

WOMEN AND WATER: CHALLENGES AND LOCAL ACTIONS IN TUNISIA, MAURITANIA AND MOROCCO









Disclaimer

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Disclaimer:

This publication was written collaboratively by Leonie Grob, Giulia Maci, Maha Jlassi, Amina El Moatassim, Ebaye Emine, Matteo Marti, Noah Weichgrebe (all Cities Alliance); Laure Criqui. It is based on assesments carried out by local associations - Lam Echaml (Kairouan, Tunisia), Annahda (Figuig, Morocco) and Serv'Eau (Sebkha, Mauritania) - as part of the «Women and Sustainable Cities» project (French: «Femmes et Villes Durables»). The project is funded by the French Ministry of Europe and Foreign Affairs (MEAE). The views expressed in this publication are those of the authors and do not necessarily reflect those of the MEAE, Cities Alliance, its members or UNOPS.

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This report may be used for educational and advocacy purposes.

Cover photo: Three generations of women in the Ménara garden, Morocco. © Flickr, Jaume Escofet



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TOWARDS PARTICIPATORY AND GENDER-SENSITIVE WATER MANAGEMENT





WATER AND THE ROLE OF WOMEN IN THE NORTH AFRICA REGION



Climate change and population growth are posing major challenges for access to water in cities around the world: pressure on water resources is increasing, municipal authorities are struggling to manage and distribute this resource, and water shortages are becoming more frequent. Flooding, salinisation and pollution make the situation even worse. In North Africa, this vulnerability is particularly pronounced.

The region has only around



1% OF THE WORLD'S FRESHWATER RESERVES but is home to



5,4% OF THE WORLD'S POPULATION and covers



9,5% OF ITS LAND AREA

According to estimates, by the end of the decade, the amount of water available per capita in this region could fall below the critical threshold of 500 m³ per year, indicating an absolute shortage.¹

Among those affected by the lack of water, women are on the front line:



IN 70%
OF HOUSEHOLDS

without water connections in the Global South, it is women and girls who are responsible for fetching water and managing water-related tasks.



In the region, traditional roles and the sharing of responsibilities within households are particularly gendered: as the majority of those responsible for domestic and household tasks, women are the first to be affected by the lack of access to water, and they must develop techniques for adapting to the harmful effects of climate change.

Given the risks and the increased vulnerability of cities to water shortages, it is women who will suffer the consequences: they will have to cope with longer journeys and waiting times to obtain water, increased exposure to harassment at access points, as well as additional costs and time to put in place alternative domestic water management strategies in times of crisis. The increasing burden of water chores will be to the detriment of girls' schooling and the pursuit of income-generating activities. All of this both illustrates and exacerbates gender inequalities.

Although girls and women play an essential role in the day-to-day management of water, their contribution, rights, skills and commitment are still too often unrecognised and insufficiently valued. Social, cultural, religious, and economic factors tend to confine them to the domestic sphere and restrict their civic participation.

It is also estimated that only



17% OF PEOPLE WORKING in the water, sanitation and hygiene sector

and they are rarely in decision-making, management or leadership positions.

Women are the primary users of water; they know best and represent the needs of the population. Involving them means to benefit from their expertise in designing public policies, priorities and appropriate objectives, reducing inequalities and promoting more resilient practices. To ensure sustainable, equitable and inclusive access to water, cities must not only design water management solutions for women, but also actively involve them in their development.

¹ Mateo-Sagasta, J.; Al-Hamdi, M.; AbuZeid, K. (Eds.). 2022. Water reuse in the Middle East and North Africa: a sourcebook. Colombo, Sri Lanka: International Water Management Institute (IWMI).

PROGRAMME:WOMEN AND SUSTAINABLE CITIES



The regional Women and Sustainable Cities programme focuses on women's access to water and inclusive water governance through three pilot projects in the region. These projects are being implemented in Kairouan in Tunisia, Sebkha (Nouakchott) in Mauritania, and Figuig in Morocco.

Although they have very different economic, social and territorial characteristics, these three cities are facing

the impacts of climate change: water shortages in the medina of Kairouan, floods contaminating access to water in Sebkha, drought in the oasis of Figuig. The programme highlights the specific challenges faced by women in urban water management, identifies priorities and solutions for increased resilience and greater inclusion of women, while strengthening their role as decision-makers and leaders.





METHODOLOGY: A PARTICIPATORY AND INCLUSIVE PROGRAMME

Launched in 2023, the regional programme is funded by the French Ministry of Europe and Foreign Affairs and implemented in Kairouan (Tunisia), Sebkha (Mauritania) and Figuig (Morocco) over a period of 2.5 years. In each city, it comprises 3 components:



PARTICIPATORY ANALYSIS OF WOMEN'S PERCEPTIONS AND LEVEL OF INVOLVEMENT in access to water and resource management.



SUPPORT FOR WOMEN'S EMPOWERMENT IN SUSTAINABLE WATER MANAGEMENT and governance through specific training and pilot projects co-created and implemented with local partners



IMPROVING MUNICIPAL OFFICIALS' AND WOMEN'S KNOWLEDGE of sustainable urban management, taking into account the specific needs of men and women.

In a participatory approach, the programme is run in close collaboration with municipal authorities, sectoral partners and civil society associations. Throughout the first component, local associations mobilised members of the communities to analyse the challenges and opportunities of women in sustainable water governance, water-related climate risks, and their access to water.

Working with local associations:



Kairouan: Association Lam Echaml



Sebkha: Association Serv'Eau





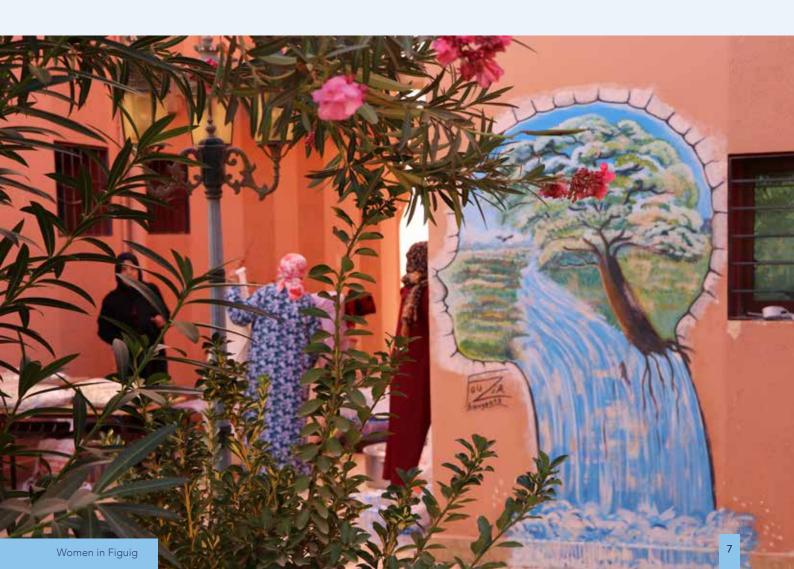
Figuig: Consortium between Association Annahda and the Forum de développement durable des Femmes à Figuig

Various participatory activities and citizen mobilisation methods made it possible to engage more than 1,000 citizens in the assessment phases across the three cities.

