

# SWALIM Update

## SWALIM Completes Mapping Riverbank Breakages on Juba and Shabelle

by Ugo Leonardi

SWALIM completed mapping of riverbank breakages and areas of potential flooding along the Juba and Shabelle Rivers in southern Somalia. Different sets of very high resolution satellite images were used to carry out this task. The information produced played a crucial role in assisting local authorities and communities in both closing the open breakages and monitoring potential new ones. The information is used by partner agencies for disaster-preparedness in the two rivers.

The outputs of this SWALIM analysis represents a forward leap in early warning as it complements the rainfall updates, flood alerts and other bulletins that have been shared during the on-going Deyr rainy season, warning of flood risk and/or informing about ongoing floods along the Juba and Shabelle rivers.

SWALIM has produced two large scale maps, based on the results of the analysis, showing the location and type of breakages



The dataset produced consists of geo-referenced information on “potential”, “closed” and “open” riverbank breakages, as observed between 2012 and 2014. This information was extracted from the analysis of very high resolution satellite images, a detailed Digital Elevation Model (DEM) that was produced using aerial photographs of the two rivers, and through the comparison of these with previous records on breakages along the river banks. The findings derived from the image analysis were then verified with field observations by local staff of SWALIM.

or flood risks along the riverbanks. Hard copies of these maps can be obtained from SWALIM offices. In addition, SWALIM made the information available through the Flood Risk and Response Management Information System (FRRMIS) link on the website <http://www.faoswalim.org> in tabular data summaries and in Google Earth format. To request these or other floods data send an email to: [swalim@fao.org](mailto:swalim@fao.org).

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## Over 100 Partners Trained in SWALIM Information Management Tools

by James Ngochoch, Rispha Gicheha, Margaret Mugo & Julie Maingi

In response to an overwhelming demand, SWALIM conducted three separate training sessions in Nairobi where staff members from over 50 partner agencies (based in Nairobi, Somaliland and South Central Somalia) participated. The request for the training was overwhelming with more than 200 people registered to be trained.

The objective of these trainings was to equip partner agencies with skills required to carry out reliable field data collection and mapping. The participants were also trained on the application and interpretation of various SWALIM products in order to use them for their own work in the field.

to download and map the field data collections.

- Basic Geographic Information System (GIS) – collected field data need to be analysed and mapped using GIS software. Trainees were empowered with knowledge on field data download, format conversion, interpretation and mapping using the ArcGIS software. Each trainee had an opportunity to download and convert GPS data within the GIS software and create their own maps.

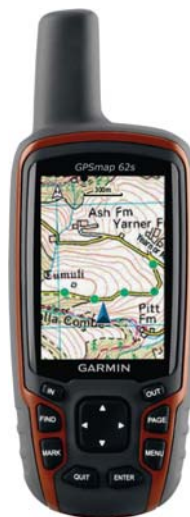
*"This is an excellent course needed by many and SWALIM should organize for more when possible," said one participant.*



The training covered various topics including:

- Use of Google Earth (GE) software – trainees were shown the various uses, navigation methods and mapping capabilities within GE. This software forms the basis for field mission planning as well as mapping of collected spatial information. GE offers the advantage of viewing any location from above using satellite imagery - background that can be very important in field mission planning.
- How to use Global Positioning System (GPS) – training on basic GPS technology, terminologies and general setup standards was provided to equip them with the skills for field mission planning, identification of areas of interest, and navigation to target areas - as well as to make accurate measurements using portable GPS equipment. Trainees were also given software and instruction on how

The response to the training was positive, with the overall rating of the training being very good to excellent according to participants evaluation. Other than requesting for advancement of acquired skills, participants requested for more time to be allocated within the training sessions.



GPS

The SWALIM information desk continues to receive more requests for training from partner agencies, government institutions and academia from Mogadishu, Hargeisa, Garowe and Nairobi. To register your interest in these courses, send an email to [swalim@fao.org](mailto:swalim@fao.org) or visit our website for updates: <http://www.faoswalim.org>

