Report on
UNICEF's Water Interventions Mapping (2005-2009)

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Somalia Water and Land Information Management
Ngecha Road, Lake View. P.O Box 30470-00100, Nairobi, Kenya.
Tel +254 020 4000300 - Fax +254 020 4000333,
Email: swalim@fao.org Website: http//www.faoswalim.org.

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Hussein Gadain
Water Coordinator

Executive Summary

This report documents the results of UNICEF's interventions mapping carried out by SWALIM for the period 2005 to 2009 as part of UNICEF's EC funded programme "Integrated Water Resource Management and Rural Water and Sanitation Programme in Somalia". The major objective of the mapping exercise is to evaluate progress made in the water sector - in terms of coverage of water services and increase in number of beneficiaries served through UNICEF's water interventions. The final programme report was submitted by UNICEF to EC.

In undertaking this task, SWALIM and UNICEF staff worked in close co-ordination and consultation. A designated project officer from UNICEF USSC was the focal point to provide information, documents and, data as requested / required by SWALIM to undertake this project. The scope of assessment covered the entire country, based on the zonal operational areas as defined by UNICEF, North West Zone (NWZ), North East Zone (NEZ) and South Central Zone (SCZ). The data provided by UNICEF Zonal Offices and missing data was collected by SWALIM[1] through field survey whenever security permitted.

The activities carried out under this activity are listed in Letter of Agreement presented in Annex-1. Below is summary of the major ones:

1. Water interventions data collection, analyses and mapping;
2. Mapping rural water interventions;
3. Mapping Urban water interventions,
4. Assessment of water intervention in terms of:

    a. Water source, storage and distribution technology, e.g. shallow well, borehole, water yard, distribution facility, etc.
    b. Water lifting mechanism technology, e.g. hand pump, solar driven pump, diesel generator driven pump, etc.
    c. Coverage by zone, e.g. NEZ, NWZ and CSZ or by region and,
    d. Annual coverage progress, e.g. 2005, 2006, etc.

5. Production of annual, zonal and regional maps for rural interventions and water supply maps for major towns intervened on.

As a result of the analyses, the study concluded that the project endeavoured to rehabilitate or construct different types of water supply systems. Based on the data availed by UNICEF and that collected by SWALIM the following have been concluded:

[1] Information on strategic water sources was collected by SWALIM in collaboration with UNICEF during the period 2008 – 2009 totalled 2,254 water sources visited in 14 out of the 18 regions of Somalia.

i. A total of 378 interventions were implemented country wide during the period from 2005 to 2009.
ii. A total of 108 interventions were recorded for the period pre-2005. These interventions backdate as early as 1992 to 2004.
iii. An increased number of interventions were recorded in the year 2006 and 2009, with decreased interventions undertaken from 2005 to 2007.
iv. For the CSZ where 10 regions were covered, interventions implemented were substantially reduced and a total of 153 interventions were recorded in this zone.
v. Most of the interventions were implemented in the less populated NWZ covering 5 regions and NEZ covering 2 regions, recording a total of 162 and 63 interventions respectively.
vi. Interventions were carried out on different source types; namely berkads, borehole water yard, dam, motorized shallow well (water yards), school WASH facilities, shallow well, solar water system, spring and, town water supply systems.
vii. A significant number of shallow wells and borehole water yard were intervened on recording 83.5% of the total interventions undertaken in comparison to 16.5% interventions on other sources. Interventions were fewer on berkads, dams and springs due to their seasonality and hence unreliable sources of water during dry periods. Solar systems were the least intervened on.
viii. Construction and development of water systems, was key in the interventions implemented by UNICEF in order to increase supply and storage of water through construction of water tanks and enhancing water lifting mechanisms by installing hand pumps. 241 water systems were constructed with 54 being new water sources constructed, of these 29 shallow wells, 9 dams and 19 borehole water yards.
ix. Training and building capacity of users to manage, operate and maintain facilities has been offered and water management committees established, following the implementation of the integrated water resources management and rural water and sanitation capacity of programme for Somalia by UNICEF.
x. 107 borehole water yards were rehabilitated and fitted with separate lifting and distribution facilities for human and livestock, 141 shallow wells were rehabilitated through installation of hand pumps, water tanks and additionally, cleaning and protection activities were carried out on areas surrounding the shallow wells.
xi. Interventions on water supply systems in urban towns of Somalia entailed the upgrade and development of the already existing distribution pipeline network. Eight (8) urban water supply systems were constructed including improvement of sources, excavation and layout of new pipelines, extension of pipelines, construction of water tanks and kiosks and establishment of public private partnerships (PPP) for managing water utilities allowing good service delivery and cost recovery.

xii. The total number of beneficiaries of the programme was found to be 1,724,250, with 526,250 in NWZ, 342,250 in NEZ and 855,750 in CSZ. 41% are rural population, 36% are IDPs and 23% are urban population.

