

## SaWeL Programme Celebrates Success in Improving Food Security and Nutrition in the Sahel

The program "Improving food security and nutrition in the Sahel by safeguarding Wetlands through Ecological Sustainable Agricultural Water management (SaWeL)" has been making significant strides in ensuring food security and nutrition for communities living around the lakes Wegnia & Sourou (Mali) and Ziway-Shalla (Ethiopia). The program focused on two key objectives: improving the integrated management of natural resources and agriculture and supporting market and value chain development. Remarkable results have been achieved by implementing good practices in integrated and sustainable water and land management, enhancing access to quality inputs, and fostering competitive markets.

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Wetlands in the Sahelian region of Africa perform a crucial role in sustaining agricultural livelihoods and supporting food security through the provision of ecosystem services and goods based around water. However, these wetlands are also vulnerable to human pressures from - for example - nearby smallholder farmers and agri-firms; whilst climate change is altering temperature and precipitation patterns over the longer term and forming an over-arching threat that often exacerbates the effects of agriculture. The nexus is clear but often policies and legislation concerning these connections remain siloed in sectoral approaches, whilst enforcement is often lacking or very weak.

Experience with Integrated Water Resources Management (IWRM) and land rehabilitation and management show that the deployment of improved technologies can unlock significant potential for restoration and more sustainable use of available natural resources, leading to more resilient landscape-level food systems. By using agro-ecological approaches, impacts can be lowered, ecological processes can be better supported, biodiversity returns, and overall environmental health increases, at various scales. Such approaches also contribute to increased farmers' productivity and rising household incomes, and are often gender and generational sensitive.

"Improving food security and nutrition in the Sahel by safeguarding Wetlands through Ecological Sustainable Agricultural Water Management (SaWeL)" is an SDC-funded consortium-led project which ran from 2019 to 2023. The project works in Lac Wegnia and the Sourou sub-basin in Mali, and in the Ziway

Shalla Sub-basin in Ethiopia, and features an organizational and implementation partnership of Wetlands International, Caritas Internationalis Switzerland, Hydrosolutions Ltd., and the International Water Management Institute together with local offices and a wide variety of local stakeholders in both countries.

The program focused on two key objectives: improving the integrated management of natural resources and agriculture, and supporting market and value chain development. By implementing good practices in integrated and sustainable water and land management, enhancing access to quality inputs, and fostering competitive markets, the SaWeL programme has achieved remarkable results.

### **Highlights of SaWeL program implementation:**

The dedicated efforts of the programme have resulted in the protection, restoration, and fertilization of 208 hectares of land through contour stone bunds and 1,148 hac of community land via gully treatment *in the Lac Wegnia site*. Construction (ongoing) of an overflow dam or weir that could contribute to the permanent stabilization of the maximum storage of water in the lake is in progress.

The objective of large-scale dissemination of land and water management techniques was largely achieved. The project reached 13,614 people, 5,454 women, 8,160 men, including 8,148 youth. The “value chain” approach for sesame during the rainy season 2023 enabled the project to facilitate the signing of a three-party contract for the production and purchase of more than 40 tons of sesame for a value of 8 million francs CFA. The tripartite contract allows 19 cooperatives of smallholder producers to have access to subsidized organic inputs on credit for the production of sesame, with reimbursement due only after the harvest, to the local input cooperative "Bélédougou". The project in Wegnia teamed up with Credit Mali, a broker between commercial banks and MFIs, to fund the value chain liquidity operation, with 9 cooperatives participating in 2023.

*In the Sourou sub-basin* in 2022 alone, 850 small-scale food producers were trained, including 374 women and 476 men (including 468 young people) in 10 technologies adapted to agro-climatic conditions. In addition, the project team connected producers and input suppliers (seeds, fertilizers, etc.), service providers or specialized agricultural structures (Agricultural Research Station, Organic Fertilizer Production Company, etc).

Independently of the stakeholders (NGOs) the State provides subsidies to the farmers on inputs (fertilizers) who can access and request for needs through the help of a campaign plan and get introduced to the local agricultural service through their farmers' organizations (umbrella, cooperatives). A bulletin on the price of cereals is published periodically by a specialized State service (early warning system).

Awareness-raising activities include producers being informed about the state of the market situation and encourage producers to come together to move towards group selling of their production in order to make more profit by sharing the costs related to marketing. Similarly, a quarterly hydro-meteorological bulletin taking into account 'The Sourou' is published by the competent service in a Whatsapp group /digital platform.

More than 900 plants of several local and exotic species have been planted at the village resource center in Benebouro, in gardens, homes and groves. As per identified priority needs of producers, the project supported small producers with 2.5 tons of seed of the cowpea variety IT 90 -372-1-2 or "Wilibali" (trade name) recommended by the International Institute of Tropical Agriculture in the Sahel zone. Cowpea has an important role in human nutrition, food security and income generation for farmers and food vendors in the Sahel region. The community has adopted the seed variety and is now ensured of a better produce despite the experience last September with devastating floods in Sourou region.