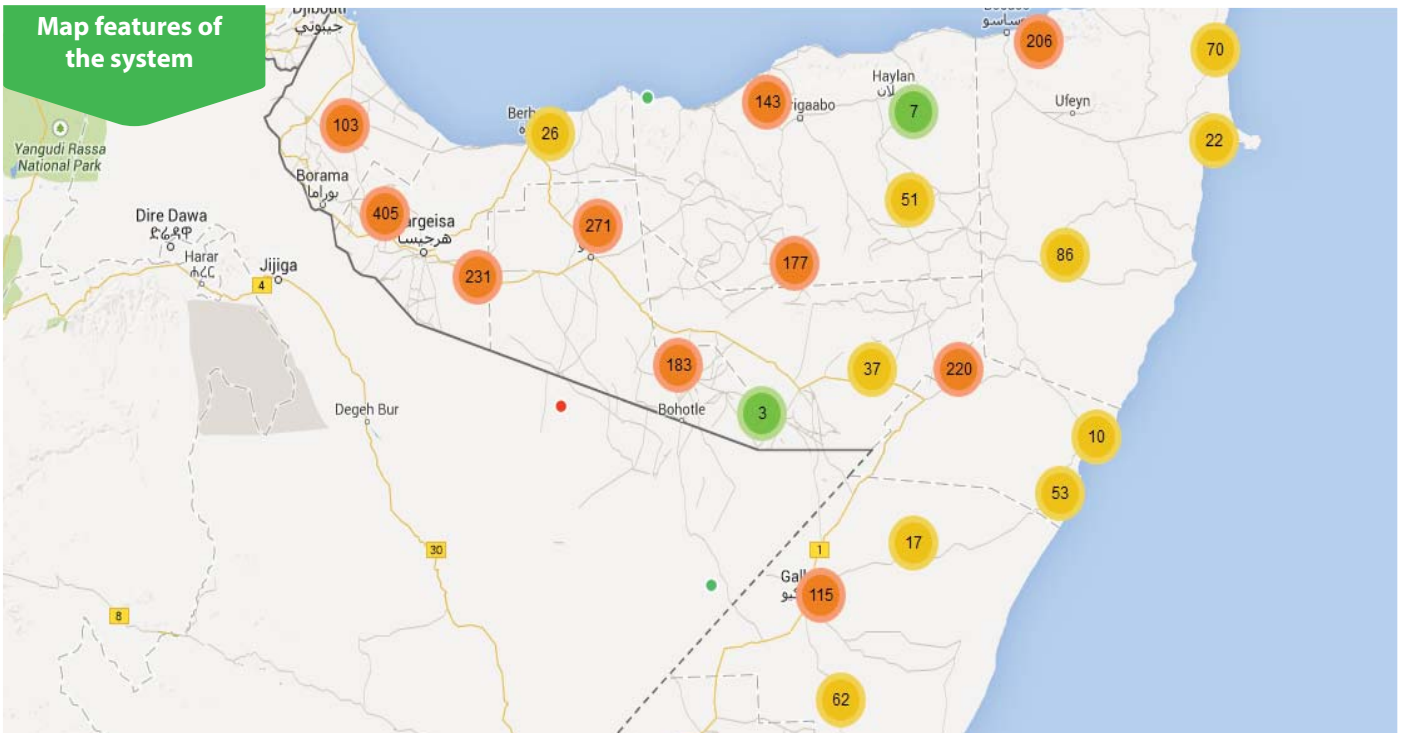


# Somali Water Sources Information Goes Live

by *Flavian Muthusi*

The Somali Water Sources Live Map went live in September with over 3,500 ground water source records made available in the system. The online system is a web application built on top of the SWIMS database (the Somali Water Information Management System) which existed previously. Data collection from the water sources is either done through mobile phones or internet forms which is then uploaded into the system in near real time.

Starting in September, a series of meetings involving partners active in this sector were organised in Nairobi, Garowe, Hargeisa and Mogadishu to demonstrate the 'Live Map' features. Feedback and suggestions were provided during these meetings and have been incorporated into the system as it continues to be improved.



Some of the key information about an individual water sources that are featured in the system include; location, depth, previous interventions, status of functionality and even any recommended repairs if any. The information is the availed to the public on the Internet: <http://systems.faoso.net/imms> on a graphical map interface where users have several options to visualise and download the information such as maps, tables, charts and reports.

The primary beneficiaries of the 'Live Map' are the Somali government water authorities, the WASH Cluster and other intervention partners in the Somali water sector. It is expected that the SWALIM Water Sources Live Map system will enhance monitoring, coordination and planning of water resources in the country, as well as facilitate timely response in times of droughts to save lives.



