THE RIGHT TO WATER AND CLIMATE CHANGE 2025 THE ARAB WATCH REPORT ON ECONOMIC AND SOCIAL RIGHTS

ON THE RIGHT TO WATER AND CLIMATE CHANGE IN TUNISIA

D. Hussein Al-Rihili

Specialist in development and resource management

The production of this report, including the national consultations conducted as part of its preparation, was supported by Nomad 08/ Observatoire Tunisien de l'eau

annd
Arab NGO Network for Development
شبكة المنظمات العربية غير الحكومية للتنمية

This report is published as part of the Arab NGO Network for Development's Arab Watch Report on Economic and Social Rights (AWR) series. The AWR is a periodic publication by the Network and each edition focuses on a specific right and on the national, regional and international policies and factors that lead to its violation. The AWR is developed through a participatory process which brings together relevant stakeholders, including civil society, experts in the field, academics, and representatives from the government in each of the countries represented in the report, as a means of increasing ownership among them and ensuring its localization and relevance to the context.

The seventh edition of the Arab Watch Report focuses on the right to water. It was developed to provide a comprehensive and critical analysis of the status of this right across the region, particularly in the context of climate change and its growing impacts. The information and analyses presented aim to serve as a platform for advocacy toward the realization of this fundamental right for all.

The views expressed in this publication are solely those of the author and do not necessarily reflect the positions of the Arab NGO Network for Development (ANND), Brot für die Welt, or Norwegian People's Aid.

The report is published by the **Arab NGO Network for Development** (ANND). It can be obtained from ANND or can be downloaded from the following website

http://www.annd.org

SUPPORTED BY

Brot für die Welt | Norwegian People's Aid

THE RIGHT TO WATER AND CLIMATE CHANGE 2025 THE ARAB WATCH REPORT ON ECONOMIC AND SOCIAL RIGHTS

ON THE RIGHT TO WATER AND CLIMATE CHANGE IN TUNISIA

D. Hussein Al-Rihili

Specialist in development and resource management

A specialist in development and resource management, Hussein serves as a manager in a private company while pursuing studies at the Faculty of Sciences of Tunis. His academic background also includes studies at the Higher Institute of Environmental Science and Technology in Borj Cedria and the National Engineering School of Gabès.

He has extensive experience as a trainer in various economic and development fields, as well as in resource management. His work also covers issues related to governance, local authority, and just transition in the context of climate change.

He has published numerous articles, research papers, and books. Among his key publications are: Development in Tunisia; The Tunisian Economy: Between Political Failure and the Dreams of the Poor; Water and Social Justice in the Mining Basin; Post-COVID Globalization; The Social and Solidarity Economy; The Future of Development in the Mining Basin; The Impact of Climate Change on Tunisian Oases; and World Bank Policies on Water and Sanitation in Tunisia. His most recent work (September 2025) is the book ***The Social State – Is It Achievable in Tunisia?***

CONTENTS

01

INTRODUCTION

The right to water represents one of the most important economic and social human rights. All international covenants and constitutions agree on the universality of this right and its essential role in human life. Therefore, it is not an act of generosity by governments or states to guarantee this right using all available means to uphold the dignity and livelihood of all citizens.

However, this universal right has become increasingly threatened in recent years due to water scarcity, resulting from climate change—especially in most Mediterranean countries. In fact, since March 30, 2023, Tunisian citizens have been living under a system of scheduled water cuts according to a predetermined timetable.

The government also approved a number of restrictive measures on the use of water in service sectors such as car washing, maintenance of green spaces and public parks, and other utilities that directly or indirectly impact the environment and cleanliness of residential areas. The effects of water shortages have also extended to the agricultural sector, as Tunisian authorities have implemented water cut measures in irrigated areas, impacting small farmers cultivating small plots of land to secure the minimum means of livelihood for themselves and their families.

02

THE GENERAL NATIONAL CONTEXT OF THE WATER ISSUE IN TUNISIA

The universal right to water for citizens is threatened, and thousands of small farmers are losing the ability to cultivate their land due to water scarcity and water cut policies. Meanwhile, state institutions continue to support water-intensive agricultural production intended for export, serving the interests of local and foreign capitals.

The current national circumstances Tunisia is experiencing are not a coincidence, rather the inevitable result of political, economic, social, and legislative policies and choices pursued for more than 60 years. These have always been guided by the conditions, instructions, and visions of loan grantees and financial donors, in addition to the effects of climate change on water resources in all countries.

The Tunisia 2023 National Water Report, issued by the Ministry of Agriculture and Water Resources, confirmed that rainfall decreased by about 20% between 2020 and 2023, which impacted the cash flow of dams and had a direct impact on the sustainability of drinking water supply—particularly for residents of 13 governorates.

Moreover, the new and evolving context of water scarcity and the expanding "map of thirst" at the national level is reflected in the Tunisian government's signing of agreements with several European countries concerning the production and export of green hydrogen. This comes within the broader wave of renewable energy projects, which, however, will come at the expense of Tunisia's already limited water resources—thus posing a direct threat to the population's right to water.

03

WATER AND HUMANITY: THE BEGINNING AND THE END

Water is a vital substance that has always been intertwined with human history; never has there ever been a civilization in human history that existed away from water and its sources. Therefore, modern scientific research, which intensified over the past twenty years, has focused all its efforts on studying water and its various forms.

Water's vital importance is not recent, nor is it merely a result of scientific progress. From the moment humans became aware of themselves and established the conditions for natural interaction with their environment, all aspects of life and development became rooted in the system of water. In fact, there can be no agriculture, construction, or industry without water — as if it has become life's beginning and its end.

If ancient humans built their civilizations around water, modern humans have established cities upon it. Water is no longer just a resource for household use; it has become a setting for diverse activities, such as living, tourism, and services. Thus, water has turned into an essential aspect of life and production, forming a complex and intricate bond between humanity and this essential element.

