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Water policy: will the new water code be able to respond to the water crisis in Tunisia?

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Recommendations

- Make it clear that water services must not be subject to Public-Private Partnerships (PPP). Water must be considered as a public good and not as a public service or a commodity.
- Specify the role of Agricultural Development Groups (GDAs) in protecting water and public domain infrastructure. They can have a mediating role between central structures and farmers.
- Review export and import policies for agricultural products, taking into account water resources. However, we must be careful with the concept of virtual water and rather use the water footprint concept.
- Make an agricultural map that take into account climate, water reserves, soil, food needs and sustainable resource development.
- Extend the valuation principle to all water resources in the new water code by taking into consideration the water footprint of products and the different kinds of water: green, blue, and grey water.
- Integrate climate change and take into account the high probability of an increase in extreme cases such as droughts and floods.
- The Ministry of Agriculture must publish a water strategy every 5 years.
- Give a more important role to the water council, which has been barely active since its creation. In addition to its role as an advisor, informant and monitor, it can take on the role of mediator with civil society and participate in the evaluation and drafting of Ministry of Agriculture water strategies. To do this, its members must be able to meet regularly and be provided with an adequate budget.

I. Introduction

Tunisia is facing the intensification of water cuts since 2016. While they started off generally occurring in the summer and limited to certain regions, these cuts have now spread throughout the year. They also currently take place across the entire territory, whether the regions have mobilizable water resources or not, as shown by the latest inventory of the Tunisian Water Observatory.¹ The average frequency of drinking water interruption is now more than once week.² These water cuts have become important triggers for social movements: in the summer of 2018, more than 180 protests took place on the basis of the drinking or irrigation water access. In the first half of 2019, water was also one of the major demands of social movements,³ with one difference: 2019 may be the year the water code is finalized.

Indeed, while the conclusions of the World Bank funded study on drinking water supply and sanitation in Tunisia were issued in 2009,⁴ its proposed reforms to the legislative framework were not implemented until 2014 with a first proposal for a new water code. The draft law has since been substantially amended, partly because of the UGTT's opposition to a number of articles.⁵ In May 2019, 10 years after the first initiative, and after the recent agreement between the UGTT and the Ministry of Agriculture,⁶ the final version of the water code has been submitted to the Ministerial Council. If approved, it will then be submitted to the Assembly of the Representatives of the People (ARP).

Would this new water code then be the appropriate legislative tool to get out of this water crisis?

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¹ عاشته بعض الجهات في ظل ارتفاع الحرارة انقطاع الماء.

² Observatoire social tunisien (2019). *Rapport du premier semestre 2019 des mouvements sociaux, suicides et violences*. FTDES N°70.

³ *Id.*

⁴ Banque Mondiale (2009). *Réflexion Stratégique sur l'Eau Potable l'Assainissement en Tunisie*. Rapport N°44744-TN

⁵ مشروع مجلة المياه: عقد من الانتظار في تونس تزداد عطشا

⁶ وزارة الفلاحة واتحاد الشغل... إمضاء اتفاقية توافق حول مجلة المياه

II. From the amendment to the complete overhaul, a new water code has been introduced

Tunisia's total renewable water resource is estimated at 4.8 billion m³ per year, with 2.7 billion m³ of surface water and 2.1 billion m³ of groundwater.⁷ About 450 m³ are available per inhabitant per year, which places Tunisia, according to the WHO, within the group of countries designated with very high water scarcity.⁸ In addition, water resources are very unequally distributed throughout the territory, with 81% of surface water located in the northern part, 11% in the center and 8% in the south.⁹ The annual average rainfall varies from less than 100 mm in the far south to more than 1500 mm in the far north of the country,¹⁰ which has led to the development of important water management and transfer systems. The construction of dams and hill lakes, as well as wells and boreholes, have enabled the control of surface and groundwater resources to meet the country's socio-economic needs since its independence. They have also ensured a certain interregional balance, with an impressive drinking water supply rate of 100% and 92% in urban and rural areas respectively, and the development of 435,000 hectares of irrigated areas.¹¹

