**Highlights**

* Addressing irrigation mismanagement in Uzbekistan's Oltinsoy District to achieve sustainable water management.
* Proposed effective measures to alleviate water scarcity in the region through well-executed projects and maintenance.
* Focuses on the urgent need for long-term sustainability at the local level.
* Emphasizes the role of irrigation mismanagement in exacerbating water scarcity in Uzbekistan.
* Does not analyze the impact of global warming on the decline of water resources in Uzbekistan.