Tunisia's relationship with water is both exceptional and distinctive. Given its geographical location, it is a semi-arid country where annual rainfall does not exceed 450 mm per year. Consequently, Tunisia is a country marked by water scarcity, which explains why all civilizations that arose there settled near springs and water sources, or built routes, paths, and channels to transport it. The Romans, for example, constructed the aqueducts from Zaghouan — where the Roman Temple of Water still stands — to carry water to the capital, Carthage. Similarly, the Muslims built the great cisterns in Kairouan. As for the inhabitants of southern Tunisia, in order to adapt and cope with water scarcity, they ingeniously developed systems of basins to collect rainwater. Thus, Tunisia's water scarcity gave rise to a variety of hydraulic structures, each harmonized with the specific characteristics of its region. But one may ask: has this culture, so attuned to climate and the challenges of limited water, managed to endure?

04

CLIMATE CHANGE AND THE RIGHT TO WATER IN TUNISIA

CLIMATE CHANGE IN TUNISIA

Tunisia only contributes about 0.07% of global greenhouse gas emissions — according to the Ministry of Environment's report presented at the COP21 Climate Summit in Paris in 2015. Nevertheless, it is heavily affected by climate change, just like other Mediterranean countries on both its northern and southern shores. This impact is not something new; it dates back to the early 1990s. The United Nations Water Report, issued in March 1995 on the occasion of World Water Day, classified Tunisia among the 27 countries that had entered a phase of water stress[1].

Despite this early classification, both official and public awareness of these climatic changes only began to take shape in recent years, as successive droughts occurred, rainfall decreased sharply, and temperatures rose. This delay in awareness has already cost the country dearly — and will continue to do so — particularly with regard to the right to water.

In this context, and in order to provide precise scientific data on possible scenarios that Tunisia may face as a result of climate change, the National Institute of Meteorology carried out studies and research between 2014 and 2017, using the methodology of the Intergovernmental Panel on Climate Change (IPCC). This work led to the following results:

- Temperatures: An increase of 1 to 1.8°C at the national level by 2050
- Rainfall: A decrease of 1 to 14% at the national level by 2050

These results indicate that Tunisia will be highly vulnerable to the impacts of climate change, particularly in terms of rising temperatures. Rainfall is also expected to decline, with some regions potentially receiving up to one-third less than their normal precipitation.

THE IMPACT OF CLIMATE CHANGE ON WATER RESOURCES

The manifestations of climate change include two main elements: temperature and precipitation. Any change in the first element will have a direct impact on the second. Tunisia, like other countries around the world, has been experiencing the extreme effects and impacts of climate change for no less than 30 years.

Based on the 2020 and 2023 National Water Sector Reports in Tunisia, published by the Ministry of Agriculture, Water

[1] Water Stress: The extraction and use of groundwater in quantities exceeding its natural recharge capacity

Resources, and Fisheries in 2021 and 2024 respectively, the main impacts of climate change on water resources in Tunisia over the past five years can be summarized in the following table:

Table 1: the main impacts of climate change on water resources in Tunisia over the past five years

	2019	2020	2021	2022	2023
National precipitation rate (mm)	283	218	172	139	164
Dam inflows (million m3)	2575	791	804	1109	694
Inflows as a percentage of the normal average (%)	146	44	43	59	38
Average summer temperature (°C)	28.8	29.3	29.95	29.80	29.2
Volume of water evaporated from dams (million m³)	118	-	142	137	121
Rate of groundwater resource utilization (%) at the national level	125	128	136	139	133

Based on this data, it appears that the consecutive drought years from 2020 to 2025 have affected surface water resources, leading to a decrease in dam filling levels. Moreover, the rise in summer temperatures—which reached extreme levels on August 11, 2021, with a recorded shade temperature of 50.3°C in the city of Kairouan, according to a bulletin issued by the Tunisian National Institute of Meteorology on August 12, 2021—left a significant impact on the evaporation of dam water, which reached 142 million m³ in 2021.

The loss of water from dams was not limited to evaporation alone but also resulted from a decline in inflows. Compared to the normal average, inflows dropped from 146% in 2019 (the last rainy year) to 44% in 2020, reaching only 38% in 2023.

This decline in dam inflows is consistent with the decrease in rainfall since 2020, when precipitation measured 218 mm. It dropped to just 139 mm in 2022, the lowest level in the past ten years, according to the National Water Sector Report in Tunisia for 2023, issued by the Ministry of Agriculture, Water Resources, and Fisheries.

The data presented in the previous table indicate that Tunisia has entered a new phase of climate change impacts, characterized by the ongoing shift in the rainfall distribution map. The increase in rainfall levels has not been accompanied by a corresponding rise in dam inflows. This suggests that regions traditionally known for high rainfall have begun to lose their typical climatic characteristics. This pattern is evident from the previous table: in 2020,

[2] Tunisia has 37 large dams, 258 secondary dams, and 940 mountain lakes with a total storage capacity of approximately 2.35 billion cubic meters of water

national rainfall reached 218 mm, yet dam inflows did not exceed 791 million m³. In contrast, in 2022, rainfall was only 139 mm, but inflows reached 1,109 million m³. This indicates that in 2022, rainfall was concentrated in the far north and northwest, where most dams are located. In 2020, however, rainfall was more intense in the coastal regions, Cap Bon, and the southeast. A similar situation occurred in 2023, when total annual rainfall amounted to 164 mm, while dam inflows did not exceed 694 million m³. This demonstrates that climate change leaves multifaceted impacts on water resources in Tunisia.

The year 2024 was equally challenging, as the drought persisted, resulting in rainfall about 40% below the normal average, according to the National Institute of Meteorology's 2024 Climate Balance Report, released in March 2025. The continuation of these severe climatic conditions caused dam reserves to fall to low levels. These dams provide drinking water to roughly 13 governorates[3], serving a population of 7 million people.