Thus, since the 1970s, water resources have been systematically mobilized. This supply management policy on which the water code of 1975 is based, has led to a high mobilization rate, which reached 98% of mobilizable water resources in 2015.¹² In addition, this major water mobilization effort has led to the centralization of state water management, mainly led by the Ministry of Agriculture, Hydraulic Resources and Fisheries.¹³

However, water demand is set to increase in the coming years as a result of economic and population growth, as well as climate change, while precipitation will both fluctuate sharply and decrease overall. A study by the World Resources Institute (WRI) ranks Tunisia 33rd out of 167 countries that will be most affected by water stress.¹⁴ In addition, the infrastructure is in a great need of investment: in 2012 water losses in total production would have increased sharply (21.1% against 17.7% in 2008). Some regions have reported significant leaks, with between 30% and 50% of the water that passes through the pipes considered lost.¹⁵

In rural areas, water cuts are becoming more frequent, and 300,000 people still not have access to safe drinking water, with or without an individual connection.¹⁶

The question of Tunisia's water sustainability is therefore both relevant and urgent due to the limited room for maneuver that the country currently has with regards to its mobilizable water resources. On the other hand, the mobilization of non-conventional water resources, such as desalination, remains limited due to the significant environmental impacts of this technique¹⁷ and its unmanageable cost.¹⁸ In addition, the policy of water transfer between regions can cause problems between the same regions in the context of decentralization and the current availability of resources.

It is not enough to merely question the management models used to date, or make revisions to the current water code based solely on supply management, without taking into account the nature of the country's water resources and the climate change challenges it faces. These kinds of stopgap measures can no longer meet Tunisia's current and future water supply challenges, and could even exacerbate the situation. It is therefore more urgent than ever to adopt an appropriate legislative framework.

We can trace the efforts to revise the legislative framework to the 1990s, when a shift in approaches was adopted from a supply management policy to a demand management policy, which included water saving programs, participatory water management and a water pricing more correlated to operating costs.¹⁹

⁷ Ben Boubaker H. (2016). *L'eau en Tunisie: faut-il s'attendre au pire ?* Bulletin du CEMI et Konrad Adenauer Stiftung

⁸ Water stress threshold at less than 1000 m³/year/inhabitant, and extreme stress at less than 500 m³/year/inhabitant. World Resources Institute (2013). *Water stress country*.

⁹ Ben Boubaker H. (2016). *L'eau en Tunisie: faut-il s'attendre au pire ?* Bulletin du CEMI et Konrad Adenauer Stiftung.

¹⁰ Id.

¹¹ Ministère de l'agriculture, des ressources hydrauliques et de la pêche (2017). *Rapport national du secteur de l'eau*.

¹² Elloumi M., (2018). *Tunisie: Agriculture le développement compromis*. p. 34. Edition Nirvana.

¹³ Gafrej R. (2017). *Gouvernance de l'eau en Tunisie: étude de cas du gouvernement de Kasserine*. International Alert

¹⁴ World Resources Institute (2013). *Ranking the world stressed economies*.

¹⁵ [Tunisie : les pénuries d'eau déclenchent une vague de colère](#)

¹⁶ [L'accès à l'eau, une injuste répartition](#).

¹⁷ [Dessaler l'eau de mer: la solution du verre à moitié plein](#).

¹⁸ Ben Brahim Neji H., Del Saz-Salazar S., Besrouer A., González-Gómez F., (2017). *Estimating willingness to pay for desalinated seawater: the case of Djerba Island, Tunisia*, International Journal of Water Resources Development.

¹⁹ Ayadi M. (2017). *Stratégie de mobilisation des ressources en eau en Tunisie*. Ministère de l'agriculture, des ressources hydrauliques et de la pêche.

This policy resulted in an average decrease in water consumption per hectare with a concomitant increase in water productivity.