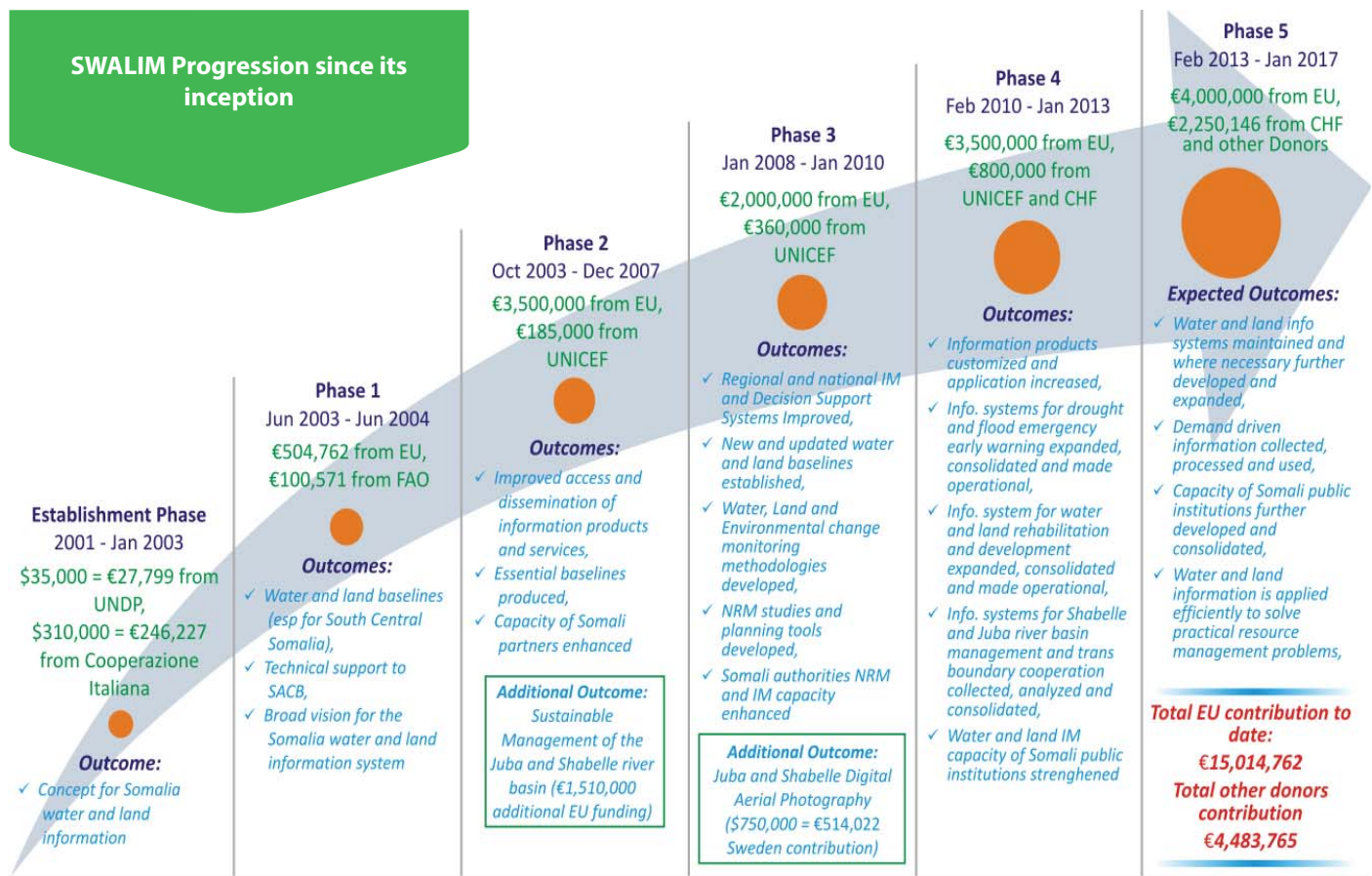
## Feature: SWALIM - 10 Years of Sustained EU Funding

by Hussein Gadain

The end of the twentieth century was indeed an unfortunate time for the Somali people. The collapse of Somali government institutions in 1991 was followed by a number of natural disasters, with the 1997/98 El Nino rains being the most memorable. These events left the Somali productive infrastructure dysfunctional and in need of urgent attention. In this situation, it became evident that a data gathering and analysis unit that could provide the information needed to mitigate natural disasters and support relief interventions by humanitarian agencies was a fundamental requirement by then.

Using EU funding the project has built a comprehensive set of Somali water and land resources information knowledge bases through field surveys and assessments, desk studies and the recovery of information lost after the breakdown of government in 1991. The key datasets have been organized into a number of structured information systems.