DECLINING WATER RESOURCES AND THE RIGHT TO WATER: THE DIFFICULT EQUATION:

The right to water is a fundamental universal right, closely connected to the universal human right to life. This right has been recognized in all international treaties, notably in the International Covenant on Economic, Social, and Cultural Rights[4], Part III, Article 11, which pertains to the rights to adequate food, clothing, housing, and a decent standard of living.

The right to water became a constitutional right only with the 2014 Constitution, specifically Article 44. This recognition, however, was short-lived. Following the abolition of the 2014 Constitution and the adoption of the 2022 Constitution, the right to water was reduced to a duty of the state to provide it according to its means, as stipulated in Article 48: "The State shall ensure access to drinking water for all on an equal basis."

The right to water is not limited to drinking water alone, but also encompasses the water needed to ensure food, clothing, and the improvement of citizens' living conditions[5], regardless of whether they live in rural or urban areas.

However, focus is always put on drinking water, as it is essential to human life and well-being. This has led all countries to establish public institutions responsible for supplying drinking water to their populations.

Since 1968, a public institution called the National Company for Water Exploitation and Distribution was created in Tunisia to supply water to urban areas, i.e., cities only. Rural populations, on the other hand, were left to rely on traditional means for accessing drinking water.

However, with the development of rural areas, particularly from the early 1990s, the formation of rural settlements gradually replaced the traditional scattered and rudimentary housing (huts) of the countryside. Some of these settlements became connected to the public drinking water network. For the remaining rural population,

[3] The northwestern governorates, Greater Tunis, Bizerte, the central-western region, and the three governorates of the coast
[4] The International Covenant on Economic, Social and Cultural Rights was adopted by the United Nations on 16 September 1966 and entered into force on 3 January 1976.
[5] This refers to virtual water that a person benefits from without directly seeing it

the state established Agricultural Development Groups (GDA[6]) within a system of subscription-based access to drinking water, according to Order No. 74 of 1974 dated July 20, 1974, Order No. 958 of 1976 dated November 5, 1976, and Order No. 456 of 1997 dated March 8, 1997.

According to the National Water Sector Report in Tunisia for 2023, the number of subscribers to the public drinking water network amounts to 3.08 million (including households, industrial users, hotels, service outlets, and administrations), representing approximately 8.04 million citizens. This corresponds to nearly 100% coverage in urban areas (cities). In rural areas, the official figures in the same report indicate that 1.99 million people benefited from the public drinking water network in 2023. Additionally, around 1.54 million people accessed drinking water through Agricultural Development Groups (GDA). According to the same source, the number of people deprived of drinking water nationwide is estimated at approximately 200,000, all residing in rural areas. While this represents only 1.5% of the total population, the figure is striking considering it comes nearly 69 years after independence.

But does merely being connected to the public drinking water network, or to the rural water groups, automatically guarantee the enjoyment of the right to drinking water?

Enjoying the right to water is not simply an administrative or technical matter, such as connecting homes to public water networks. Rather, the right to water represents a state obligation to provide safe, good-quality water in a sustainable and continuous manner to all citizens on an equal basis. It also entails a duty for the state to allocate sufficient water to meet the population's needs for food, clothing, and a clean and healthy living environment.

Based on the above, the connection rates to the public drinking water network, whether in urban or rural areas—as outlined earlier and reported in the National Water Sector Report in Tunisia for 2023—do not necessarily mean that the practical enjoyment of the right to water is guaranteed. The decline in water resources over the past five years, primarily due to ongoing droughts, has forced the government to take measures that limit the population's access to water, particularly for drinking purposes and irrigation for small farmers.

In this context, and in light of the decline in dam reservoirs—particularly in 2023, which saw a significant drop in rainfall in the regions where most of the country's dams are located—the government took several decisions on March 30, 2023 to implement an austerity policy to address the water shortage caused by climate change. These decisions, announced in a statement by the Ministry of Agriculture and Water Resources and reported by the government news agency Agence Africa Tunis, can be summarized as follows:

- Implementation of a periodic daily cut-off of drinking water from 9:00 PM to 6:00 AM the following day
- Prohibition of using drinking water for cleaning, washing cars, or irrigating private or public green spaces
- Ban on irrigation water in many public irrigation areas, which are usually used by small-scale farmers.
- Prohibition on planting or cultivating water-intensive crops and vegetables.

Based on these decisions, it can be argued that efforts to confront climate

[6] Agricultural Development Cooperatives: These are organizations that bring farmers together to jointly provide irrigation and drinking water in their areas. The state drills the wells and hands them over to these cooperatives, which then oversee the management and administration of the water resources.

change and its effects on water resources have come at the cost of the population's right to water. Similar restrictions did not apply to hotels or industrial operators that consume large volumes of water, such as the textile, leather, and food processing sectors. Moreover, there has been significant overuse of groundwater by state-owned phosphate companies, both in extraction and washing processes as well as in processing activities.

These austerity measures in drinking and irrigation water continue to this day, further worsening living conditions and the quality of life for the population. The water cuts have not been implemented according to the schedule announced by the government. In many areas, water supply is interrupted for several consecutive days at varying times throughout the day. Some inland and relatively elevated regions have gone months without drinking water due to decreased pumping from groundwater wells, which have been affected by years of declining rainfall, especially in central and southern parts of the country. Consequently, the impact on the right to water, particularly drinking water, is no longer limited to areas supplied by dams; it now affects almost all regions.

To practically assess the decline in the enjoyment of the right to water due to climate change in Tunisia, we will rely on the data, statistics, and figures published by the Tunisian Water Observatory[7], affiliated with the "Nomad08" Association. This observatory is considered one of the most reliable and credible national sources, as it monitors water outages across most regions and tracks social protests related to the demand for the right to water.

