	None