However, since the 2000s, World Bank (WB) incentives and loan conditionality promoting public-private partnerships (PPPs) for water sanitation services has pushed Tunisia to yield to the global water market, with the country increasingly open to the private sector. In particular, concessions were granted opening up the National Office for Sanitation structure.²⁰ As a result, the reuse of treated wastewater as well as the recovery of sludge and biogas from wastewater treatment plants²¹ can now be granted to private operators for a maximum period of 30 years.²²

For drinking water supply, to date, PPPs only cover desalinated water, although the National Company of Water Exploitation and Distribution (known as SONEDE from its French initial) continues to manage this process.²³ But the directives proposed by the WB for Tunisia, such as the creation of a regulatory body and institutional reform,²⁴ require a real legislative overhaul, and the multiplication of legislative texts has only complicated the governance of Tunisia's water supply.

In sum, the country went from amending the 1975 Water Code to its complete overhaul.

III. Multiple versions of the new water code but all in the same spirit

The Ministry of Agriculture, the body responsible for water management, is tasked with the implementation of the new water code²⁵. In 2009, the Ministry of Agriculture's National Centre for Agricultural Studies started a study on water management, leading to the implementation of the first version of the new water code in 2012.²⁶ This version had to be reviewed to take into consideration the constitutionalization of the right to water, provided by the Article 44 of the post-revolt 2014 Constitution.²⁷ After several exchanges at the national and regional levels of the Ministry of Agriculture, and following the decision to set up a special commission dedicated to the fulfilment of the new water code and coordination between several agricultural commissions, a public version was posted in 2015 on the national legal information portal for consultation. In 2016, an updated version was presented to a restricted ministerial council. A new version of the water code was issued in 2017, taking into consideration the adjustments proposed by concerned ministries and institutions, as well as those of selected experts and members of civil society. The proposed water code was accompanied by legislative provisions and was corrected by the Prime Minister's legal board.

Subsequently, a long debate on the 2017 version ensued between the UGTT and the Ministry of Agriculture. Indeed, the two parties did not find any compromise on this version. The UGTT opposed a number of articles,²⁸ which they considered harmful to the public good and believed would pave the way to the privatization of the water sector. The UGTT refused to "bury" the 1975 water code and proposed instead to amend its shortcomings.²⁹ This proposal was refused by the Presidency's Special Commission, which considered that the most appropriate course was to follow the strategic vision of the Ministry of Agriculture as the latter is in charge of this sector. It was only in May 2019 that these two actors finally declared that they had reached a satisfactory compromise.³⁰ Another conflict was then open with the Tunisian Union of Agriculture and Fisheries (UTAP Tunisia), which expressed disappointment at having been left out of the process of formulating a new water code, as well as the lack of consideration given to its proposals.³¹

However, an agreement was finally signed between the UTAP and the Ministry of Agriculture concerning the water code on 10 July 2019.³² 10 years after the process was first initiated, the "final" version of the water code was presented for approval at the Ministerial Council level.³³

²⁰ The law 70/2004 stipulates that the State may grant concessions to private persons for the financing, construction and operation of sanitation infrastructure (ONAS).

²¹ Decree No. 2005-3280 of 19 December 2005, setting the conditions and procedures for granting the concession for the financing, construction and operation of sanitation infrastructure to private persons. Decree No. 2008-2268 of 9 June 2008 establishing the list of services within the scope of ONAS' missions that may be granted.

²² Law 35/2007 sets out the conditions and procedures for granting these concessions. It authorised ONAS to grant concessions for the operation of its wastewater treatment plants and for some of its services for a maximum period of 30 years

²³ The project for a seawater desalination unit with a capacity of 50,000 m³ /day in Djerba, implemented directly by SONEDE and financed by an external credit from the German development agency KfW.

²⁴ World Bank (2009) Tunisia: Water and Sanitation Strategy. Report N°44744-TN.

²⁵ The Ministry of Local Affairs and Environment is involved in sanitation through ONAS (Office National de l'Assainissement) as well as through ANPE (Agence Nationale de Protection de l'Environnement).

²⁶ Delay due to, among other things, the 2011 revolution.