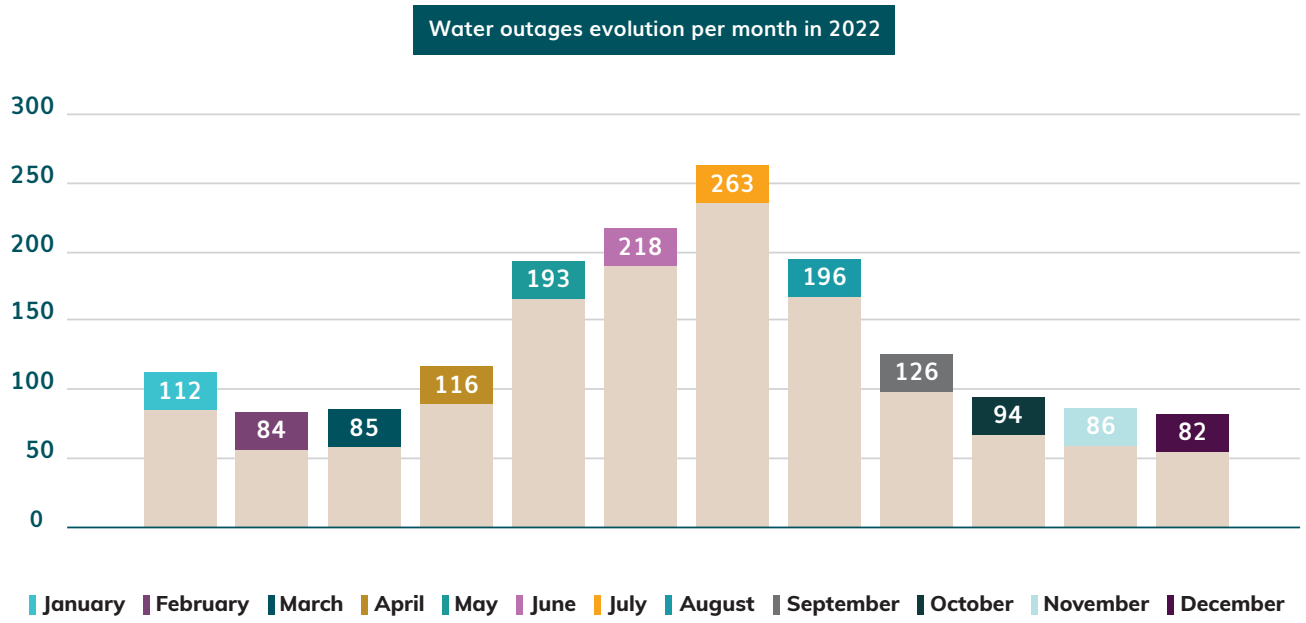
In this report, we will focus solely on the information published on the WATCH WATER application's website for 2022, 2023, 2024, and up to March 2025. The application's available data concerns water-related reports for the following reasons:

- Drinking water quality
- Leaking from channels
- Protests demanding the right to water
- Water outages

Given the large volume of data and figures on water outages available on the Tunisian Water Observatory platform, and considering the size of this report, we will present the statistics for 2022 by months to showcase the impact of climate change on the right to water.

[7] The Tunisian Water Observatory was established in 2016 by the association "Nomad08." It developed an interactive application, "WATCH WATER," for reporting water outages and protests demanding water. The application is available online at: WATCHWATER.TN

Figure 1: The following chart summarizes the increased water outages by month in 2022:



The chart clearly shows that the number of water outages increases sharply from May to September, coinciding with the peak summer demand for water—particularly drinking water—at a time when supply is reduced. This situation effectively forces the authorities to implement unannounced water cuts. These disruptions unsettle residents and significantly affect their daily lives, compelling them to forgo many activities and needs that rely on water. Moreover, the recurrent household water outages have driven many citizens to resort to temporarily storing water in containers and tanks, which in some cases may be unsafe or unsanitary.

Table 2: The following table summarizes the number of water-rights reports recorded during the past four years:

	2022	2023	2024	Up to March 2025
Number of reports	2299	1893	2693	419
Number of water outages	1655	1592	2153	361
Outages as a percentage of reported cases	72%	84%	79%	86%

The previous data and analyses confirm that climate change has significantly affected the population's right to water in terms of quantity. Has this climate change also impacted the quality of water?

According to the study I conducted, titled 'Water and Social Justice in the Mining Basin of Gafsa,' published in August 2018 by the German Friedrich Ebert Foundation and the Tunisian Water Observatory, 70% of residents in the mining basin do not use tap water at home for drinking due to its low quality, high salinity, and elevated carbonate content. Consequently, they are compelled to seek alternative sources of drinking water.

However, this situation is not limited to the mining basin region; the decline in drinking water quality has become a nationwide phenomenon, particularly over the past six years, coinciding with prolonged droughts and reduced rainfall. Lower rainfall decreases reservoir levels, and combined with high evaporation rates and the geological characteristics of the aquifers—which are rich in gypsum and salts—this increases the salinity of reservoir water due to both reduced volumes and higher evaporation. Consequently, the National Company for Water Exploitation and Distribution faces significant challenges in addressing these changes in water quality at the source.

In this situation, the quality of water in the public network has become unsuitable for drinking. This has led most Tunisian families to seek alternative solutions for drinking water. Consequently, bottled water consumption has increased among all segments of the middle class. Meanwhile, poorer and marginalized populations, who cannot afford bottled water, have resorted to purchasing water from itinerant vendors, whose sources are often unknown.

In this context, Tunisia ranked fourth worldwide in bottled water consumption per capita, with approximately 225 liters per person in 2020, according to the National Consumer Institute report (June 2021). This consumption has increased due to the deterioration of water quality caused by climate change on one hand, and the reduction of public investment in the water sector on the other, reaching 241 liters per person in 2024, according to the National Mineral Water Institute report (March 2025).

