

Following the PRVF, the PREFERLO: Impacts of water management projects on socio-hydrological and pastoral dynamics in the Ferlo valley

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Abstract:

The Ferlo Fossil Valley, located in the sylvopastoral zone of the same name, is part of the Senegal River watershed. As a seasonal flow system, it has been the subject of many developments since 1916 to protect Lake Guiers, a natural link to the Senegal River, to improve water access for the people of Dakar, and to develop rice and sugarcane cultivation around the lake (Gac et al., 1991). One of the first projects, the construction of the Keur Momar Sarr dam in 1956, aimed to prevent the lake's waters from overflowing into the lower Ferlo Valley. In 1988, this part of the valley was reflooded with the reopening of the dam and the re-profiling of the riverbed as part of the Fossil Valleys Revitalization Project (PRVF). The objective of this project was to extend the waters of Lake Guiers as far as Mboula, 70 km upstream (Ba, 1996), thereby improving water availability in the lower Ferlo Valley for the development of agriculture and livestock farming. Since the development objectives of this project were not fully achieved, it has recently been reactivated and expanded as part of the Ferlo Ecosystem Resilience Enhancement Project (PREFERLO). Nevertheless, all these highly technical water projects seem to overlook other aspects of the Ferlo's socio-hydrological system, particularly the multitude of basins or pools in the valley—small temporary wetlands that collect rainwater from their watersheds and can remain filled with water for long periods (Sy, 2010). Yet they represent the main source of water for herders' livestock when they fill up during the rainy season and for several months afterward. They have also fostered the development of socio-hydrological systems deeply rooted in these pools, pastoral livestock rearing, and transhumance practices. To identify the impacts of these water restoration projects in the Ferlo Valley on these socio-hydrological systems, we conducted interviews with various stakeholders involved in water and pastoral resource management in the Linguère department, in Senegal. It follows that while these development projects will ensure a permanent water supply along the corridors developed for agriculture, there is nevertheless a high risk of increased conflict over the use of waterholes, which were originally intended for pastoral livestock rearing but will now also be used for agriculture coupled with changes in pastoral practices as herders become more sedentary. These transformations also create a land tenure issue due to the change in land use and the reduction of areas dedicated to livestock farming. This example aims to demonstrate the need to avoid focusing exclusively on the hydraulic components of hydro systems in development projects, but rather to view them as complex socio-hydrological systems and to consider all their components, including river channels and their associated water bodies.

Keywords: socio-hydrological system, ponds, water management project, PREFERLO