

Improving the Resilience of rural Inhabitants by setting up Water Supply and Sanitation Services



PROJECT TITLE:

IMPROVING THE RESILIENCE OF RURAL INHABITANTS BY SETTING UP WATER SUPPLY AND SANITATION SERVICES

COUNTRY :

Morocco

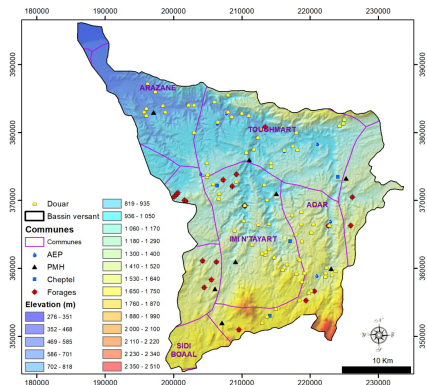
LOCATION :

Souss Massa – Arghen Valley

SCALE OF INTERVENTION :

Territorial

INCUBATION LED BY :



Région du Souss Massa © Agence du Bassin hydraulique du Souss Massa

LOCAL CONTEXT AND ISSUES:

The Arghen sub-basin is located to the east of the town of Taroudant in the Souss Massa region on the northern side of the Anti-Atlas mountain range. With a land area of about 900 km², the sub-basin is home to 14,000 inhabitants.

The Arghen drainage basin is characterized by a mountainous terrain, a semi-arid climate, and limited water resources with high spatial and temporal variability (average annual precipitation 200 mm in the upstream third of the basin). Frequent droughts and floods have negative impacts on the living conditions of the local population. These extreme phenomena are accentuated by the effects of climate change: increasingly long and frequent droughts coupled with intense flash floods.

The deterioration of already difficult living conditions is forcing inhabitants to emigrate towards larger urban centres (Taroudant, Agadir), leading to lower maintenance and investments in an increasingly abandoned rural area. For inhabitants of the valley, the principle activities involve mostly subsistence farming on very restricted agricultural areas subject to climate hazards (which cause erosion, land loss and destruction of irrigation installations) and to a lesser extent, tourism. Like many rural zones, these areas suffer from an acute lack of access to potable water (in 2013, less than a third of douars (hamlets) had access to drinking water) and sanitation, leading to potential pollution of water tables and rivers.

To tackle these challenges, an Integrated Water Management Plan (SAGIE) for the Arghen was initiated in 2009, with support from the French cooperation (twinning between the Rhône Méditerranée Corse Water Agency (AE-RMC) and the Souss Massa River Basin Agency (ABH SM) and decentralised cooperation between the Hérault département in France and the Souss Massa region). This participatory process was developed in coordination with all stakeholders, and its implementation is piloted by the Local

Water Committee (LWC). This type of approach is innovative in Morocco, and its example was taken up by the Water Act 36-15 of October 2016, which promotes the decentralisation and development of local water management plans (art. 115 – participatory management contract). The first concrete measures to develop water supply and sanitation facilities were implemented on the basis of the SAGIE, with financing from all stakeholders, although investment remains marginal.

An intermunicipal organisation grouping the five main municipalities in the valley (Arazane, Toughmart, Nihit, Adar and Imi n Tayart) was created to oversee the works and operation of services in relation with local user associations.

The Arghen basin now has an efficient governing body thanks to the SAGIE and the LWC, and an implementing and operating structure to ensure the long-term operation of the investments made.

The impacts of climate change on the valley include:

- Rural exodus due to the lack of basic water supply and sanitation facilities.
- Desertification of the valley due to soil erosion (loss of arable land located close to the oued bed, insufficient maintenance of land on the water basin due to abandoned farming activity).
- Decreased groundwater resources and deterioration in quality (dried-up boreholes, presence of nitrates).
- Deterioration in the quality of watercourses due to higher temperatures and to pollution discharged because of insufficient sanitation.
- Fragility of facilities to mobilise water resources (direct withdrawals from the river during flooding, dried-up oueds in the dry season).
- Damage caused by violent flash floods: loss of human lives, infrastructure (irrigation, roads), soil erosion.