Private companies have emerged as the main beneficiaries of water scarcity and the deterioration of water quality, operating under state-issued licenses to bottle groundwater in regions experiencing severe shortages, where residents face persistent thirst and repeated water outages (for example, the governorates of Kairouan, Sidi Bouzid, and Gafsa: Tunisian Water Observatory – WATCHWATER. TN platform). According to the National Consumer Institute report (June 2021), the number of companies engaged in water bottling increased from six in 1989 to twenty-nine in 2020.

Climate change has had a direct impact on the right to water for all Tunisians, both quantitatively—through frequent and prolonged water outages—and qualitatively—through increased salinity and elevated concentrations of elements such as carbonates in drinking water. These new conditions have placed a heavy burden on both middle- and low-income families. The monthly cost of drinking water is estimated at around 135 Tunisian dinars, representing approximately 15% of the average household income in the public and private sectors, which does not exceed 924 dinars (according to the National Institute of Statistics report – June 2024).

In the face of this serious decline in the right to water, driven by multiple structural factors—particularly climate change—the state continues to rely on the same old approaches to managing the water situation. A strategic study on water in Tuni-

sia with a 2050 horizon[8], funded by the German government and approved during a national conference in December 2022, essentially replicated previous policies that have proven unsuccessful. These strategies focused on dam construction, seawater desalination, and the reuse of treated water. They are the same solutions proposed in an earlier study funded by the World Bank in 2009, which addressed water in Tunisia with a 2030 horizon.

The right to water is declining, and public policies lack any adaptation or resilience projects. But is water in Tunisia governed by legal frameworks capable of protecting this right for all residents during climate crises?

[8] Study: "developing the vision and strategy for the water sector, Horizon 2050- Ministry of Agriculture and Water Resources, in collaboration with the German Agency for International Cooperation GIZ- December 2022".

05

THE EVOLUTION OF THE LEGAL AND LEGISLATIVE FRAMEWORK FOR WATER AND ITS ECONOMIC AND SOCIAL IMPACTS

THE LEGAL AND LEGISLATIVE FRAMEWORK FOR WATER

Before the emergence of organized settlements and cities, early inhabitants lived around water sources and managed water consumption according to their essential needs, using various methods and tools, treating it as a shared resource. With the rise of cities, villages, and population centers, human approaches to water changed, shifting toward controlling sources and redirecting them for their own use, rather than seeking water as it naturally occurred.

The French colonization of Tunisia began in 1881, at a time when the country was divided among tribes across the national territory, each with its own pastures, lands, and water sources. Since the colonizers did not come for leisure or tourism but to exploit the country's resources and lands, little attention was given to organizing water management. As the saying goes, 'Whoever owns water owns power.' According to the study 'The Legislative and Legal System of Water in Tunisia: An Analytical and Critical Reading' by lawyer Ms. Ghazouani and development specialist Hussein Al-Rihili, published by the Nomad08 Association in 2019, the colonizers issued the first legal text in the country defining public ownership of water on 24 September 1885, to fully control groundwater and surface water sources. Any tribe wishing to access water was required to submit to colonial authority. Subsequently, the colonial legal framework concerning water expanded, with 15 decrees issued between 1885 and 1920.

After 1956, the independent Tunisian state issued four regulatory orders between 1958 and 1970 concerning water, particularly in the areas of water and soil protection. On 31 March 1975, the first Tunisian Water Code was enacted, which remains in force today despite the country's structural transformations in terms of demographics, living conditions, and economic and social choices, compounded by the impacts of climate change.

However, this Water Code was based on supply, assuming that water was available and that the state's role was merely to deliver it to the population. This approach encouraged agricultural and economic

policies that were water-intensive and inconsistent with the country's geographic reality as a semi-arid region. Consequently, a culture of water citizenship was absent, and a mentality of water wastage spread across all social groups without exception. The situation has reached the point where the Water Code is not even taught to law students. Moreover, the Code lacked prioritization, reflecting the 1959 Constitution, which did not recognize water as a constitutional right.

Based on this constitutional and legal framework, the right to water has not been guaranteed for the population in Tunisia since 1959, whether for drinking, agricultural activities, or livestock farming. Colonial policies continued even after independence, particularly in linking control over water sources with the allocation of fertile agricultural lands.

WATER AND LAND DISTRIBUTION OF AGRICULTURAL PROPERTY

Through the decree that defines public ownership of water, the colonizers identified the locations of surface and groundwater resources. They confined the tribes to arid and semi-arid areas, primarily in the central, southeastern, and southwestern regions, while dominating the fertile lands with abundant surface water resources in the northeastern, far northern, and northwestern regions.

After independence, the so-called agricultural disengagement was realized on 12 May 1964, which, in theory, allowed the return of agricultural lands to the people. However, following this disengagement, the government issued Law No. 28 of 1964, dated 4 June 1964, concerning the basic framework for socialist lands. These were lands historically owned by tribes during the colonial period, estimated at around 3 million hectares (56% of the country's arable land)[9] , spread across 13 governorates in central and southern Tunisia. During colonization, these lands had largely been reduced to grazing areas due to water scarcity. Under this law, however, the use of these socialist lands became subject to state control and licensing. Additionally, they were incorporated into cooperatives during the solidarity experiment, further complicating their management and removing them from the regular agricultural production cycle.