	Participatory assessment activities	Kairouan	Sebkha	Figuig
🕴 Female	Stakeholder workshop	28	17	14
🛉 Male		22	8	12
🕴 Female	Citizen surveys	138	315	76
🕯 Male		82	95	58
🕴 Female	Women's workshop	29	45	66
	Semi-structured interviews	6	4	
		305	484	226

		Kairouan	Sebkha	Figuig
nterviewers trained in qualitative and quantitative	÷	6	3	6
nterviewers trained in qualitative and quantitative	Ť	3	2	0

		Kairouan	Sebkha	Figuig
Participants in co-creation workshops for pilot projects	ħ ÷	35	95	54
(until September 2024)				



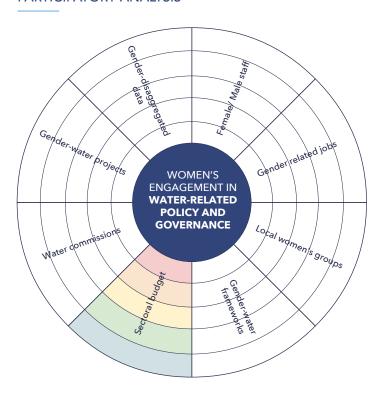
Data collection and needs assessments were carried out using Cities Alliance's Her4Water tool, designed to assess the extent to which gender issues are taken into account in the development of local climate and water policies, as well as in adaptation initiatives. The Women and Sustainable Cities programme is the first field application of this tool, aimed at assessing women's vulnerability to water scarcity and their participation in water governance. Adapted to the specific contexts of three different realities, Her4Water makes it possible to gather and express the perspectives and voices of women and girls, who are often ignored or marginalised in decision-making processes.²

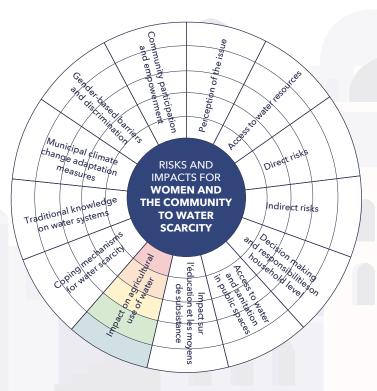
The tool measures how women and girls perceive the problem of access to water and the problems associated with drought, as well as their vulnerability in the face of these challenges, using 13 indicators. It also assesses their participation in management and decision-making in the water sector, using 8 specific indicators.

All indicators are accompanied by questions to guide the interviews, surveys and workshops, and are rated on a scale of 1 to 5:

This report highlights the key findings of the analysis, proposes policy and programme orientations, and provides an overview of the pilot projects underway in the three cities.

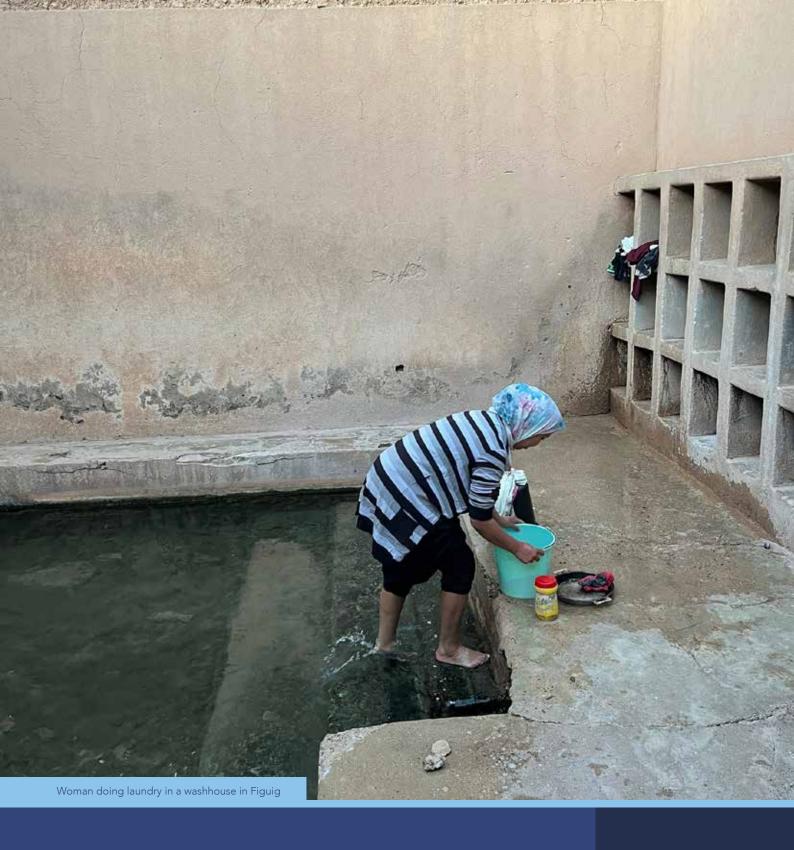
HER4WATER INDICATORS GUIDING THE PARTICIPATORY ANALYSIS





		Women's involvement in policy and governance	Perceptions of risks and impacts
	1	Nonexistent policy, framework, strategy or debate	Highly unsatisfactory
4)	2	Poor policy, framework, participation, but debate in place	Unsatisfactory
Score	3	Existence of scattered initiatives but no policy in place	Satisfactory
0,	4	Policies, frameworks, strategies adopted but not yet implemented	More than satisfactory
	5	Policies, frameworks, strategies adopted and implemented at city level	Highly satisfactory

The term 'gender' may have proved inappropriate depending on local socio-cultural contexts and situations. In the field, the expression 'women-men' may have been preferred in discussions.



SUSTAINABLE WATER
MANAGEMENT AND
PRESERVATION OF WATER
HERITAGE: CASE STUDIES IN
KAIROUAN, SEBKHA AND FIGUIG





KAIROUAN: A CITY RICH IN HERITAGE TO BE ENHANCED TO ADAPT TO WATER SHORTAGES

Climate change is exacerbating periods of drought and therefore water stress in Tunisia. In March 2023, for example, the Tunisian authorities banned the use of water distributed by the Tunisian national water company Société Nationale d'Exploitation et de Distribution des Eaux (SONEDE) for agricultural irrigation, the upkeep of green spaces and the cleaning of streets and public spaces.

Kairouan is a medium-sized town in Tunisia, located in the centre-west of the country, with a population of around 150,000. It has a semi-arid climate with irregular rainfall. Historically, large retention basins were built around the medina to ensure water supply and storage for the dry seasons. Public spaces and homes were equipped with cisterns to collect rainwater: Fasqiyas for public spaces and Majels for homes.

Today, this heritage and traditional rainwater-harvesting techniques persist in the area around the medina, but on a much smaller scale and insufficient to cope with the effects of climate change. Given the growing water scarcity in the region, the analysis carried out in Kairouan, in addition to examining the gender dimensions of access to and use of water resources, also mapped the existing Majels and their use or non-use, in order to understand how and whether they could be rehabilitated.









KEY RESULTS OF THE PARTICIPATORY ANALYSIS ASSESSING WOMEN'S INVOLVEMENT IN WATER GOVERNANCE AND THE RISKS OF WATER SCARCITY IN KAIROUAN



Exclusion of women from water governance

The context of political instability and the legacy of centralised and non-transparent practices do not facilitate the involvement of women in water governance. The assessment phase revealed that women's involvement in water policy and governance in Kairouan is weak, both in terms of opportunities for participation and the existence of a sectoral framework that takes gender issues into account.

This deficit is manifested above all in the absence of gender-sensitive positions, projects, policy frameworks and budgets in water governance. Yet, a debate could emerge partly thanks to the number of women employed in the sector and their participation in water commissions. However, it must be emphasised that the majority of those in positions of responsibility are men, and the decision-making sphere is almost exclusively occupied by them.

The situation reveals the challenges posed by the ineffectiveness of municipal water management measures. The assessment participants expressed their dissatisfaction, highlighting the water cuts and the lack of initiatives by SONEDE to solve this problem, as well as shortcomings in terms of communication with women. Women are de facto responsible but have little involvement, and remain dissatisfied with the measures taken at municipal level, with discrimination or lack of information in their dealings with the public authorities, and with the lack of consultation and consultation at community level. According to the participants, the information disseminated by the municipal authority about its projects and decisions is insufficient, and citizen participation in decision-making is not actively solicited. Women participants expressed doubts about the effectiveness of municipal initiatives, believing that even if they assert themselves and seek to participate in local decision-making, their voices will not be taken into account. This reflects a profound lack of trust in public officials. The analysis reveals that, although many participants adopt water conservation practices at home and are aware of the dangers of climate change, few, if any, engage politically or in civil society to promote sustainable management of water or climate risks.

'Discrimination permeates mentality, education and culture, and it is by changing these components that we can fight it'

— Woman during the participatory workshop.



Population aware of the challenges of water scarcity

Analysis of women's perception of the risks and impacts of water scarcity reveals a more mixed picture. According to the results of the survey, almost all participants perceive the scarcity of water resources and the need to save it. The main reasons given were climate change (58.2%), water wastage (18.2%), outdated water networks (3.6%) and religious considerations (0.9%). The link between water scarcity and rising food prices was confirmed by most participants. Participants felt that the negative effects of water scarcity mainly affected the poor, young people, pensioners, women and farmers.