²⁷ Article 44 of the 2014 Constitution. «The right to water is guaranteed. It is the duty of the State and society to preserve water and to ensure that its use is rationalized.»

²⁸ From Article 61 to Article 66 in the new 2017 version of the Water Code.

²⁹ مشروع مجلة المياه: عقد من الإنتظار في تونس ترداد عطشا المياه

³⁰ وزارة الفلاحة والحداد الشغل... إضفاء اتفاقية توافق حول مجلة المياه

³¹ Press release of June 14, UTAP.

³² MARHP-UTAP Agreement, 10 July 2019.

³³ Ministère de l'agriculture, des ressources hydrauliques et de la pêche (2019). Document récapitulatif du projet code des eaux, chapitre 3, Principales étapes de la préparation du projet du code des eaux.

The significant number of versions and modifications that have taken place since 2009 proves the importance of water and the tensions that its management can generate. Nevertheless, despite the multiplicity of versions, the new water code's essential elements have emerged in the context of general debate. In particular, the new water code has qualified the water as a “heritage”, in direct link with the imperatives of sustainable development and the notion of the common good, in harmony with the Constitution of 2014 and its Article 44. However, the new code does not give effect to this right and does not ensure its fulfillment through clear mechanisms. In addition, if this new water code integrates climate change, it does not give importance to whether extremities, despite the fact that the floods that occurred at the end of 2018 in Nabeul and the management of this natural disaster are still fresh memories.³⁴

³⁴ فضانات نابل: سوء تصرف، غياب إستراتيجية وسطحية اتصالية

³⁵ مشروع مجلة مياه 2018: بين النقائص والواجبات

Although civil society have raised many concerns, two points in particular have been widely criticized.³⁵ the articles of the code related to PPPs in water services and the integration of the notion of “virtual water”.

IV. Virtual water, a useful concept but its politicization can be risky

One of the recent concepts used by water-scarce countries is “virtual water” (see Box 1). Virtual water is a concept created in the 1990s that measures the amount of freshwater needed to manufacture product (a commodity, good or service). Water is called “virtual” because it is largely invisible. If a human being needs to drink 2 liters of water per day and requires 25 to 100 liters for his/her daily domestic use, which is visible water, they will need between 1000 and 6000 liters of invisible water per day for the food they consume.³⁶

³⁶ Roch L. et Gendron C. (2005). *Le commerce de l'eau virtuelle : du concept à la politique.* Géocarrefour, vol. 80/4, pp. 273-284

This principle of virtual water was conceived as a solution to the water deficit in some countries, and as a tool for water governance: a country lacking water resources may be able to import water, not directly, but in the form of products made with a high concentration of virtual water.³⁷ Therefore there are virtual water “importing” and “exporting” countries. Despite its limited water resources, Tunisia is largely an exporter of virtual water: between 2 and 3 billion m³ yearly depending on the studies.^{38,39}

³⁷ Allan T. (1997). *Virtual water : a long term solution for water short Middle Eastern economies.* Paper presented at the 1997 British Association Festival of Science, University of Leeds.

³⁸ Hamdane A. (2013). *La triade « eau bleue, eau verte, eau virtuelle » et la sécurité alimentaire en Tunisie.* Demeter.

³⁹ Chouchane H., Hoekstra A. Y., Krol M. S., (2018). *Virtual water trade patterns in relation to environmental and socioeconomic factors: a case study for Tunisia.* Science of the Total environment pp. 613-614.

On closer inspection, the country imports 8100 Mm³/year of water (see figure 1) and exports 9760 Mm³/year (see figure 2), in both cases largely in blue water (see Box 1) and with a dominance of agricultural products. As with other products, its largest trading partner (in terms of both water imports and exports) is Europe.

According to the virtual water model employed by Chouchane et al. (2013), Tunisia maintained a relatively stable balance of trade in regards to water because the country's water productivity is so low that it actually preserves water resources by importing goods from countries where water productivity is higher. If the country had produced all the imported goods, it would require 10700 Mm³/year. Thus if the country has “lost” 9760 Mm³/year of water through exports, it has “saved” 10700 Mm³/year by not producing these goods⁴⁰.