In contrast, the fertile lands in the north and northeast were restructured over large areas, with all grants, financial privileges, and water provision through the construction of dams, mountain reservoirs, and deep wells. This allowed large landowners to dominate both surface and groundwater resources, prioritizing export-oriented production to meet the demands of Western markets. Meanwhile, small farmers and owners of modest plots were marginalized as water resources gradually declined, leading them to abandon their lands and migrate to major cities in search of more secure livelihoods. Rural areas were neglected, and living conditions deteriorated, especially after signing the partnership agreement with the European Union on 17 July 1995. The logical outcome of this agricultural approach was that the country became a mere backyard for Western nations, producing with its water resources what these countries needed or did not want to produce themselves. Conversely, the Tunisian population became a consumer market for basic goods produced in the West—particularly cereals, animal feed, and vegetable oils—not to mention most manufactured and semi-manufactured products.

[9] Agricultural land in Tunisia represent 32% of the country's total area, which amounts to approximately 5.3 million hectares

06

PUBLIC POLICIES IN THE WATER AND SANITATION SECTOR: BETWEEN THE FAILURE OF LOCAL CHOICES AND THE DOMINANCE OF FOREIGN FINANCING PROMOTING PRIVATIZATION

WATER PUBLIC POLICIES

The water scarcity crisis in Tunisia is not inherently caused by climate change, but is primarily linked to public policies and economic choices; climate change has only served to deepen this crisis. These public policies, however, are not accidental—they are the result of carefully planned and systematic strategies by various foreign actors, particularly lending institutions, which have sought to define the overall framework for public policies in the water and sanitation sector in Tunisia.

Moreover, no regional water policies have been established to allow Tunisians to benefit from shared watercourses and deep aquifers with neighboring countries (such as the fossil Continental Intercalary aquifer)[10] . These policies were built on two levels:

Level 1

The focus was on drinking water, which has been prioritized since 1968 with the establishment of the National Company for Water Exploitation and Distribution, initially to supply major and coastal cities linked to tourism, and gradually extending to inland cities depending on annual budget allocations. Cities were supplied from dams, with water treated to reduce salinity, or from deep wells for central and southern regions. Rural areas, however, were left to traditional water sources, such as springs or communal taps in villages. As water issues in rural areas worsened, the National Company for Water Exploitation and Distribution expanded its mandate to cover some large rural settlements near cities, while other rural areas were assigned to structures called Agricultural Development Complexes, tasked with jointly managing water for both drinking and irrigation. These structures were polit-

[10] The Intermediate Continental Aquifer is a deep, non-renewable groundwater reservoir that spans Algeria, Libya, and Tunisia. According to the Sahara and Sahel Observatory, its reserves are estimated at approximately 60,000 billion cubic meters. This aquifer serves as the primary source of water for Libya's Great Man-Made River project.

ically appointed, often lacking competence or management knowledge, turning them into centers of corruption that misappropriated farmers' funds and failed to provide water. According to the latest 2023 report by the Court of Accounts, the debts of these structures—which numbered 2,600 drinking and irrigation water complexes in 2023—amount to approximately 450 million Tunisian dinars owed to the Tunisian Company of Electricity and Gas and the National Company for Water Exploitation and Distribution.

Over the past twenty years, with rising water demand and the expansion of urban and rural areas, combined with a decline in public investment due to the structural crisis in public finances, the infrastructure necessary for water transport and distribution has exceeded its lifespan. It can no longer cope with the high pressure on the public network. As a result, breakdowns and water leaks have become more frequent, leading to widespread service interruptions, especially during the summer, as highlighted in the second section of this report.

Regarding wastewater management, an essential service for the protection of water resources, it is still largely treated as a luxury in Tunisia. Public policies in the sanitation sector have historically not prioritized the safeguarding of water resources and their supplying basins. Since the establishment of the National Sanitation Office under Law No. 73 of 1974, dated August 3, 1974, efforts have primarily focused on coastal cities and tourist regions, rather than on the far northern and northwestern areas, which host the natural reservoirs of surface and groundwater resources.

According to the 2021 activity report of the National Sanitation Office, the number of wastewater treatment plants nationwide reached 125. The number of municipalities covered by the Office does not exceed 193 out of a total of 350 municipalities across the country. This corresponds to a connection rate to the public sanitation network of approximately 55.1%, while the actual rate of wastewater treatment does not exceed 46% (290 million m^3 treated out of 620 million m^3 of drinking water distributed annually).

Although the number of wastewater treatment plants increased from 5 in 1975 to 48 in 1995, reaching 125 in 2021, this quantitative growth in Tunisia's sanitation sector does not reflect a corresponding qualitative improvement in the level of treated water. The 2020 National Water Sector Report, issued by the Ministry of Agriculture and Water Resources, confirms that the national rate of treated wastewater reuse does not exceed 8%. This low reuse rate is due to the treated water not meeting Tunisian standards for reuse in the agricultural sector.

Level 2

This is related to the use of water resources across economic sectors, including agriculture, industry, and services. In this context, public policies have been based on economic liberalization strategies starting in the early 1970s, following the failure of the so-called "Solidarity" or socialist experiment[11](1961–1969).

Tunisia's economic liberalization policy in the early 1970s was driven by the new global division of labor, which positioned countries of the Global South and former colonies as the weakest link in

[11] The Cooperative Experiment refers to the period from 1961 to 1969 during which a socialist, cooperative approach to the economy was adopted under the leadership of the then–Senior Minister, Mr. Ahmed Ben Salah. The Cooperative Experiment was in fact the program of the Tunisian General Labour Union (UGTT), approved at its 1955 congress when Mr. Ahmed Ben Salah was serving as its Secretary-General.

terms of added value. As a result, industries that were water- and energy-intensive and highly polluting were shifted to these countries, which at the time were eager to attract foreign investment as a solution to development challenges and unemployment.

This new economic policy—often referred to as an exogenous growth model—relied on attracting foreign investment to produce export-oriented goods, whether industrial or agricultural. It was reinforced by the enactment of the April 1972 and April 1974 laws, which provided fiscal and financial incentives to foreign capital. In this framework, priority was given to industries with high water consumption, such as textiles, food processing, leather and footwear manufacturing, as well as phosphate processing and chemical production. Tourism was also heavily promoted, despite the significant pressure it places on water resources, given that a single hotel bed consumes approximately 500 liters of water per day—five times the average consumption of an ordinary citizen.