Water-saving measures adopted

In a context where 58% of women are housewives, gender discrimination makes women particularly vulnerable to water cuts or shortages. This is partly offset by the fact that women do not necessarily feel helpless in this situation, with their ability to adapt to shortages and their knowledge of traditional techniques indicating a satisfactory level of resilience. The analysis reveals that 75% of respondents make every effort to conserve water. Concrete actions to save water include storing water at home, reusing water from washing clothes to clean the floor, and using washing-up bowls to wash dishes and for ablutions.



Lack of access to water in public spaces

The women interviewed expressed a desire to improve access to water and sanitation in public spaces. Kairouan, with its rich historical and cultural heritage, has a duty to provide public spaces that meet the needs of its citizens while promoting resilience in the face of climate change. Participants in the assessment workshops revealed a strong desire to consider interventions in public spaces

such as Houmet el Souk, Foskia, the Fes garden, Houmet el jamaa, Awled farhan and Place de Martyrs. The benefits perceived by citizens include well-being, social cohesion, climate resilience and local identity.



The survey results reveal that access to running water, supplied by SONEDE, is not a challenge in Kairouan as households are connected to the system. But while access to water is satisfactory, the survey reveals that only 55% of households exclusively use tap water, due to water shortages and the quality of the water considered by many interviewees to be poor, while others resort to wells or *Majels* to supplement their supply.

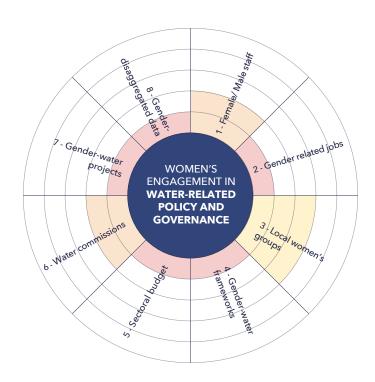
Of the 200 households interviewed in the various districts of the Medina, only 22% had installed a Majel in their home. This reveals an untapped potential, especially as 85% of households are of the traditional type with a patio and therefore have the potential to house private Majels. Majels are found both in dwellings located in the central area of the Medina and in the outskirts of the Medina. Moreover, only half of the existing Majels are functional. Moreover, the frequency with which Majels are used depends on the season. Due to climate change and the resulting growing water shortage, around 77% of Majel users use them mainly on summer days when water is scarce.

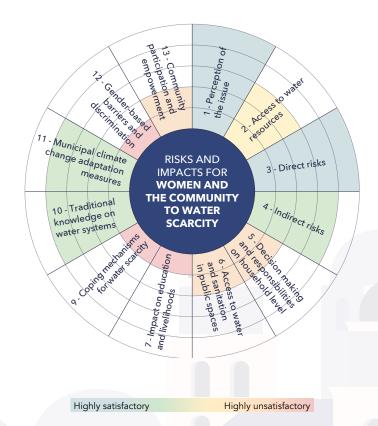


The assessment revealed that when used, *Majels* are mainly used for everyday household chores, such as washing clothes and dishes. However, despite having functional *Majels*, some participants do not use them for reasons such as the dirtiness of the water in the *Majel*, the difficulty of use or the scarcity of rain. The *Majels* therefore do not ensure a sufficient supply, but they represent a valuable additional source of water, especially when the public network is cut off.

Women, who are often responsible for household chores, are expressing a growing desire to install *Majels* in their homes, largely because of their ecological awareness and

HER4WATER PROFILE OF KAIROUAN BASED ON THE PARTICIPATORY ANALYSIS





commitment to sustainability. However, the lack of maintenance and the difficulties of upkeep are holding back their optimum use. Awareness-raising and training on the maintenance of Majels, as well as the necessary investment in their upkeep, are essential to maximise their usefulness. Overall, the analysis highlights the importance of Majels in the daily lives of the people of Kairouan. It also stresses the need to integrate them into urban policies and encourage their use in a balanced and sustainable way.

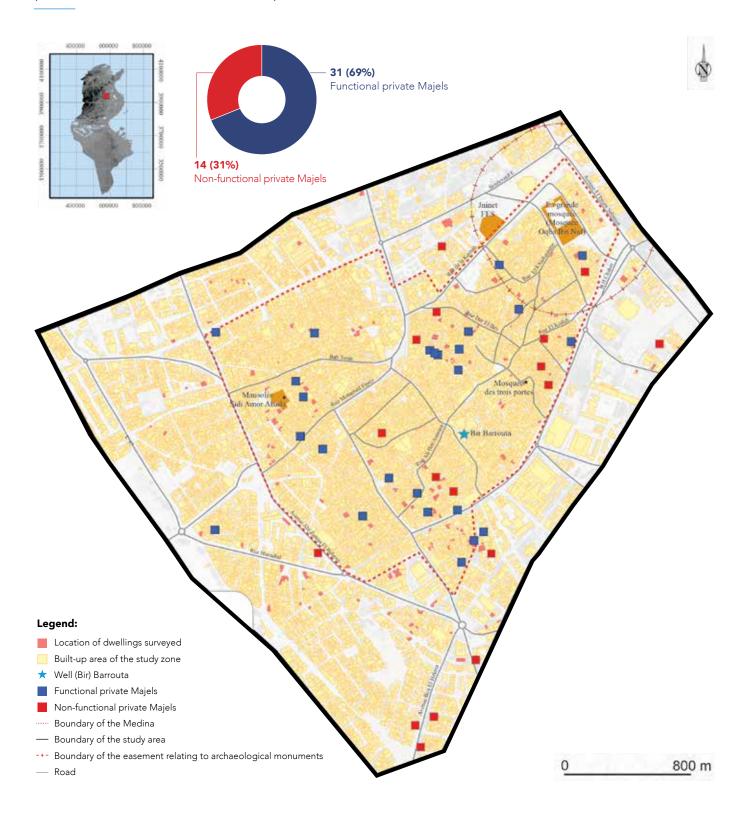
The rehabilitation of these efficient and sustainable systems, both in the home and in public spaces, should involve and prioritise the active participation of women, as the main users and beneficiaries. Traditional cisterns are therefore a promising way of reducing and alleviating water shortages in the medina by offering a self-sufficient, high-quality solution for supplying and storing water. Rehabilitating these cisterns can sustainably reduce the burden of water collection and, consequently, the vulnerability of women in a context of climate change and increased water stress.

Majels are traditional underground reservoirs that bear witness to ancient engineering in water management. Historically, medieval historians dubbed Kairouan 'the city of Majels', in homage to this ingenious storage practice. Dug into the ground, these reservoirs collected and stored rainwater, a vital resource for survival in this arid region. This method, combining simplicity and efficiency, is a perfect illustration of how humans have adapted to environmental challenges in the past.

The region is dotted with these reservoirs, both in urban and rural areas. In the past, access to Kairouan was sometimes blocked by run-off water, forcing visitors to wait for the rain to subside before entering. The Majels were used for domestic needs, irrigation and consumption, enabling Kairouan to prosper despite its arid environment. Today, in the face of drought, many experts are calling for this ancient practice to be revived. Rehabilitating the Majels could contribute to water security and environmental conservation. Symbols of ingenuity and resilience, Majels deserve to be rediscovered and promoted.



MAP OF MAJELS IN USE IN KAIROUAN (BASED ON PARTICIPATORY ANALYSIS)



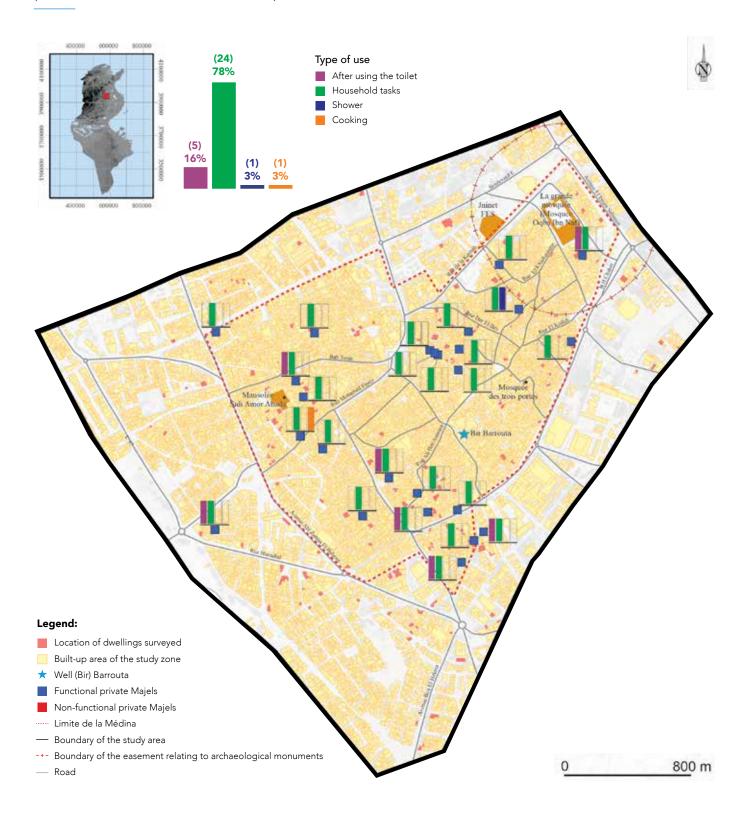


The map shows that only

69% OF DOMESTIC MAJELS

are in operation.

