



Location

Kollo department,
Niger Republic



Implementation period

07/2020 to 06/2023

Contribution to SDGs

1·2·5·7

Empowering Women with the Water-Energy-Food-Security Nexus Approach in Kollo, Niger

LOCAL CONTEXT

The women's cooperative in a village in the department of Kollo in Niger cultivate vegetable gardens on a plot of land approximately 1.20 ha in close proximity to the Niger river. Although located so close to a large water source, the cooperative faces recurrent food insecurity exacerbated by climate-related weather extremes, such as droughts and heavy rains. The cooperative lacks direct access to irrigation and fertilizer so that the site proved insufficient to grow off-season crops. However, with support from diesel-powered pumps, some water reached the garden from adjacent rice farmer parcels. Due to a lack of a formal agreement between the cooperative of the rice growers and the women's group, the use of the surface water has been a potential source of conflict. The latent conflict and the dim economic outlook almost made the women abandon their terrain. Today, the site is used to grow vegetables, but also other types of crops that can be grown during both seasons (rainy and dry).

OBJECTIVE

Support the overall functioning of a women's cooperative in Kollo, Niger, to improve the living conditions and empowerment of the women through the promotion of the Water-Energy-Food (WEF) Nexus approach. Specifically, the project improves the vegetable production of the cooperative and strengthens the cooperatives' resilience to the effects of climate change such as unstable rainy seasons.

BENEFICIARIES:

180 women are direct beneficiaries of the project, of which **40 work on the land**, the remaining are involved in the further value chain of the agricultural products. The work contributes to improving the livelihoods of **800 people** belonging to **118 households**, namely indirect beneficiaries.

Empowering Women with the Water-Energy-Food (WEF) Nexus Approach in Kollo, Niger



LONG TERM IMPACT

- The quality of the water used for the crops is improved due to the use of bio fertilisers and the quantity of the water managed and monitored in a sustainable way in close collaboration with regional technical authorities.
- The energy provided by solar panels reduce the need for generators - in the long term these will be abandoned, producing net zero emissions.
- The women apply new agricultural techniques on composting, increasing soil moisture and climate-adapted crops that increase their economic revenues.
- In terms of the sustainability of the project, the women are committed to maintaining the infrastructure, permanently applying the techniques they have learned and consolidating them, and guaranteeing the relationship between the producer, the buyer and the seller, and other actors for the development and marketing of their products.
- The latent conflict with the neighbouring rice producers is settled and opens even possibilities for exchange and mutual learning. At the same time, the women keep their independence in managing their own fields.
- In the long term the women envisage exporting their products for commercialization beyond Kollo and thus not only ensure for self-subsistence but also manage to raise incomes for their households.
- The coordination and support capacities of the "National Coordination of Users of the natural Resources of the Niger Basin" in Niger are strengthened. The project illustrates the significance of community engagement in the success of the Nexus approach at the local level. It not only ensured sustainable resource management but also fostered collaboration and joint decision-making, strengthening the community's connection to the initiative.
- The project is aligned with Niger's NDC by facilitating the management of the 'Demand, Transformation and Popularization of Renewable Energies' sectors by improving the energy efficiency of the sectors and the promotion of photovoltaic solar energy for water pumping, health and electrification.¹



KEY ACTIVITIES



Installation of irrigation infrastructure (co-funded by NRDP and "Water and Energy for Food" (WE4F))

- WE4F: Installation of 4 boreholes with electric solar-powered pumps, 4 retention basins for pumped water, a California irrigation system, and 13 solar panels.
- NRDP: Long-term technical support through the "National Coordination of Users of the Natural Resources of the Niger Basin" including various trainings on the different Nexus aspects to the women to improve the garden's output. In addition: 4 carts and donkeys, 40 hoes, 20 shovels, 20 spleens, 20 wheelbarrows and various seeds.

Training and long-term technical support provided in cooperation with the technical services of the municipality and the mayor, to empower the women to be self-sufficient. The trainings were organised around Nexus core topics, such as: Introduction to the WEF-Nexus concept, management of the women cooperative to ensure the good governance of the group, technical management and maintenance of the SPIS system, environmental management (sustainable water management, bio composting and use of bio fertiliser), value-chain management (improving production, transformation and marketisation).



¹ <https://www.climatewatchdata.org/ndcs/country/NER/full>

Empowering Women with the Water-Energy-Food (WEF) Nexus Approach in Kollo, Niger



KEY RESULTS

In addition to the continued access to irrigation water to ensure regular development of the group's market garden site, the project creates a financial case for investment by improving business operating conditions:

- **Increased revenue** - Improved access to irrigation water using solar-powered water pumps led to the increase in vegetable, fruit and fodder yields. In total, the project is expected to increase crop production by approximately €5,695 per year compared to baseline conditions.
- **Reduced risk** - The irrigation installation reduces the dependency of unstable rainy seasons. The work was supervised and will continue to be monitored by the technical water services of the municipality.
- **Reduced uncertainty** - The women were trained in sustainable and optimised used of water resources and on innovative cultivation techniques thus reducing uncertainty on crop selection, on how best to manage local resources, on how to manage the site in terms of pests, soil moisture, crop rotation, and other factors that limited the site's potential. In addition, the project increased awareness among government and civil society representatives of the added value of the integrated WEF-Nexus approach.
- **Reduced expenses** - The project contributed to reduce fuel and pesticide costs and the additional output produced by the site. Parallely the project contributed to a reduction in greenhouse gas emissions due to the essential use of clean energy.



LESSONS LEARNED

- Initially, stakeholders at both regional and local levels had a limited understanding of an integrated WEF Nexus approach and its benefits i.e.: the importance of linking different aspects, compared to just installing an irrigation scheme. Local authority involvement at the start of the project was important as well as trainings to ensure knowledge dissemination beyond the cooperative.
- Experience in dry season crop growth was limited in terms of water usage, planting period and choice of crops. A clear production strategy for the dry season was needed. Although production during the two seasons carried out were increasing gradually, the vegetable production during the dry season is deemed more important for the women than during the rainy season.