⁴⁰ Chouchane H., Hoekstra A. Y., Krol M. S., Mekonnen M. (2013). *Water Footprint of Tunisia from an economic perspective.* UNESCO-IHE.

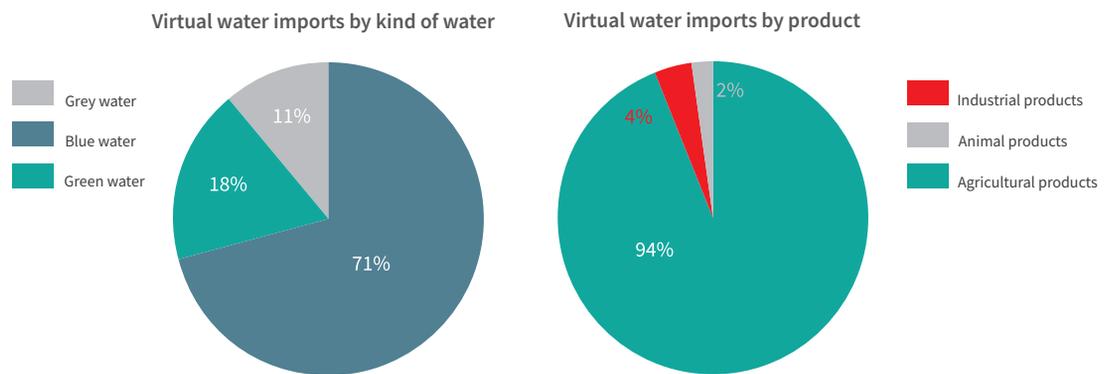


Figure 1: Virtual water imports: by kind of water (a) and by product (b) between 1996 and 2005. (based on Chouchan et al., 2013)⁴¹

⁴¹ Id.

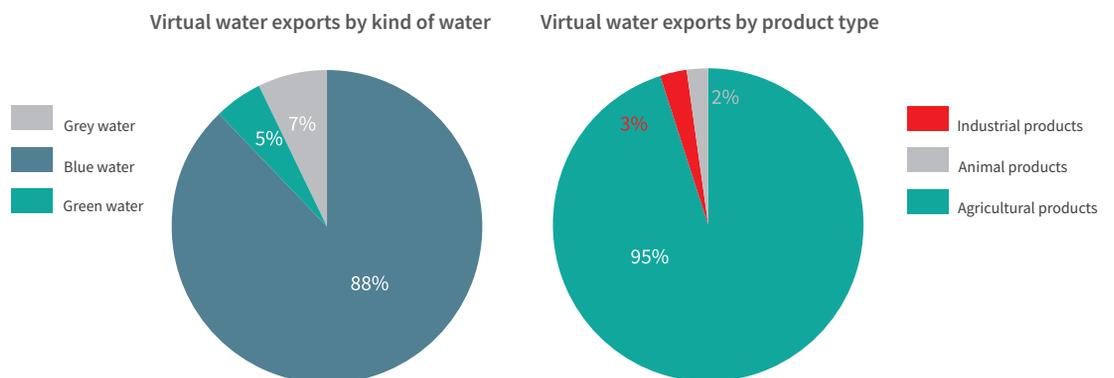


Figure 2: Virtual water exports: by kind of water (a) and by product (b) between 1996 and 2005. (based on Chouchan et al., 2013)⁴²

⁴² Id.

The virtual water concept is thus largely linked to trade. Despite its ecological orientation, by highlighting the water quantity behind each product or mode of consumption, the concept of virtual water is clearly marked by its neoliberal approach which follows the logic of comparative advantages, i.e. each country must produce and export the products for which it is comparatively more efficient,⁴³ thereby locking economies into specific forms of production. In addition, it condemns countries with low water resources (such as Tunisia) to a very high global market dependency, which seems unsustainable in the long term. Indeed, raw materials are the most volatile products in terms of prices, and are set to increase with the increasing global demand. This system is heavily manipulated by agri-food multinational companies⁴⁴ that control prices, in particular by keeping gigantic stocks to maintain their control over a large portion of the market.⁴⁵ Thus, the application of the virtual water concept implies sufficient financial resources to buy this virtual water⁴⁶.