TYPES OF USAGE OF PRIVATE MAJELS IN SERVICE (BASED ON PARTICIPATORY ANALYSIS)





The majority of majels

IN OPERATING CONDITIONS

are mainly used for domestic tasks.

POLICY AND PROGRAMMATIC RECOMMENDATIONS

Faced with this reality, it is urgent to take action at different levels to reduce women's vulnerability to the risks of water shortages in urban areas: at household and community level, to strengthen women's power to act and their

resilience; and at city level, to integrate gender issues into public policies and encourage the active participation of women in decision-making processes concerning water management and adaptation to climate change.



With public authorities

- > Improve communication and the dissemination of information on water management and water cuts
- > Better disseminate information and improve the transparency of public support to citizens for the construction of *Majels*
- > Strengthen capacities of technical experts, municipal members and public servants to better account for gender-related issues in the water and sanitation sector
- > Equip public spaces with water points and public Majels and make them inclusive, safe and accessible for women
- > Promote equal access to decision-making positions in water management
- > Develop a gender-sensitive regulatory framework, policies, budgets and projects for water management



At the household level

- > Promote the construction, rehabilitation and maintenance of traditional water collection and conservation techniques, particularly Majels
- > Organise awareness campaigns and offer incentives to encourage households to adopt more water conservation practices in their daily activities
- > Coach and build the capacity of women to raise awareness and encourage them to get involved in community life and associations



With key players in the community, in particular civil society associations

- > Expand and strengthen the role of civil society in the sector
- > Reduce potential barriers that prevent women from participating in civil society
- > Organise awareness-raising campaigns on gender equality and discrimination in the management of water resources

PILOT PROJECTS IN KAIROUAN



ENHANCING THE HERITAGE OF KAIROUAN AND RAISING WOMEN'S **AWARENESS** OF THE USE OF MAJELS AS AN ADDITIONAL SOURCE OF WATER

IMPROVING AND REVITALISING THE MUNICIPAL GARDEN AREA IN KAIROUAN ADOPTING AN INTEGRATED APPROACH TO GENDER QUESTIONS AND WATER CONSERVATION

Femmes et Villes Durables is committed to strengthening the participation of women of Kairouan in water management, by promoting Majels as an effective solution for conserving rainwater. The programme empowers women in their access to water by actively involving them in the maintenance and use of these traditional structures, which are crucial to the sustainable management of water resources.



A specific training programme

will provide them with the knowledge and skills needed to maintain Majels and keep them intact and watertight, and to adopt sustainable management practices. In addition to these technical aspects, they improve their knowledge on obtaining funding for the construction and maintenance of the Majels, to ensure their long-term sustainability.

This initiative targets women in Kairouan who already own majels or wish to install them, equipping them to play a central role in water conservation within their community.



A green and resilient space equipped with a water cistern:

The transformation of the Jardin Municipal space aims to create a green space for citizens in the centre of the city that embodies best practice in water management, while strengthening the community's resilience to environmental challenges. An underground cistern will be installed to collect and store rainwater, acting as a collective Majel. This water reserve can be used for plant irrigation, cleaning and other needs in the garden.

Activation as an inclusive space:

The space is designed to meet the needs of citizens, particularly women and children, with public benches, children's play areas and a stage area alloperformance area allowing for community engagement. The space also serves as a place for environmental education and is used as an exemplary space for setting up training programmes for citizens, for example focusing on sustainable irrigation.





SEBKHA:THE CHALLENGE OF ACCESS TO WATER IN DEPRIVED NEIGHBOURHOODS

Sebkha is a municipality with a population of around 120,000, located in the urban region of Nouakchott. The city of Nouakchott is facing an increase in population and migration, economic problems and the effects of climate change, such as prolonged droughts and more intense rainfall. Poor, informal settlements, often located at lower altitudes, are particularly vulnerable to flooding and stagnant water after the rainy season.

In Sebkha, like other municipalities in Nouakchott, the water supply is ensured through connections to the distribution network of the National Water Company (Société National d'Eau SNDE). Despite this state responsibility, many households in Sebkha are not connected to the drinking water distribution network. This is due to problems such as insufficient water production, mediocre network efficiency and low water pressure. Around 80% of the municipality's population obtain their water from outside the distribution network, buyzing at water kiosks and from water carters.

The old sewage network, which covers less than 4% of the city of Nouakchott, does not serve Sebkha. In addition, there is no system for collecting, transporting and treating wastewater in the municipality, and the network's wastewater treatment plant has been out of service for several years. However, there are a few rainwater storage basins in Sebkha, but these are ineffective due to the lack of maintenance of the collection network. The lack of sanitation is the result of unsatisfactory urban planning, especially in view of the challenges of uncontrolled urbanisation. Progress has been made since 2008, with the creation of the Ministry of Hydraulics and Sanitation and the National Sanitation Office (Office National d'Assainissement ONAS) in 2009. A rainwater drainage network was commissioned in 2019, and in 2024 the Sebkha town council carried out a sewage clean-up campaign before the rainy season.

The participatory assessment in Sebkha focused on identifying the community's key challenges, particularly those faced by women, in relation to water access, involvement in water governance and management, and their ability to adapt to the impacts of climate change. These issues were examined in the context of Sebkha's characteristics as a marginalised, rapidly growing neighbourhood.



75,000 - 120,000INHABITANTS
(DEPENDING ON SOURCE)



AND MORE INTENSE RAINFALLS



WATER KIOSKS
AND WATER
CARTERS
AS THE MAIN
MEANS OF WATER
SUPPLY FOR THE
POPULATION



RAINWATER
DRAINAGE
NETWORK IN PLACE
SINCE 2019



KEY RESULTS OF THE PARTICIPATORY ANALYSIS ASSESSING WOMEN'S INVOLVEMENT IN WATER GOVERNANCE AND THE RISKS OF WATER SHORTAGES IN SEBKHA



Few gender-focused initiatives and low involvement of women in local water governance

At the level of municipal decision-making bodies, the analysis reveals a lack of crosscutting consideration of water and gender issues. There are no projects, funding, policies or data that specifically address gender issues in the water sector. Although there are women employees (almost half of the council's employees are women, and two out of six departments are run by women - as of 2024) and they take part in municipal committees (the municipal committees on health and education, and social and religious affairs are run by women), municipal action on the promotion of women in governance remains disorganised, preventing structured coherent political action.

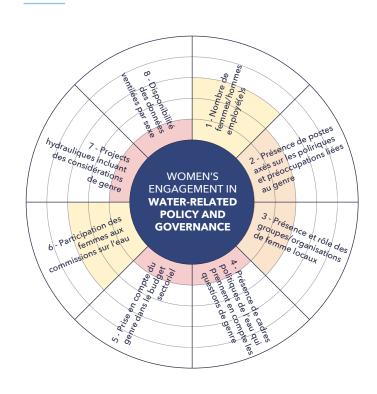
Yet, the municipal authority's action is financially supported by the Regional Development Fund and the Directorate General of municipal authorities, as well as by gender promotion instruments such as the Gender Institutionalisation Strategy and the gender sectoral units within the ministries. Interviews with members of the municipality showed the importance of setting up a monitoring and evaluation unit that also takes account of gender indicators and criteria in the various sectors.