PROJET GOALS:

To develop an integrated project covering the five main municipalities in the Arghen Valley corresponding to the new phase of the SAGIE currently being defined (end 2019). This action constitutes a laboratory for Morocco and other African countries on good practices of governance, sustainable management and financing of the water supply, sanitation, and rainwater in rural areas. The aim is to develop concerted management of resources and to promote nature-based solutions to prevent flooding and preserve farmland.

The main components of this project aim to

- Build knowledge on ground and surface waters (quantity and quality).
- Improve access to potable water and ensure protection of abstraction points by developing knowledge of uses with a view to optimising the selection of measures to put in place.
- Establish water sanitation with wastewater reclamation to reduce the concentration of pollution in the water and maintain vegetation cover capable of reducing erosion.
- Limit the energy impact of access to water and sanitation: solar energy and sustainable sanitation techniques.
- Develop a flood warning system and raise the awareness of stakeholders and inhabitants.
- Protect land against erosion applying nature-based solutions whenever possible.
- Build capacities and support local works and governance bodies to ensure the economic sustainability of the facilities put in place. In particular, maintain the active local dialogue body (Local Water Committee) to manage and protect resources in the long term and to raise local awareness about managing and maintaining facilities, and the importance of saving water and reducing pollution.



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SDGs TARGETED BY THE PROJECT :



CHALLENGES FACING THE PROJECT :

Improve access to water and sanitation – Reinforce water resources management – Reduce water-borne diseases – Protect soil and ecosystems – Combat erosion and flooding

SECTORS CONCERNED :

Agriculture – Energy – Biodiversity – Water security – Food security – Health – Water supply and sanitation – Stormwater management – Risk management (erosion, drought, flooding) – Protection and management of water and land ecosystems – Resilience of users.

EXPECTED OUTCOMES :

Nature-based solutions :

- Limit the energy impact of accessing water supply and sanitation: solar energy.
- Install Solar water pumps
- Set up protection in the floodplain of the Arghen oued to preserve farmland from erosion.
- Establish sanitation with wastewater reclamation to reduce concentration of pollution in the water and maintain vegetation cover capable of reducing erosion.



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New Information and Communication Technologies (NICT)

- Automated flood warning system

Water resource engineering

- Catchment and distribution of the water supply with solar pumps and meters in order to monitor withdrawals, and concerted and sustainable water management, including through information to users

Sanitation engineering

- Network of sanitation and water treatment plants to serve all douars with a preference for sustainable technology and wastewater reclamation.

Modernisation and reinforcement of governance

- Sustainably manage and protect resources by raising local awareness on managing and maintaining facilities, and on saving water and combatting pollution.

Set-up of long-term finance mechanisms

- Long-term management and financing of potable water, sanitation and rainwater in rural areas.

Capacity and knowledge building

- Study of water and pollution (quantity and quality) and set-up of monitoring networks (quality, availability, withdrawals and pollution).

Drawing-up of strategies or action plans to adapt to or mitigate climate change impacts

- Organisation of emergency flood management.

PROJECT STAKEHOLDERS :

Stakeholders involved :

Inhabitants of the five main municipalities in the valley: Arazane, Toughmart, Nihit, Adar and Imi n Tayart Institutional stakeholders (Taroudant Province, Souss-Massa Region, Provincial Department of Water, National Office of Electricity and Water (ONEE), Regional Office for Agricultural Development (ORMVA)).

Project leader:

ABH SM



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ESTIMATED COST OF PROJECTS IDENTIFIED FOR INCUBATION:

> 1 Million EUR

SHORT-TERM ACTION (3 YEARS)

- Inter-municipality
- 2nd phase of SAGIE
- Flood warning system
- Measuring network
- Water sanitation
- Potable water

LONG-TERM ACTION (10 YEARS)

- Wastewater reclamation
- Solar energy