As for the agricultural sector, fertile state-owned farmland was allocated to both local and foreign investors, with guaranteed access to the water resources required for producing water-intensive, export-oriented crops. In addition, climate-controlled greenhouse technologies were used to enable off-season production. This production model consumes several times more water and energy than traditional open-field agriculture.

As a result of this policy orientation, the agricultural sector was transformed from one that produced for the domestic market to ensure national food self-sufficiency into a sector tasked with supplying the demands of markets in wealthy countries. Meanwhile, Tunisia began importing millions of dollars' worth of grains, foodstuffs, vegetable oils, and pharmaceuticals. Consequently, the national economy entered a closed and fragile cycle of indebtedness to cover chronic trade deficits, as the country consumed more than it produced and exported. Traditional agriculture was undermined at all levels: small farmers and cultivators abandoned their lands in search of alternative livelihoods, and traditional oases—once integrated economic, social, and ecological systems—were converted into palm plantations under the banner of agricultural investment for date export. This shift has led to the overexploitation of groundwater tables and reservoirs to produce olives, dates, strawberries, and water-intensive leafy vegetables destined primarily for export.

FOREIGN FINANCING FOR WATER: PRIVATIZATION AS A PRIORITY

Foreign financing for Tunisia—particularly multilateral funding—did not begin with the policy of economic liberalization. Rather, it dates back to the launch of the cooperatives experiment in 1961. The principal financier of this initiative was the World Bank, which provided funding amounting to 352 million dollars at the time, according to Memoirs of a Politician with Mr. Ahmed Ben Salah (the architect of the cooperatives project), as reported by Al-Chourouk newspaper on September 17, 2009.

The World Bank has continued its financing up to the present day, particularly for infrastructure projects, dams, and wastewater treatment plants. This has made the World Bank—according to the quarterly report published on the official website of the Tunisian Ministry of Finance (Finances.gov.tn) on the country's external debt—the

leading multilateral lender, accounting for 33.56% of all multilateral loans, with a total value of 9,456.9 million dinars. According to a study on the map of Tunisia's external public debt by Mohamed Haddad (April 2021), published by the Heinrich Böll Foundation, World Bank loans in the fields of water and sanitation from 1961 to date have amounted to approximately 4,383.33 million dinars, or about 1,423.15 million dollars today. Around 80% of these loans were allocated to the water sector, while only 20% went to sanitation.

According to the study "The Water and Sanitation Sector in Tunisia: Baseline Report and Action Plan" (OECD, March 2022), it becomes clear that projects related to wastewater treatment plants, main water conveyance pipelines serving public and private irrigation areas, and wastewater transport networks—along with water management and policy projects—absorbed 93.89% of multilateral foreign financing during the period 2017–2019. By contrast, projects related to citizen-level services in drinking water and sanitation, as well as initiatives for watershed protection, safeguarding water resources, and training and education in the water and sanitation fields, accounted for no more than 6% of total foreign financing in the sector.

Thus, we can conclude that public policies in the water sector have failed to achieve water security for the population, as well as food security. Foreign investments, for their part, have largely served projects that are amenable to privatization for the benefit of foreign capital. Although the World Bank has so far failed to privatize any part of the public water domain, it has succeeded in introducing what is termed "public–private partnership" (PPP) in Tunisia. This occurred through the establishment of a partnership between the National Sanitation Office (ONAS) and foreign private capital, represented by the French company SUEZ—known as a major water and sanitation conglomerate in Africa—via a loan amounting to 126 million dollars (approximately 377 million Tunisian dinars).

The project consists of upgrading, operating, and developing 15 wastewater treatment plants located in the governorates of Tunis and Ariana in the north, and Sfax, Gabès, Medenine, and Tataouine in the southeast. Its objective is to enhance wastewater treatment at these facilities by adding tertiary treatment so that the treated water complies with the standards required for its reuse in agricultural activities. (The details of this agreement were published on the official website of the Tunisian government — May 2023.)

WATER SCARCITY AND GREEN HYDROGEN POLICIES

Despite the water scarcity we are experiencing—an inevitable result of the failure of public policies in the water sector, further exacerbated by climate change—the ruling authorities in Tunisia, across successive governments, do not seem convinced that we are facing a severe water crisis that impacts citizens' rights to water and food. Instead, they have aligned themselves with the Western agenda, seeking to achieve the energy transition and carbon neutrality at our expense, relying on our increasingly scarce water resources.

The Ministry of Industry, Mines, and Energy has developed the "National Strategy for the Development of Green Hydrogen and Its Derivatives, Horizon 2050." Based on this strategy, an agreement was

signed in August 2024 with the French company HDF Energy to produce 1 gigawatt of wind energy, 500 megawatts of solar energy, and 800 megawatts for electrolysis, with the aim of producing 65,000 tons of green hydrogen.

This agreement will enable the company to construct a seawater desalination plant to produce the amount of green hydrogen stipulated in the agreement. However, neither the French company nor the Tunisian Ministry of Industry has accounted for the highly saline water discharged by this plant or its potential side effects on the Tunisian marine environment.

The Tunisian state, represented by the Ministry of Industry, has continued policies that contradict the reality of Tunisia's water resources. In September 2024, it signed a second agreement with four other foreign companies (German, Austrian, French, and Italian) to produce green hydrogen in six governorates in central and southern Tunisia. A vast area of land—500,000 hectares, equivalent to half the size of Lebanon—was allocated for the construction of power plants necessary for seawater desalination and green hydrogen production for export to their countries.

This national agreement culminated in a regional accord in January 2025 between Algeria and Tunisia on one side, and Germany, Italy, and Austria on the other, to construct a 3,300-kilometer pipeline to transport green hydrogen from North Africa to these countries.