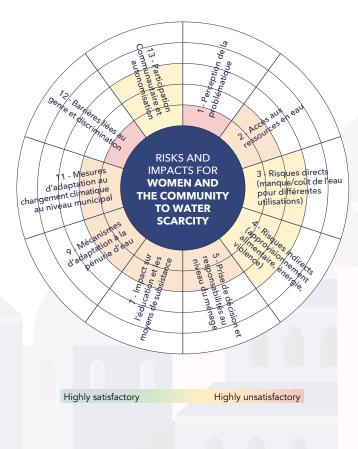


Strong community life in Sebkha, but lack of visibility

In Sebkha, the presence of civil society organisations campaigning for women's rights is remarkable. Their commitment testifies to a strong dynamic in favour of equality and the empowerment of women in the community. However, the assessment shows that most people are unaware of the existing initiatives and associations. The presidents and members of these associations experience difficulties and see a lack of results of their efforts, stressing that their limited capacity for action - due to limited human and material resources - often makes them and their action invisible. In addition, these organisations are numerous but too dispersed, with very little exchange and interaction between them.

HER4WATER PROFILE OF SEBKHA BASED ON THE PARTICIPATORY ANALYSIS







Water supply mainly from water kiosks

Around 10 water kiosks, including 7 formal ones, supply water to residents. The survey revealed that 75% of the participating households obtain their water from water carters, who are the main customers at the water kiosks. Even households connected to the public network use water carters because of the limited reliability and frequent interruptions of the network. Domestic water storage is therefore commonplace, even for those connected to the network. In short, water kiosks and water carters remain the main source of water for the inhabitants of Sebkha.



Inequalities between women and men in the opportunities and responsibilities associated with water management

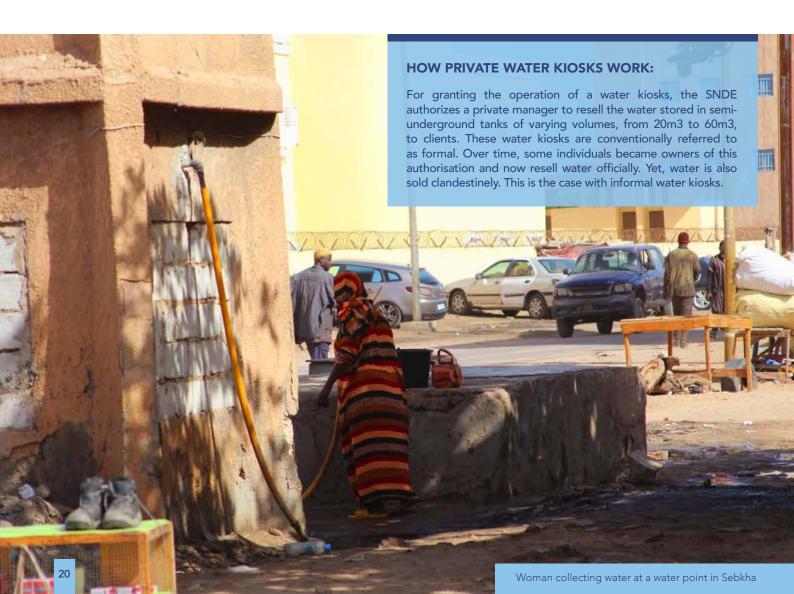
The majority of water kiosks are managed by men, with only one woman manager in the entire municipality. As a result, women are excluded from the water selling system and business, not earning any income from it. Paradoxically, as they are spending relatively more time at home, they are the ones who take responsibility for managing water, from collecting it to using it for everyday tasks. They are responsible for rationalising water use, storing it and obtaining supplies from water kiosks, while the management of sales outlets, resale

and distribution are almost exclusively controlled by men. Financial management, meanwhile, is generally entrusted to men, placing an additional burden on women, particularly in single-parent households headed by women, who often suffer from a lack of stable income. These gender inequalities in the water sector are likely to increase if improvements are not made to the distribution service and governance of the sector.



High costs due to droughts and private water kiosks

The majority of the population of Sebkha, particularly women, face higher costs due to the rising price of water when they buy it from water carters or directly from the water kiosks. Because of speculation by vendors, seasonal variations in prices, and water cuts due to structural problems in the distribution network, prices charged by water carters and kiosks are on the whole 3 to 10 times higher than SNDE prices. However, while the purchase of water from water carters can have disadvantages, the quantity of water transported by water carters is greater than that transported by a person walking on foot. The analysis revealed that the high cost of water access, the longer distances and hotter climate impose constraints on women's subsistence activities, such as dyeing and tending their market gardens.



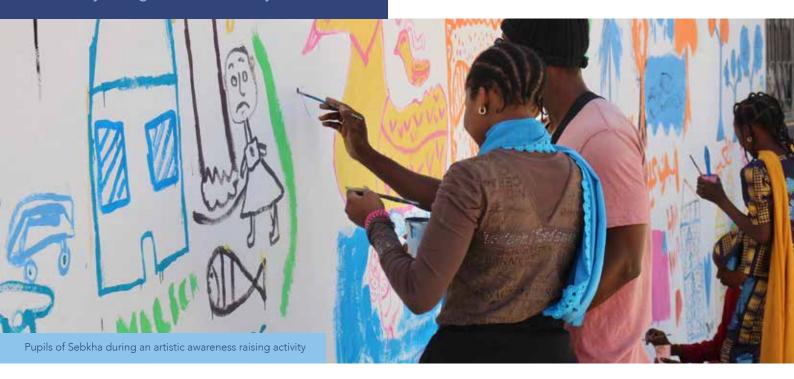
A major challenge identified by the women is the difficulty of ensuring safe water treatment throughout the distribution chain: problems occur at the water kiosks managed by the officials, during transport by water carters, and in storage at home. The large amount of stagnant water near the water kiosks exposes clients to bacteriological contamination and

contributes to the spread of water-borne diseases. The infiltration of pollutant-laden rainwater amplifies this risk of contamination. Further, the survey among water carters revealed that these mainly use iron barrels for transportation, which they seal with inappropriate cloth. This causes the barrels to rust, releasing iron into the water through oxidation.

"I painted a tap without water, because there is no drinking water here."

— Boy during awareness activity

At household level, the assessment revealed that water storage and handling conditions, especially bleaching, are often carried out without sufficient knowledge of sanitary conditions. This way, storage itself becomes a source of contamination, particularly when exposed to sunlight. The longer the water is stored, the more its quality deteriorates.





Weak capacity to respond to flooding

Despite the presence of a few rainwater retention basins in Sebkha, they remain ineffective due to lack of maintenance, making them unsuitable for collecting rainwater and preventing flooding. The poor drainage system also poses a number of challenges. The stagnation of water in public spaces makes the streets of Sebkha impassable for several days and increases the risk of diseases transmitted by insects. The lack of maintenance of public spaces, combined with the weakness of the waste collection and management system, amplifies the damage caused by flooding in Sebkha, as in the other municipalities in Nouakchott. The participants in the analysis state that the 'floating rubbish' that accumulates on the surface of stagnant water during rainy episodes



exposes the community to problems with multiple health, environmental and aesthetic repercussions.



Measures adopted to adapt to climate risks

To cope with water shortages and periods of flooding, women put in place a number of adaptation measures. In the event of water shortages, many women make an extra effort to find water carters who will sell water at lower, more reasonable prices. They also buy water in cisterns shared among several households and ensure that it is stored and used cautiously. These measures are often perceived as unsatisfactory and very restrictive. Bleaching water is a widespread practice among women to rid the water of bacteria and other harmful substances. However, the bleaching process is often not done properly. Moreover, as an adaptation measure during the rainy season, when water floods the streets and public spaces, citizens use deadwood to navigate around stagnant water. Blocks of pebbles and sandbags are used to dam up the water. Some neighbourhoods also collect money to hire motor-driven pumps to remove the stagnant water, which is also the main measure applied by the municipality to clean and drain water from the streets.



The lack of sanitation is very badly perceived by the population because of the heavy toll it takes on their daily lives. It impacts them at different levels: health, with the formation of insect breeding grounds and public hygiene problems; environmental, with flooding due to saturation of the soil by undischarged wastewater; and socio-economic, with the abandonment of homes due to insalubrity and the presence of wastewater in urban areas, which reduces property values. To cope with this shortage, and while waiting for safe sanitation to be put in place, local residents dig pits that increase the risk of contamination of the water table close to the ground, contributing to flooding every rainy season. Over time, these pits fill up more and more quickly and are no longer able to store the discharged wastewater. Families empty the pits manually on the spot, without any protective equipment. Some, more well-off, families use motorised emptying services.