Furthermore, the application of the concept of virtual water necessarily implies the existence of food surpluses on the global market. However, Tunisia is largely dependent on climatic conditions to ensure a food surplus for its export.

Moreover, water is not the only factor of production. Indeed, agriculture is experiencing an unprecedented crisis in Tunisia. Soil, water resources and biodiversity have all been subjected to continuous degradation and have reached their limit of resilience.⁴⁷ As for imports, the country is in a difficult position due to the country's lack of financial resources. Hence, a trade policy based on the concept of virtual water will only exacerbate these problems and clearly goes against the objectives of the country's food sovereignty (cf. Box 1), making the population dependent on the goodwill of the global market. However, it is still essential to understand and to assess a country's water consumption. It would therefore be more appropriate to consider

⁴³ Roch L. et Gendron C. (2005). *Le commerce de l'eau virtuelle : du concept à la politique*. Géocarrefour, vol. 80/4, pp. 273-284.

⁴⁴ For example, for international grain trade, two multinational companies control 70 to 80% of the market.

⁴⁵ Warner J., (2003) *Virtual water – virtual benefits? Scarcity, distribution, security and conflicts reconsidered*, In *Virtual water trade: proceedings of the international expert meeting on virtual water trade*, sous la dir. de A.Y. Hoekstra, Value of water research report series No.12, Delft (the Netherlands), UNESCO-IHE, p. 125-134.

⁴⁶ Roch L. et Gendron C. (2005). *Le commerce de l'eau virtuelle : du concept à la politique*. Géocarrefour, vol. 80/4, pp. 273-284. | 2005 citant Parveen et Faisal, (2004): *Bangladesh imports virtual water from India, while both countries have a number of unresolved bilateral political issues. With their trade relations being highly unbalanced, Bangladesh would have few means of putting pressure on India, and would then have to turn to another virtual water source like Thailand*.

⁴⁷ Elloumi M., (2018). *Tunisie: Agriculture le développement compromis*. p. 34. Edition Nirvana.

⁴⁸ Chouchane, H., Hoekstra, A. Y., Krol, M. S., & Mekonnen, M. (2013). *Water footprint of Tunisia from an economic perspective*. (Value of Water Research Report; No. 61). Delft, the Netherlands: Unesco-IHE Institute for Water Education.

the “water footprint” (cf. Box1) of products, applied to both domestic consumption and export. Tunisia’s current water footprint is 14 billion m³/year⁴⁸ in 2010, i.e. 2200 m³/year/inhabitant, which ranks it at 60%, above the worldwide average. This water footprint is dominated by green (rainwater) water and agricultural activities.

Box 1

Definitions of virtual water and water footprint

•**Virtual water:** the amount of water needed to make an object or a good (Allan, 1997).

•**Water footprint:** the total volume of fresh water needed to produce the goods consumed by an individual, company or nation (Chapagain & Hoekstra, 2004).

There are three components of the water footprint (Faleknmark & Rockstrom 2006):

- Blue water, i.e. freshwater captured for domestic and agricultural uses, at the surface (lakes, rivers) or underground.

- Green water, rainwater stored in the soil and then lost through evapotranspiration or incorporation into plants. Far from being lost, this water is used for agricultural and forest products through rainfed production. Green water is often neglected by water studies, which focus on the supply-demand balance of blue water, while green water plays a major role.