Recently, these datasets have been aggregated into one online data access platform - the SWALIM Data and Document Repository (SDDR - <http://www.sddr.faoswalim.org>) - and efforts are on-going to find new and more accessible ways to



This was the birth of SWALIM, which started as a small unit with a few staff gathering dispersed pre-war water and land information and organizing field missions to gather new data. The project structure was only formalized in 2004, however, when the initial idea was translated into a broad vision for the "Somalia Water and Land Information Management (SWALIM)" project, largely as a result of the success of the initial unit and an increasing demand for its products and services by government agencies.

Today, we can look back at the history of challenges met and set-backs overcome and proudly see the lasting results. In its 10 years of existence, SWALIM has accomplished a number of important and game-changing objectives, laying the groundwork for the national institutions that have always been envisioned to take its place.

put this important information resource to use in the hands of the people who need it.

Over time, SWALIM has established a comprehensive hydro-meteorological monitoring network for Somalia, which now includes 82 manual rainfall stations, eight automatic weather stations, eight synoptic weather stations and eight river water level recording stations. The monitoring network generates important early warning information for disaster prevention and mitigation, and operates in close collaboration with relevant Somali institutions, with many of the network operations already transferred to these institutions.

To assist other development actors, as well as the Somali authorities, SWALIM established an efficient Somali water and land data and information service which include face to

## Feature: SWALIM - 10 Years of Sustained EU Funding - Cont'd

face briefings, email enquiries and alerts and a web-based information provision.

Throughout its existence, SWALIM has endeavoured to build strong partnerships between all agencies and stakeholders involved in water and land resources management in Somalia, including government, local and international NGOs, UN agencies and Somali academic institutions.

The SWALIM team has established a capacity development programme for Somali government institutions that includes six ministry data centres, a ministry staff support scheme, a training of trainers programme and a support facility for ministry field monitoring. Currently, eight institutions in the north are involved in the programme and discussions have started with relevant ministries in the Federal Government of Somalia.

These significant results have been delivered by a small and dedicated team, now composed of 28 staff organized into five units: Water, Land, Information and Knowledge Management, Capacity Development and Operations.

The achievements have come about progressively through a phased approach, with each phase building on the results of its predecessor (see graphic). SWALIM activities and functions

are systematically being transferred to Somali ministries and institutions and its work is increasingly concentrated in the field offices. In the current phase, SWALIM staff spend most of their time in capacity development activities for Somali institutions. The aim is to transfer all functions to Somali institutions and thereafter to provide only limited technical backstopping. To realize this, SWALIM has mainstreamed capacity development in all activities.

SWALIM data and information is the key source of reference for Somalia water, land, natural resources and environmental knowledge. The data and information is used in a wide range of applications including policy development, project design and implementation, resources planning and management, monitoring and evaluation and learning and research as evident from the SWALIM client service platform where all information requests are logged.

FAO remains grateful to the support given by EU and other donors to the SWALIM project, looking into the future, we are confident the SWALIM systems will soon be in the hands of their rightful owners. This will still take time, however, and requires continued technical and financial support to Somali water and land institutions by all development partners.

## Expansion of the Weather Monitoring Network in South and Central Somalia

by *Peris Muchiri*

SWALIM has partnered with two NGO consortiums; SomReP (Somalia Resilience Program) and BRICS (Building Resilience in Central Somalia) to install more rainfall stations in Gedo, Lower Shabelle and Mudug regions, in efforts to expand the weather monitoring network in south and central Somalia. The proposed network expansion by the two consortiums will cover areas which have not had any weather monitoring since the early 1990s. Representatives from the two groups

have been trained by SWALIM on equipment specification and purchasing, rainfall data collection, rain gauge installation, maintenance and data dissemination. This will enhance the existing monitoring network to cover more locations and improve climate data analysis in Somalia thus paving way for well informed decision-making using comprehensive and up-to-date information on weather which is useful in all sectors.

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## SWALIM Conducts Partner Capacity Needs Assessment

by Jeremiah Njeru

SWALIM activities are implemented in collaboration with Somalia government authorities in charge of water and land resources management. The project has established a strong capacity development programme that includes data centres, staff support scheme, training of trainers and field monitoring. To improve capacity development, the project steering committee recommended in 2013 that a comprehensive capacity needs assessment should be undertaken for SWALIM partner institutions. The assessment will help the project better understand current and future capacity development needs of these institutions as well as their priorities.

