Planting trees to save water reservoirs in Burkina Faso

USAID TerresEauVie, Burkina Faso

In Burkina Faso, a landlocked country of West Africa, surface water reservoirs, locally called “dams”, remain crucial for livestock, agriculture, and other economic activities like brickmaking or gold panning. But their sustainability is threatened both by the effects of climate change (the country is facing a temperature increase of 2°C since 1950) and human bad practices contributing to silting of reservoirs and the resulting reduction of their storage capacity of water. The most important risk is the complete drying up of these vital water resources.

At the top of the list of bad practices: non-compliance with rules prohibiting farming within 100 meters (around 328 feet) of the dam’s perimeter. That portion of land is called the buffer strip. It is supposed to be preserved as a permanent word area, intended to prevent erosion and preserve the water quality by filtering pollutants from runoff such as pesticides, fertilizers, manure, etc. Instead, gardeners cultivating vegetable crops have encroached into the area to easily access to water especially during the dry season, which runs from about November to April. With trees removed or thinned to make room for vegetables, the lack of cover along the banks accelerated erosion, enabling silt to accumulate and reducing the volume of water available, year by year. And as the first rains arrived, runoff carried more fertilizers straight into the dam, killing fish and livestock. The steadily worsening situation created disputes among the water users, some resulting in destruction of crops and even violent conflicts.

CLEs reforested the buffer strips (bande de servitude) of dams in order to prevent stilting and pollution, as well as protect water storage capacity. Photo : TerresEauVie, August 2022.

To support communities in implementing local solutions, the USAID TerresEauVie Activity, led by Winrock International, supports four Local Water Committees (CLEs) in Sahelian regions of Burkina Faso in applying nature-based solutions while spreading best practices to protect water resources among their multiple users. Concretly, this enabled three from these four CLEs to reforest about six hectares on buffer strips. Thanks to their roots, these trees will hold the soil together preventing from erosion. They will also capture runoff water, thus facilitating its infiltration into the ground. In addition to direct water preservation, they also provide natural water purification, creating an environment for water reservoir that is more favorable to life. CLEs also mobilized communities to clean the banks and sensitized nearly a thousand people on how best to protect water by respecting the buffer strip.

Abdoulrahim Nikiema, the Secretary General of the Faga Median Nord CLE (which covers five communes) since its creation in June 2020, is a living memory of its challenges and achievements. “*The water reservoir of Yalgo (one of the communes of the catchment) used to be teeming with fish and was a shelter for animals and plants’ biodiversity (many types*

of birds and reptiles for instance). In 2012, it stretched over a 1,000-hectare surface (through satellite data). This has come down to about 750 hectares now. Indeed, because of climate change and bad practices in its surroundings, we have been witnessing the deterioration of the dam for about ten years, in terms of water quantity and quality. Currently, starting in February, the dam begins to dramatically dry up. This was not the case several years ago. The water can recede up to 50 meters in the dam bed. One obvious impact is that there are fewer fish, so there are fewer fishermen and the last ones sticking to their activity make poor catches.

Our CLE is there to engage communities and also gold panning companies who collect an important volume of water for their operations in stopping this damage and truly protecting this water resource. This year we made great progress. We started by sensitizing the population and then engaged 150 people in removing waste, plastic bags, old clothes, etc. from the banks. Afterwards, 60 people from the communities helped to fence a 2-hectare area on the riverbanks and reforest it with 2,300 seedlings (including 300 fruit-tree seedlings) in August. All 11 village chiefs from our commune made the decision about the site, after consultation with their villagers. It means that this action has been widely spread. This was not only a way to protect the reservoir, but also to indicate the buffer strip's edges as we couldn't mark out this space yet. We hired a watchman to keep an eye on the site and regularly water the plants during the dry season so that they can grow well. We plan to plant even more in the next few years to further protect the banks, in collaboration with our water agency.

Now, we want to move forward and solve the problem with market gardeners. There are about four hundred of them still cultivating on the buffer strip. They are now aware that their activities have adverse consequences on the dam but they pretend they do not see any other option to earn their living. By exchanging with the other CLEs supported by USAID TerresEauVie, we learned that the CLE of Seytenga managed to convince nearly 100 producers to vacate the riverbanks, by raising awareness and also by giving them a specific space elsewhere to continue cultivating so they were more reassured. This successful experience truly inspired us.

In addition, building on actions performed to protect our dam, we are preparing a local land charter, which is an official document that will state clear rules and penalties for non-compliance. These rules are coming from exchanges with the communities and will be enacted following their buy-in. Everyone will come to the table when they understand that they really have something to gain. This guarantees that local population will effectively apply the rules. All these efforts we make will allow us to better safeguard our water resources, in peace. At the end of the day, what we want is future generations to benefit from a better managed and more sustainable dam. "

USAID's Resilience in the Sahel Enhanced (RISE) project has been implemented in Niger and Burkina Faso since 2012.

The second phase, RISE II, continues the same efforts with the overall goal that chronically vulnerable populations in Burkina Faso and Niger, supported by resilient systems, effectively manage shocks and stresses and pursue sustainable pathways out of poverty.

Within RISE II and led by Winrock's Sustainable Water Partnership, the USAID "TerresEauVie" Activity enhances communes' self-reliance by making social and ecological systems resilient through three components: (1) Improved water security; (2) Enhanced sustainable productive land use; and (3) Improved management of shocks, risks and stresses.

This publication is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Winrock International and do not necessarily reflect the views of USAID or the United States Government.