POLICY AND PROGRAMMATIC RECOMMENDATIONS

While women often assume responsibility in practice, their participation in decision-making within communities and households remains insufficient. This makes access to water for the women of Sebkha a key issue for the community. The recommendations are therefore numerous and relate as much to water management at household level as to advocacy, awareness-raising and the mobilisation of civil society on the subject in general, and finally to the involvement of the public authorities in

the overall improvement of public spaces and the quality of service provision in the municipality.

It should also be noted that the socio-economic and urban deprivation of Sebkha are aggravating factors in terms of access to water, and for which more cross-cutting actions are needed (waste management, rehabilitation of roads, improvement of social, educational and health facilities, etc.).



With public authorities

- > Improve water supply to homes and extending the network in marginalised neighbourhoods
- > Promote the construction of new water kiosks, involving women as key actors in their management and governance, and ensure the maintenance and accessibility of the sites on which the water kiosks are built
- > Rehabilitate public spaces around water kiosks to be accessible and responding to the needs of women and their families
- > Establish an effective mechanism for monitoring the quality of water sold at water kiosks and by the water carters
- > Renovate and make the municipality's various rainwater storage basins usable, and anticipating the rainy seasons by cleaning the rainwater collectors and tarmacking the access roads
- > Raise awareness of gender discriminations among municipal employees to facilitate the creation of inclusive urban projects, and encourage behavioural change
- > Involve citizens more closely in the management of public spaces and basic infrastructures, for example by creating a collaborative platform to facilitate their participation and involvement in local public affairs
- > Increase exchange and discussions on sustainable water management with other municipal authorities to learn from their experiences
- > Set up an urban project monitoring and evaluation unit that also accounts for gender-specific indicators across the various municipal fields



For the household level

- > Advocate for greater involvement of women in water management and strengthen their role as decision-makers within households
- > Support the creation of income-generating activities in the vicinity of water kiosks, such as sales kiosks run by women
- > Raise awareness and build the capacity of women in techniques for testing water quality, as well as in appropriate methods for transporting and storing it
- > Consider water as a basic service, on a par with education and health, in order to stimulate community involvement on the matter



With community stakeholders, specifically CSOs

- > Strengthen efforts to raise awareness among the population in order to promote sustainable and inclusive use of urban space
- > Organise 'Climate and Water Awareness Day' type activities to educate households about the various climate challenges and measures to adapt to them
- > Facilitate opportunities for exchange and the creation of a network of associations to improve improve their project management capacities and promote visibility

THE FIRST COLLECTIVE WATER KIOSK, CO-MANAGED BY WOMEN AND THE MUNICIPALITY

As part of the Women and Sustainable Cities programme, the first community water kiosk will be built in Sebkha in collaboration with the municipality.

Access to drinking water: The innovative, model water kiosk, built in partnership with the municipality of Sebkha, responds to the immediate need of mitigating drinking water shortage, the resulting various health, economic and environmental impacts, and the lack of modern infrastructure capable of supplying water in sufficient quantity and quality to the population of Lkouve.

Management by women: The water kiosk will be jointly managed by the municipality of Sebkha and women from the community. The initiative, thus, promotes the empowerment of women in local water governance. The women and members of the management body will receive support and training to ensure the technical and economic sustainability of the water kiosk.

Economic empowerment: As operators of the water kiosks, women are able to generate economic income, strengthening their financial independence

socio-economic position within the community. In addition, a space dedicated to the sale of consumables will create local employment opportunities, particularly for women, and strengthen the local economy.

Inclusive space, meeting women's needs: Transforming the area around the water kiosk into an inclusive and safe space for women will provide them with a place where they can gather, exchange ideas and take part in various community and economic activities.

Safe access and hygienic conditions: The installation of solar street lighting will allow safe use of the space after darkness. Strict hygiene standards will be put in place to ensure a clean and healthy environment. This includes, for example, waste management facilities and hand-washing stations to maintain cleanliness and promote good hygiene practices among users.

The initiative aims to involve women and the municipal authority as co-managers, while targeting around 1,000 households in Lkouve as water buyers. It also includes the water carters who buy the water for distribution.





FIGUIG: MANAGEMENT AND CONFLICTS OF WATER USE IN AN OASIS

Figuig, a town of around 12,000 inhabitants in the arid eastern region of Morocco, has a desert climate. Temperatures range from 3°C in winter to 45°C in summer. The town receives around 125 mm of rain a year, but only between 20 and 30 days of rain between October and January. Geographically, this 200 km² oasis is located in a mountain cove. Its water resources are becoming increasingly scarce and degraded as a result of climate change, which threatens the future of the town and its inhabitants.

Figuig's ecosystem is unique, centred on water. The traditional irrigation system is based on the direct capture of water from 22 springs fed by an underground aquifer. Some of the water is transported underground and distributed through a network of basins and canals, managed by the community according to principles of collective ownership and solidarity. This know-how has been recognised by the Food and Agriculture Organization of the United Nations (FAO) as a key element of the world's agricultural heritage.

Today, these springs are facing threats from water stress and climate change, leading to a reduction in their flow: between 1998 and 2023, spring flows fell considerably, from 80 litres per second to the current range of 20 to 50 litres per second. Urbanisation, overexploitation and pollution of resources are exacerbating the situation, threatening emblematic sites such as public washhouses, once at the heart of social life.

Drinking water in Figuig, on the other hand, is managed by the municipal authority, which uses a gravity-fed network fed by two natural springs, enabling 89% of households to be connected. However, water consumption exceeds the daily average of 70 litres per inhabitant, reaching 136 litres per inhabitant due to the irrigation of date palms, flat-rate pricing, and a lack of effective monitoring of the network. Faced with urban growth and increasing demand, the municipal authority is considering transferring drinking water management to a regional multi-service company (société régionale multiservices - SRM), which is supposed to better manage the infrastructure. However, civil society, particularly women's groups, is concerned that this transition could compromise the water sources used for irrigation, which led to political tensions in the city in 2023-2024.

The participatory analysis in Figuig took into account the uniqueness of water management in an oasis, where the use of water for agricultural activities strongly influences access to drinking water and its domestic use. The aim was to understand women's involvement in overall water management.



12,000 INHABITANTS



DESERT CLIMATE3°C IN WINTER
45°C IN SUMMER



SPRING WATER
SUPPLY SYSTEM
MANAGED BY
COLLECTIVELY BY
THE COMMUNITY

A main road in Figuig



KEY RESULTS OF THE PARTICIPATORY ANALYSIS ASSESSING WOMEN'S INVOLVEMENT IN WATER GOVERNANCE AND THE RISKS OF WATER SCARCITY IN FIGUIG



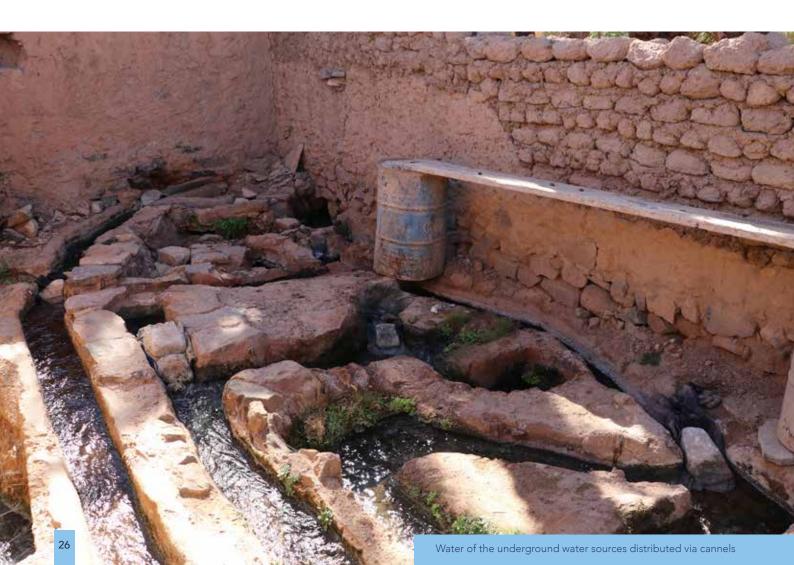
Access to drinking water in Figuig is fairly satisfactory for the local population. The drinking water network is widespread in the urban areas, but nomads living on the outskirts of the town still rely on two public standpipes for their daily needs. Used not only for drinking water but also for agriculture, as well as because of a flat fee for water, water has been heavily over-consumed in recent years. Although citizens are aware of the problem, the rate of water depletion is outstripping the process of behavioural change.