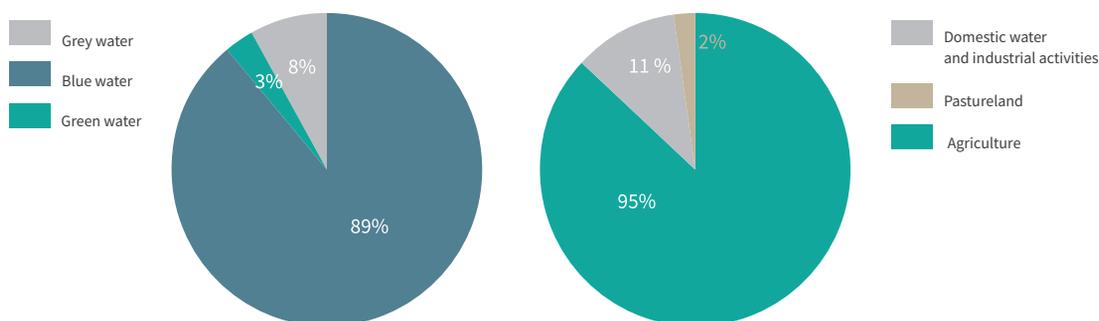
- Grey water, which represents water polluted by production processes: the calculation mainly takes into account the water used to dilute the polluted water until it meets the quality criteria.

Food sovereignty: it is important to link the notions of virtual water or water footprint to food sovereignty. Food sovereignty was defined by the international peasant movement Via Campesina as «the people’s, countries’ or State Unions’ right to define their agricultural and food policy, without any dumping vis-à-vis third countries» (Via Campesina, 2003). This concept is then distinguished from “food security”, defined by the Food and Agricultural Organization of the UN (FAO) as the time when «all members of a society have, on a constant basis, the physical and economic conditions to ensure access to sufficient, safe and affordable food nutritious according to their needs and food preferences and there to lead an active and healthy life» (Rome Declaration on Security World Food Summit, 1996). Whereas food security is not concerned with where the food comes from, as long as there is an adequate amount, food sovereignty favors means of local production and consumption.

For more information, refer to [“في خدعة المفاهيم: ما بين الأمن الغذائي والسيادة الغذائية: أين تتموقع الشعوب؟”](#)

Tunisia’s water footprint by water type

Tunisia’s water footprint by activity



⁴⁹ Id.

Figure 3: Tunisia’s water footprint: by water type (a) and by product (b) between 1996 and 2005. (According to Chouchane et al. 2013)⁴⁹

consumption and how to improve its water management. Some economic sectors such as agriculture contribute to the overexploitation and degradation of water resources. It is important to apply the different agri-environmental indicators to analyze the water use in this sector. 80% of blue water, and 90% of all water (with green and grey water) is used in irrigation. The concept of water footprint helps to develop specific the practices and techniques that facilitate food sovereignty and rural socio-economic development.

Irrigated agriculture (blue water) has been already developed to provide the country with improved food security, including wheat and barley. On the other hand, rain-fed agriculture (green water) plays a major role, especially in the export of agricultural products. According to the virtual water theory, Tunisia would benefit from importing products that consume a lot of water (cereals) in order to export products that consume little but have high added value, such as olive oil.⁵⁰ However, total cereal imports pose a problem for reasons of food sovereignty and self-sufficiency as well as for Tunisia's trade deficit as it would worsen the country's already large deficit for agricultural and agri-food products.⁵¹ Though the concept of virtual water may be helpful as an explanatory concept, its application as a water management policy or solution to Tunisia's problem of water scarcity is problematic for the reasons described above. On the other hand, a water footprint approach can be helpful in developing policy and techniques. For example, such an approach may help Tunisia assess different cereal irrigation techniques to choose the most appropriate one, taking into account agri-environmental indicators (such as soil, variety used, adaptation of varieties used to climate change, water reserves, etc.) and above all the country's food needs and the sustainable development of its resources.

To ensure the effectiveness of the legislative framework and future management strategy, the new water code must therefore contain requirements to take the country's water footprint, ecological and food sovereignty needs into account.