After the design and validation of the assessment tools, participatory capacity assessment workshops were held in Somaliland and Puntland and focus group interviews conducted with representatives of key institutions in Somalia and Nairobi. Through this assessment, the institutions involved were able to document existing capacities, identify future needs, drafted capacity development plans and prioritize their key capacity development activities. A draft report of the assessment has been completed and comments and feedback provided to the lead expert. The final report is expected before the end of the year and will be presented to the partners institutions for final validation and approval.

Group discussions during needs assessment in Hargeisa



In response to this recommendation, an assessment of eight government institutions in Somaliland and Puntland was carried out between August and October 2014 with the support of the FAO Office of Partnership and Capacity development (OPC) and a local capacity development expert. The assessment followed the new FAO capacity development approach that emphasizes functional and technical capacity and assesses capacity at three levels i.e. individual, organization and operating environment. This approach recognizes capacity development to be a participatory process that must be led by the beneficiaries and that should consider the local context. Furthermore, the approach emphasizes that capacity develops through a gradual process and cannot be achieved through a one-time intervention. Capacity development plans therefore accommodate these factors and allows continuous monitoring and improvement.

SWALIM will use the results of the assessment to improve on going capacity development activities and also to improve the design of new capacity development activities. Additionally, the results of the assessment will be shared with the other FAO Somalia sectors and projects as well as other collaborating partners to guide their capacity development initiatives. This is critical since no one organization can fully address all the capacity development needs of Somali institutions and therefore development partners should work together to supplement each other in different areas depending on their mandates and strengths.

### SWALIM Digital Document Repository (SDDR) Updates

SDDR has been updated with the following data for the period August to October 2014:

#### Time-series

- \* Climate data from automatic weather stations
- \* Rainfall data from manual stations
- \* River levels and discharge data
- \* Synoptic stations data

## SWALIM Supports Development of the Somali National Biodiversity Strategy and Action Plan (NBSAP)

by Simon Mumuli & Saleem Ullah

FAO, through funds provided by Global Environment Facility (GEF) is assisting the Government of Somalia to develop a National Biodiversity Strategy and Action Plan (NBSAP), aimed at sustainably managing Somalia's biodiversity. Through a special mission to Hargeisa (Somaliland), Garowe (Puntland) and Mogadishu led by the Government, FAO launched the process of developing the biodiversity strategy and coordination with local authorities and community leaders on an action plan which can be put into practice.

Due to security constraints, access to biodiversity resources on the ground, were among the major challenges faced by the NBSAP team. However through SWALIM, the NBSAP team overcame this major limitation by using SWALIM data base and experts' to access and assess the availability (and gaps) of data on various biodiversity elements and ecological regions.

The consultations achieved the key objective of instilling a considerable sense of ownership of the NBSAP process

Participants share their inputs during the NBSAP Workshop in Mogadishu



Through this process a shared understanding of the status of biodiversity in Somalia, the challenges and threats facing it, and the potential mechanisms for coping with and/or mitigating the degradation process was developed among the key stakeholders. This was attained through three workshops, followed by focus group discussions involving renowned experts at the respective Ministries of Environment.

Somalia has experienced accelerating environmental degradation over the past twenty-five years and needs to take urgent action to stem the damage, which affects food security as well as natural habitats and ecosystems. In addition to reversing the environmental degradation and strengthening its livelihoods base, the NBSAP process aims to enable Somalia to fulfil its national obligation as a signatory of the Convention on Biological Diversity (CBD) since the year 2009.

among the stakeholders in general, and the respective ministries in particular, as was evidenced by their leadership role in holding the workshops and their proactivity in providing substantial inputs.

The proceedings and conclusions of these sessions will be synthesized together with other information into the National Biodiversity Strategy and Action Plan for Somalia. Following national endorsement, the draft strategy and action plan will be submitted to the Global CBD Secretariat as the first-ever nationally-devised and globally-approved road map for the sustainable management of Somalia's Biological Diversity. This will enable Somalia to access global funds – GEF and other multilateral funds – for the sustainable management and rehabilitation of its biodiversity.



## Pictorial



Flooded business property in Belet Weyne during Deyr 2014 rainy season



Broken river bank in Jamame during Deyr 2014 rainy season



Participants practise data input in Information Management Tools training in Nairobi, Oct 2014



Practical fieldwork in Information Management Tools training in Nairobi, Oct 2014

### Training Timetable December 2014

Course	Date	Location
Groundwater Equipment (Diver) Installation, Data Downloading and Processing Training	December 2014	Hargeisa

*SWALTM wishes all our partners, stakeholders and subscribers  
Happy Holidays & a Prosperous 2015*