As the main leader in the water sector, UNICEF is highly encouraged to keep updated records on interventions from its projects and share the data with SWALIM for proper storage and mapping.

Glossary of Terms and Somali Terms

Term	Meaning / Explanation
Artesian well	a well deriving its water from a confined aquifer in which water level stands above the ground surface; sometimes also referred to as spring
Berkad	Is a manmade cistern to store run-off water and typically sunk into the ground and made of stonework plastered watertight. There are three types of berkads: (1) concrete lined underground rainwater tanks, usually covered by natural roofing material to limit evaporation and gravity filled by channel guided water run-off. They are small to large size (30-600 m3) and mostly lined with a thick wall (450-700 mm) made with stones held in concrete mortar. They can be private or communal. They are filled in dry seasons by water trucks and more and more often commercial, (2) the same structure, found in some villages and collect rainfall from a roof with a system of gutters and pipes. House berkad or roof tops, are smaller in size and mostly constructed for domestic consumption and, (3) simple storage berkad, below or above ground, only meant to be filled by water trucks in dry seasons mostly found in urban areas for commercial or private domestic use
Berkado	plural of berkad in Somali language
Borehole or bore well	a mechanically drilled well with limited bore diameter and of significant depth, casement, filtration screens and usually mechanically pumped
Borehole yard	a water supply system equipped with public taps, piping system, standpipes for trucks and donkey carts
Ceel	Hand dug / Shallow well
Dam	A dam acts as a barrier to impound water. In Somalia the most typical dams are balli or warr type, open ponds with a bund wall to impound surface run-off. Sub-surface and sand dams are less common and impound shallow aquifer runoff in wadi sections.
Hand dug well[2]	Any source that taps groundwater that has been developed by non-mechanical means with diameter of 1 to 3 m dug manually to tap shallow ground water at depths of 6 to 20m. They are usually unprotected and covered by wooden sticks and troughs are used for watering the livestock

[2] In Somalia there are many names and varieties of wells. These can include anything from traditional wells dug in clusters in wadis on migration routes to a caisson-lined shaft fitted with infiltration gallery and hand pump. The descriptor name may therefore be in Somali (e.g. beeyo, buq, laas, ceel etc) or English (e.g. collector well, hand dug well, traditional well, farm well etc).

Term	Meaning / Explanation
Improved hand dug well	Hand dug wells lined and in some cases equipped with filtration screens and well covered
Improved water source	Household connection, Public Standpipe, Borehole, Protected dug well, Protected Spring, Rainwater collection (JMP, 2004)
Mini water system	Pipe system from wells, springs, and boreholes with short transmission system pipeline with public distribution points such as kiosks, public standpipes and animal troughs
Mugciid	Underground reservoir storage well with an average depth of 15 meters
Rehabilitation	Restoration in original functional state at least and when applicable up-grading to improved supply facility
Spring	Any source of water naturally flowing from the ground to or across its surface. The descriptor may be in Somali (isha, laas) or English (artesian spring/well, spring well etc).
Unimproved water source	Unprotected well, unprotected spring, river or ponds, vendor-provided water, Source tanker truck water, bottled water (JMP, 2004)
Togga	Seasonal River
Urban water system	Pipe system from wells, springs, boreholes serving collective kiosks and house connections, also referred as reticulated water system
Wadi(s)	Seasonal stream
Warr	Unlined dug-out (dam), usually 2-3 m deep

Somali Climate Seasons

Gu	Main rainy season normally from March/April to June
Hagaa	Hot and windy season normally starts in July to August
Deyr	Short rainy season starts October to November
Jilaal	Very dry and cool season starts from December to February/March

List of Abbreviations

CARTIS	Catholic Agency for International Aid and Development
CSZ	Central South Zone
EC	European Commission of the European Union
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GTZ	German Technical Cooperation
GUMCO	Golden Utilities Management Company
IDP	Internally Displaced Person
JMP	Joint Monitoring Programme of UNICEF and WHO
MICS	Multiple Indicator Cluster Survey
MWMR	Ministry of Water and Mineral Resources
NEZ	North East Zone
NGO	Non Governmental Organization
NWZ	North West Zone
PPP	Public Private Partnership
PSAWEN	Puntland State Agency for Water, Energy and Natural Resources
PVC	Polyvinyl Chloride
SWIMS	Somalia Water Sources Information Management System
SWALIM	Somalia Water and Land Information Management Project of FAO
UN	United Nations
UNICEF	United Nations Children Fund
WASH	Water, Sanitation and Hygiene
WDA	Water Development Agency
WHO	World Health Organization

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