*In the Ethiopian Ziway Shalla sub-basin*, the project received support from farmers, governments, communities and policy makers. Service providers and other system actors offer smallholder-targeted products and services like technologies, agricultural inputs information and credits that allow for more ecologically sustainable food production. Regional water bureaus have technical and institutional monitoring capacities to ensure the implementation of their mandates. Data management and analysis tools, modelled data to complement field surveys especially in the Meki catchment also includes irrigation water use and streamflow data. Workshops have been organized with basin and regional level authorities to embed use of data into analysis and monitoring tools to supplement the gaps researched in hydrological monitoring in Ziway Shalla basin. Additionally in the year 2022 alone, three surface water monitoring stations have been installed to record real time data, ground water monitoring and support the Basin management Authority (RVLBDO).

In Ziway Shalla sub-basin, 14 villages have benefited from collective gully treatment interventions on community land. Another five villages have benefited from the practical training session on the Zai technology. Tassa or zai are improved traditional planting pits, dug on existing farm fields before the onset of the rains, using a hoe to break the surface crust. The pits collect and store water and run-off. Often, organic matter is placed in them to improve soil fertility. Termites are attracted to this organic matter, which they digest, making nutrients more easily available to the plant roots. Six hectares of land has been treated during practical training session ed by the model farmers of these 5 villages. The session was attended by 267 producers, 144 men, 123 women, from which 237 young people.

In the year 2022 alone almost 23.6 km of soil bund, 2.3 km of stone covered soil bund, 83m<sup>3</sup> Gabion Check dam and approx. 17,331 seedling plantation pits are done in Tiyo and Ziway restoration sites.

In the central Rift Valley, with the support of external consultants, SaWeL further explored opportunities for the development of a fair food system (healthy food from healthy landscapes) by linking producers' organizations in the Ziway-Shalla basin to the market in Addis Ababa. Possible market outlets as well as the awareness about and interest of consumers in buying healthy foods were assessed. In addition, the project developed an investment/business rating framework through which business ideas from landscape actors in the Ziway-Shalla intervention zone with entrepreneurial ambitions are being assessed, shortlisted, and selected for incubation.

Training and demo plot establishment on best fit agroeconomic practices that reduce chemical pollution, increase water use efficiency as well as increase production and productivity was done for both rain fed and irrigation target woredas (districts). So far, it has led to more sustainable agricultural production and water use with less environmental degradation of the Ziway Lake and created a better balance between ecosystem functions and productive functions. By cooperating with Meki Batu Union, target communities identified the gaps and through capacity-building training and linking with organic input suppliers and farm produce markets; food security is ensured.

[The Innovative Scheme Irrigation Management Information System \(iSIMIS\)](#) is a user-friendly web-based tool developed by Hydrosolutions GmbH for water accounting and planning to evaluate water users (water allocation), share, price, tariff and water use options. iSIMIS incorporates different Admin panels such as Users, Divisions, HYDRO, Hydro-post, and AGRO sub-features which helps to create different water accounting and planning analysis.

Hydrosolutions GmbH and IWMI collaborated to introduce and evaluate the potential applicability of the iSIMIS tool for Rift Valley Lakes Basin Administration Office RVLBDO. Field data was collected from the Ziway-Meki irrigation scheme to demonstrate how iSIMIS can be applied to an irrigation scheme in Ziway sub-basin. The tool is validated with users interested in adopting it from basin administration office as it is customizable to Ethiopian conditions.

## Way forward:

Phasing out of the project included transfer of knowledge to relevant stakeholders and local committees in terms of technical, socio-economic practices and approaches. Technical, entrepreneurial and managerial capacities and strengthening of deliverables by providing technical input and local examples. Stakeholders were encouraged for joint consultation, improving relations between them and anchor regulatory frameworks, strategies, policies and plans through project deliverables.

The SaWeL programme's success is a testament to the power of sustainable water and land management practices in enhancing food security and nutrition in the Sahel. By promoting the integrated management of natural resources and agriculture, as well as supporting market and value chain development, the programme has made a tangible difference in the lives of the communities it serves.

Working on the ground in different wetland landscapes, the programme developed and communicated innovations in land and water management that are relevant to a wide range of agricultural systems in and around Sahelian wetlands. New technologies and new approaches were tested and analysed in real-life field situations, with a view to refinement and further adoption to strengthen the resilience of landscape-level food systems and at the same time protect and sustainably manage precious wetland resources and better adapt to climate change. These more resilient food systems contributed to local, national, Sahelian / African-wide goals of enhanced food security and nutrition by increasing water productivity and eco-efficiency, improving livelihoods and restoring (wetlands) ecosystem services.

SaWeL project is ending in September 2023 with all the partners continuing to work in the same region with local teams in diverse contexts. Specific opportunities to exploit the synergies, for example through the integration of wetlands and food systems indicators and activities into the National Biodiversity Strategic Action Plans now required under the Convention on Biological Diversity (CBD), will be identified and operationalized during the remaining months of the project in 2023, and beyond.

The consortium partners are committed to individually and jointly scope-out maximum opportunities for upscaling SaWeL results and lessons. For Wetlands International and IWMI in Ethiopia, accelerating the development and roll-out of [BLiSS: Blue Lifelines for Secure Sahel](#) provides an ideal vehicle for sharing, utilizing and upscaling SaWeL activities and momentum. For Caritas Switzerland, SaWeL lessons and built capacities are already integrated into country programs in Ethiopia and Mali and will continue doing so.

SaWeL program closure event is scheduled on October 18<sup>th</sup> 2023, 13.00 hrs CEST/11.00 hrs Bamako/14.00 hrs Addis Ababa time and will be live broadcasted on Wetlands International's Youtube channel [here](#). Join us in sharing our work with you.