In Figuig, the management of spring water, which is crucial to agriculture and the date palm grove, is dominated by traditional practices handed down from generation to generation, but controlled exclusively by

men. Although women make up 55% of the population, they are largely excluded from decision-making processes concerning community water and irrigation. Their role is limited to the use of water for domestic and agricultural activities, while land and water rights are reserved for men. The transfer of management to the Agricultural Water Users Associations (Association d'Usagers des Eaux Agricoles AUEA) and the creation of a local water council have not improved women's representation, due to cultural barriers and discriminatory social norms.

At the same time, the governance of drinking water in Figuig, administered by the Local Council, has significant shortcomings when it comes to considering gender-specific challenges and gender mainstreaming. The sector's policies, budgets and projects do not reflect women's needs and perspectives, although the uprise of local initiatives and women's groups could potentially change the situation. Moreover, despite national quotas for women's representation, their influence remains marginal.





The analysis revealed that women remain particularly dissatisfied with the lack of community participation, the gender-related barriers that hinder their participation, and the unequal sharing of responsibilities within households. They expressed deep dissatisfaction with local initiatives to tackle climate change, highlighting in particular the lack of communication about decisions taken at community and municipal level. They also deplore the inadequacy of training and education on climate challenges and how to tackle them. They feel that a lack of awareness and technical skills hampers their ability to adapt effectively to water shortages. In addition to the lack of economic opportunities, the lack of community participation is seen as a major challenge. The traditional roles assigned to women, including the disproportionate burden of responsibility not only for housewives but also for women engaged in economic activities and in civil society, limit their equal participation in the various aspects of social and economic life.

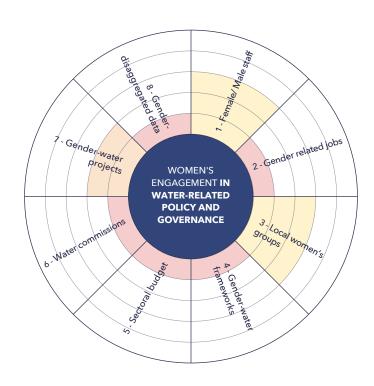


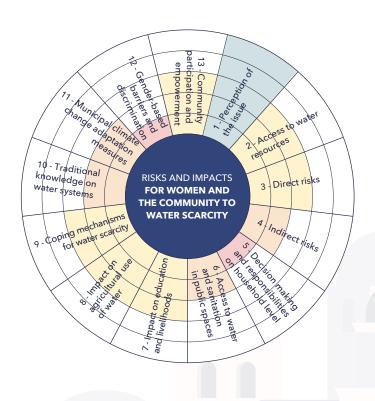
Washhouses and public spaces do not meet women's needs

In Figuig, the spring water is used to irrigate the palm grove, but also to supply the washhouses and other public basins. The people of Figuig, particularly the women, use these infrastructures - the community springs, the Saguia networks and the public washhouses - for various domestic needs, such as doing laundry and washing carpets, as well as for their farming, food processing and craft activities. Traditionally, public baths and washhouses have also been used as places for refreshment, gatherings and meetings. The use of public washhouses represents an additional traditional technique for adapting to water shortages.

Without influence over the distribution and use of water in the washhouses, women are excluded from decisions on the management, maintenance and access to these facilities. Although some informal arrangements exist to promote women's access to existing washhouses, Agricultural Water User Associations - made up exclusively of men remain the governing body for washhouses and spring water. Because of this lack of participation and formal commitment, many of Figuig's washhouses and public spaces do not meet women's needs either, and access to

HER4WATER PROFILE OF FIGUIG BASED ON THE PARTICIPATORY ANALYSIS





Highly satisfactory Highly unsatisfactory

these spaces is thus a particular point of dissatisfaction for women. According to the women, the washhouses need to be improved to ensure that they are safe and healthy to use. They criticise the lack of taps and toilets, the lack of lighting, and the lack of appropriate changing rooms.

Additionally, the pollution of water resources, on the one hand by poorly maintained septic tanks, and on the other by effluent from the washhouse used mainly by women, remains a major issue for all users of spring water, but especially for the Water User Associations responsible for water quality. The complexities around these matters result in an increasing number of conflicts between different actors, particularly women and users' associations. Many of the washhouses are therefore often under risk of closure, which would also mean the loss of important social spaces.



In practice, women are in the best position to see the impacts of climate change and are fully aware of its challenges. They have observed an alarming decline in the flow of water sources over the last few decades, exacerbated by recurrent droughts. This scarcity of water directly affects agricultural production, food security and other economic activities vital to women, such as agri-food and handicrafts. It has also indirectly led to higher food prices and increased migration of men to other regions in search of better opportunities, leaving women to take on more responsibilities in the home. In addition to the water shortage, citizens say they are increasingly facing the risk of sandstorms and high winds in Figuig, compounding the difficulties they already face.



POLICY AND PROGRAMMATIC RECOMMENDATIONS

Based on the findings presented above, this section explores and recommends potential interventions that address the key challenges women face in accessing, managing and governing water in Figuig. These recommendations are also the result of multiple meetings and working sessions with women and local stakeholders.

The multiple problems and challenges encountered by the women of Figuig are rarely addressed by isolated or short-term interventions. The following recommendations are therefore divided according to the respective target group.



Towards households, particularly women, civil society, and the community-centred agricultural water user associations

- > Increase awareness of women's active participation in sustainable water management, including promoting the economic empowerment of women in this area
- > Promotion of women to the management of agricultural water users' associations, to the local water council and to water-related decision-making positions within the municipality
- > Support the promotion of responsible and sustainable water use practices, including water saving techniques, water purification and reuse measures
- > Increase the participation of women in decision-making, governance and maintenance of washhouses, and design washhouses that are responding to the needs of the community, and particularly women
- > Build the technical, institutional and financial capacity of women already involved in administrative bodies to become influential leaders capable of defending women's interests and promoting inclusive participation in decision-making
- > Raise awareness of the pollution of irrigation and public water infrastructures (*Sagueas*, storage basins and women's washhouses), as well as pollution mitigation measures



Towards public authorities

- > Strengthen the participation of women in the management of municipal affairs and the governance of local resources, particularly water
- > Strengthen gender mainstreaming across municipal affairs and integrating gender considerations in the development of community action plans, budgeting, design, and implementation of hydraulic projects
- > Co-design inclusive public spaces and promote washhouses that ensure safe access for women
- > Improve communication, promote transparency and and information sharing to the public about the management of municipal affairs, including the governance of water resources
- > Promote Figuig's water heritage, culture and history to create opportunities that support the economic independency of women
- > Initiate a discussion on inheritance rules to grant women greater rights in the management of spring water



The Women and Sustainable Cities programme in Figuig supports women's political leadership and thus responds to an urgent need to promote better representation of women in the city's water governance bodies. It seeks to support their participation as candidates in the Local Water Board elections scheduled for 2025.

In collaboration with civil society and local Agricultural Water Users Associations, the pilot project aims to include women in decision-making processes concerning the management of agricultural water for agriculture. Therefore, initially, women's participation in existing water user associations in Figuig is fostered, in order to consequently promote their representation on the local water council, which is made up of members of these associations.

Support for women includes programmes on professional development, negotiation and decision-making. In addition, a mentoring and exchange programme enables the participating women to connect with female leaders in regional and national water policy. Activities among members of the Agricultural Water User Associations and the water council seek to raise awareness for increased representation of women in these bodies.





TRANSFORMING THE PLACE AJDIR INTO A MORE INCLUSIVE SQUARE FOR WOMEN

In collaboration with the municipality of Figuig, Place Ajdir will be developed into a more accessible and welcoming space, integrating water sources harmoniously and meeting the specific needs of women and families. The community, and in particular the women, are actively involved in defining the priorities for this rehabilitation.

The modernisation of the infrastructure aims to improve the accessibility and functionality of the square, with a focus on lighting for safety, pedestrian paths, street furniture and children's play areas. The transformation will provide spaces for women and children to relax, while strengthening community links within the oasis.





INVOLVE WOMEN IN THE MANAGEMENT OF THE HEMAM FOUKANI WASHHOUSE AND IMPROVE ITS INCLUSIVENESS AND ACCESSIBILITY

Strengthening climate resilience of women and girls: The Hemam Foukani washhouse is being renovated to better meet the needs of women by improving access to a safe water point and refreshment area. The renovation prioritises inclusiveness, safety, hygiene, and comfort through close collaboration with the community.