Instead of working to find sustainable solutions to water scarcity, revising all failed policies, and implementing proactive climate adaptation programs in the water sector to ensure citizens' right to water in a sustainable and high-quality manner, the government is further deepening the water crisis and destroying what remains of our marine environment. All of this is being done to serve the energy transition and carbon neutrality goals of wealthy countries.

07

WHAT POTENTIAL SOLUTIONS CAN PROTECT THE RIGHT TO WATER UNDER CLIMATE CHANGE CONDITIONS?

The water crisis in Tunisia is structural, not circumstantial, and climate change is not the primary cause of the current water scarcity or the decline in citizens' access to clean water in sufficient quantities for basic life needs. It is also linked to the chronic failure to achieve food sovereignty, and, consequently, national sovereignty over our resources. Therefore, solutions must be comprehensive and aligned with our local needs and the limits of our water resources. They must first be strategic, guided by a clear political, economic, and social vision, before focusing on technical, organizational, or legal measures.

ON THE SCARCITY LEVEL:

It is essential to foster a comprehensive civic culture of water, promoting its rational and sustainable management. This culture should be deeply rooted in educational programs at all levels, supported by continuous media and communication efforts. It should also revive and value the traditional practices of adaptation and resilience that Tunisians have developed over time—such as the use of small irrigation channels (feskia, mawajel, Masqat) and farming methods suited to the local climate, soil, and water availability. In general, this calls for a revitalization of water awareness and culture among people.

REGARDING PUBLIC POLICIES AND ECONOMIC CHOICES:

- Reconsider the development model based on the illusion of exports
- Review the entire agricultural production map to make it compatible with new water challenges on one hand, and aligned with local and regional specificities on the other
- Prioritize water use to meet the basic needs of the population before considering exports, giving absolute priority to drinking water in both quantity and quality, through annual public programs and investments
- Incorporate the water footprint into the economic equation, especially in trade exchanges
- Prohibit the cultivation and production of water-intensive crops intended for export

- Ban the planting of any hybrid plants that require large quantities of water, regardless of claims about productivity or profitability, since financial gains cannot justify water waste and its "export
- Reassess the industrial sector that consumes large amounts of water, generates pollution, is intended for export, and has low added value, such as the food and textile industries, among others

REGARDING CLIMATE CHANGE:

- Initiate a comprehensive societal dialogue to define proactive programs and policies for vertical adaptation (economic sectors) and horizontal adaptation (natural resources such as water, soil, and air), considering seawater desalination as a last-resort solution rather than the easiest one, as is currently done due to its high energy cost. Future plans should focus on using renewable energy for desalinating saline groundwater
- Prevent the use of our country's water for producing green hydrogen for wealthy countries, which effectively "cleanses" their water for carbon neutrality at the expense of our water sovereignty
- Invest in the development of irrigated areas to avoid significant water waste, especially since these areas consume 77% of our annual water resources
- Diversify water resources by valorizing treated wastewater, oasis water, and urban water in cities
- Reassess policies and plans for mobilizing traditional surface water resources in light of climate change
- Invest in the renovation of aging drinking water channels, which have become sources of water loss and reduced water quality
- Issue a new Water Code that reflects the historical moment we are living through and frames the water resources sector in a way that serves the people and future generations, rather than treating water merely as a commodity to be sold to the highest bidder

08

CONCLUSION

The right to water is not a favor granted by the authorities to citizens; it is a universal right intrinsically linked to the right to life. However, due to the failure of policies and economic and social choices related to water resources, and in the face of accelerating extreme manifestations of climate change—such as rising temperatures and sharp declines in rainfall during frequent drought years—both surface and groundwater resources have diminished. As a result, the enjoyment of the right to water is now under threat, in the absence of adaptation policies and the continuation of the same failed economic strategies, which have turned the country into little more than a backyard for producing the needs of Western markets in particular, and foreign-demand markets in general, under the banner of "exports to generate foreign currency." This currency will not remain in the country but will instead be spent on importing food, animal feed, and medicine for the population.

Yet, despite the water scarcity we are experiencing and the blatant threat it poses to citizens' rights to sustainable, high-quality water, the ruling authorities in Tunisia insist on signing agreements that further deplete our water resources and endanger our aquatic and marine environment. These include green hydrogen production agreements that effectively turn the country into a platform for Western countries to achieve their energy transition and carbon neutrality—entirely at the expense of our fundamental rights to clean water and safe local food.

Climate change has only deepened the water crisis and scarcity, which are fundamentally the inevitable result of failed policies—policies that the country's rulers insist on reproducing under new labels.

REFERENCES

- National Institute of Statistics: Monthly Bulletin – June 2024
- National Consumer Institute: Monthly Bulletin – June 2021
- Mrs. Ghazouani: The Legislative and Legal Framework of Water in Tunisia – 2019
- Al-Shorouk Newspaper: Political Memos – 17 September 2009
- Nomad Association 08: Mineral Water Consumption in Tunisia: Reality and Prospects – July 2021
- Hussein Al-Rihili:
  a. Water and Social Justice in the Mining Basin – August 2018
  b. World Bank Policies in the Water and Sanitation Sector in Tunisia: Privatization over Fundamental Rights – September 2023
- Ministry of Agriculture, Water Resources, and Fisheries
  a. National Report on the Water Sector in Tunisia 2020 – June 2021.
  b. Study: Vision and Strategy for the Water Sector in Tunisia, Horizon 2050 – December 2022.
  c. National Report on the Water Sector in Tunisia 2023 – June 2024

The Arab NGO Network for Development
works in 12 Arab countries, with 9 national networks (with an extended membership of 250 CSOs from different backgrounds) and 25 NGO members.

P.O.Box Mazraa 5792/14 Beirut, Lebanon