Inclusive and safe design: In consultation with the community, the washhouse will be designed to meet the specific needs of women, such as ensuring easy access, adequate lighting and appropriate changing and sanitary facilities.

Women-led management entity: The creation of a women-led entity to manage this washhouse strengthens the role of women in its governance. Through this entity, women will take part in decision-making, e.g. concerning the maintenance and opening hours of the wash house, and will also assume specific responsibilities, such as preventing pollution of the water used for irrigation.



CROSS-CUTTING
PERSPECTIVES
AND ASSESSMENT



Based on participatory studies in three cities in the North African region, the regional programme Women and Sustainable Cities has produced gender-sensitive data on the water sector, highlighting both the risks and impacts of shortages for women and their role in water management and governance. The implementation of the first component of the programme has increased the consideration gender issues promoted action to encourage women's participation in the water sector and in water governance.



The three cities in the programme each have distinct characteristics regarding water management challenges in the context of climate change: water shortages and cuts despite traditional knowledge and techniques for collecting and storing water in Kairouan, issues of access and quality of water from standpipes in the unconnected neighbourhoods of Sebkha, and finally, conflicts of use in the agricultural oasis in Figuig. The study highlighted the concerns and needs of women, leading to the identification of projects aimed at empowering them in the governance and sustainable management of water,

which will be implemented during the second half of the project.

Across the board, the analysis of the dynamics of women's governance involvement and their vulnerability to climate change and the risks of water shortages also reveals similar trends. Despite differences in issues and governance contexts, gender-related barriers in the water sector are representative of a socio-cultural context and public policies that are still not very sensitive to the subject.



CULTURAL BARRIERS AND LOW FEMALE REPRESENTATION IN WATER GOVERNANCE

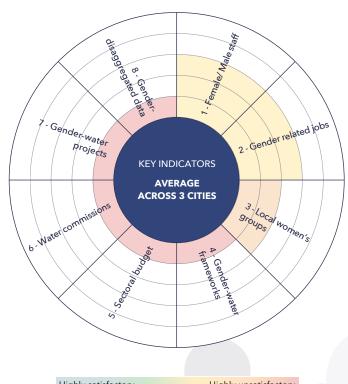
Across the cities, there are gender inequalities when it comes to women's involvement in the sector. Although women are on the front line of water management at household level and are suffering the impacts of climate change, they remain very little involved in decision-making at municipal level in the three cities.

It is true that women have a relatively satisfactory presence in local administrations, commissions and committees, but these are only quantitative indicators and do not guarantee the promotion of gender equality in governance and politics. Many of the existing governance bodies are little known by the local population and civil society has difficulty in making their voices heard in decision-making circles. There are some militant initiatives emerging, but they remain scattered. This is consistent with the broader data on gender equality in the MENA region: although progress has been made with a 3-point increase in the SDG gender indicator between 2015 and 2022, and the principles of equality, parity, and non-discrimination are enshrined in legislative and regulatory frameworks, these countries remain at a 'low' level in reality, with a score of only 46 for Mauritania, 66 for Tunisia, and 68 for Morocco.³ In other words, the water sector is not immune to broader, macro trends, and encounters cultural barriers regarding the place and role of women in society.

On a more qualitative level, there is a very low level of consideration of gender-related issues in jobs, policies, budgets and projects in the water sector. The role and place of women in the day-to-day management of water resources and its uses are still insufficiently taken into account in decisions and intervention strategies. The lack of data, combining water and gender issues, contributes to making the problem less visible and tangible. To remedy this, it is necessary to raise awareness and strengthen capacities among professionals in the sector as well as of municipal authority

staff. In the long term, this awareness-raising should lead to policies, projects and budgets that include not only women, but also their concerns. Municipal authorities alone, often with limited human, technical and financial resources, cannot tackle the task alone, and the creation of a favourable environment, binding frameworks and incentives at national level will be necessary to support them in this change of institutional and political culture.

The following graph shows the average of the three cities for the Her4Water indicators assessing women's involvement and participation in local water governance.



Highly satisfactory

Highly unsatisfactory

WOMEN'S INCREASED VULNERABILITY TO WATER-RELATED RISKS

Because of the specific geographical, urban and socio-economic features of each of the cities, the situations and issues in terms of access, vulnerability and water shortages are very different. On the whole, however, it is women and girls who are particularly responsible for adapting to the effects of climate change. Particularly aware of the problems linked to water resources (quantity and quality), women are the first to suffer the consequences in their daily lives. This includes domestic burdens, their income-generating activities, such as farming in Figuig, hygiene challenges in the washhouses, and the poor conditions of the water points.

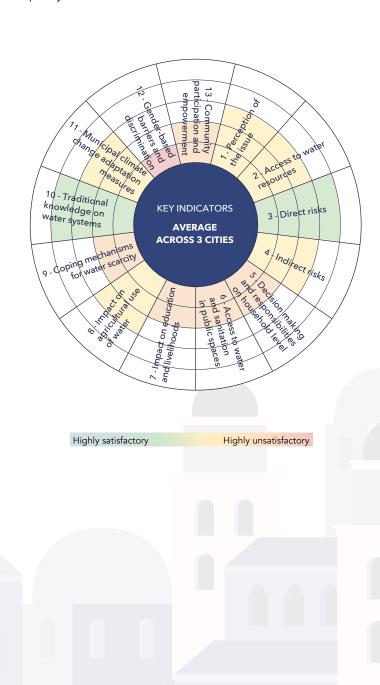
The most significant examples are: finding alternative solutions in the event of unexpected water cuts in Kairouan, carrying out water chores in Sebkha or giving up certain water uses in case of pressure on the resource in Figuig. This non-exhaustive list shows that women and girls are on the front line in the event of shortages. Their participation within households and communities is too low and out of step with their role and actual involvement.

With climate change, droughts, on the one hand, and heavy rainfalls, on the other, will worsen, and conflicts over water use will become more frequent. Women will therefore be increasingly vulnerable in their water management tasks. In the three towns, they are aware of the problems and of the direct and indirect risks and impacts on domestic, economic and agricultural uses, and of the challenges posed by access to water resources.

To meet these challenges, North Africa has traditional techniques, knowledge and a vast heritage that offers viable and sustainable solutions for adapting to the effects of climate change, particularly in terms of water management: cisterns in Kairouan, irrigation systems and washhouses in Figuig. These techniques, although well-known in the past, are now mostly neglected and no longer serve as coping mechanisms, especially in the face of new challenges such as the contamination of water resources and reduced or irregular rainfall.

Further, gender barriers and discrimination remain to exist. At an individual level, the risk of insecurity on the way to water kiosks in Sebkha and the risk of conflict within the household have a direct impact on women's ability to have safe access to water. At household and community level, women are also discriminated against: while they are in charge of management, they are not sufficiently involved in decision-making.

The graph below shows the average of the three towns for the Her4Water indicators, which measure the vulnerabilities and risks faced by women during periods of drought, as well as access to and quality of water.





TOWARDS PARTICIPATORY AND GENDER-SENSITIVE WATER MANAGEMENT



In the three project cities, although awareness of the vulnerabilities linked to access to water, sanitation and hygiene for women and girls exists, it remains underdeveloped. A need to raise awareness and make the case to communities and to professionals in the sector remains. Initiatives to mobilise women in the water sector exist, but they struggle to transform gender inequalities within households, communities and public authorities. It is therefore crucial to build the capacity of civil society organisations and public officials and to integrate a gender perspective into water sector policies, budgets and projects.

The Women and Sustainable Cities programme aims to initiate change by producing gender-sensitive data on the water sector, thereby revealing new societal and political issues. In this context, local NGOs play an essential role as implementation partners. Their direct

access to communities and their in-depth knowledge of local realities enable effective implementation and better adaptation of interventions to the specific needs of each region.

The pilot projects seek to actively involve women in decision-making and operations, and aim to contribute to positive social, economic and environmental impact. Traditional techniques have the potential to improve water management, particularly in a context of increased water stress. The pilot projects aim to empower women by harnessing their expertise in water management to ensure that public policies are better informed and more appropriate. In this way, Women and Sustainable Cities shows that more inclusive and participatory water governance could not only reduce gender inequalities, but also sustainably improve access to services and the management of water resources in critical situations.





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