V. Public-Private Partnership in the new water code

The new water code is intended to be more respectful of the principles of Integrated Water Resources Management (IWRM), promoted by the UN and the Global Water Partnership (GWP) since the Dublin Declaration of 1992.⁵² In this regard, a "National Water Council", has been created, with an advisory role. Under the aegis of the Ministry of Agriculture, it can propose principles for water valuation and mobilization, give advices on the strategies and objectives of the country's water policy, contribute to the development of programs and measures, or monitor the processes taken.⁵³ However, it has only met once since its creation and has taken no concrete action.⁵⁴ In 2017, the government announced steps to more effectively manage Tunisia's water resources with investments in desalination and mobilization as well as a strategy to protect water resources within the framework of IWRM.⁵⁵ The strategy focused on strengthening public-private partnerships (PPPs) to achieve these objectives.

For the moment, the water sector has been spared the intrusion of the private sector, limited to concession contracts (in particular by National Sanitation Office for maintenance of its sewers). In light of major budget deficits within the National Sanitation Office (known as ONAS from its fresh initial)⁵⁶ and SONEDE⁵⁷ due to increasing prices, unpaid invoices and increasing energy costs, the government considers the option of public-private partnerships as an opportunity.

In principle, PPPs should allow for risk sharing and greater efficiency of the service thanks to the experience of private enterprise (see Box 2). Their global development has been supported by major international organizations and the financial institutions, such as the World Bank, the IMF and the OECD. PPPs have even become a condition for the provision of funding by donors. In Tunisia, a country that

⁵⁰ Makhlof M. et al. (2017). *Quantification of Virtual Water Balance of Tunisia: flows embedded in the main produced, consumed and exchanges agricultural commodities*. *New Medit.* 16. 11-18.

⁵¹ In 2018, imports of agricultural and agri-food products reached 6475 million dinars while exports were 5410 million dinars. Agricultural and agri-food products represent more than 10% of imports (6400 billion), mainly cereals (barley, wheat, but). *INS Foreign trade*

⁵² According to GWP, IWRM can be defined as «a process that promotes the coordinated development and management of water, land and associated resources, with a view maximizing the resulting economic and social well-being in an equitable manner, without compromising the sustainability of vital ecosystems». IWRM takes into account water quality, the promotion of demand management and the establishment of public-private partnerships (PPPs).

⁵³ Article 19 of the 1975 Water Code, amended by Decree No. 2001-2606 of 9 November 2001.

⁵⁴ مشروع مجلة مياه 2018: بين التناقض والإيجابيات

⁵⁵ Ayadi M. (2017). *Stratégie de mobilisation des ressources en eau en Tunisie*. Ministère de l'agriculture, des ressources hydrauliques et de la pêche.

⁵⁶ 110 million in 2015. [ONAS : pas d'augmentation des tarifs en 2016](#).

⁵⁷ 39 million by the end of 2017. [SONEDE: un déficit à 39 millions de dinars à fin 2017](#).

⁵⁸ Law No. 96-27 of 1 April 1996, completing Decree-Law No. 62-8 of 3 April 1962, establishing and organizing the Tunisian Electricity and Gas Company.

⁵⁹ Law No. 93-41 of 19 April 1993 on the National Sanitation Office.

⁶⁰ Law No. 2008-23 of 1 April 2008, on the concession regime.

⁶¹ Law No. 2008-23 of 1 April 2008, on the concession regime.

⁶² Law n° 2015-49 of 27 November 2015, relating to public-private partnership contracts.

⁶³ Law n°2016-71 of 30 September 2016, on the investment law.

⁶⁴ « Tunisia 2020 », [des partenariats publics privés pour booster l'économie](#).

⁶⁵ In 2014, the Law Commission of the French Senate published a report denouncing the PPP formula as «time bombs» and referring to «harmful effects, especially for future generations». *The Tribune* (2014). *Public-private partnerships: a «budget time bomb»* (Senate).

⁶⁶ In Portugal, in particular, which had increased the number of such contracts in previous years, the European Central Bank and the IMF forced the Portuguese government to suspend this method of financing. [Why Public-Private Partnerships don't work](#).

traditionally favors public companies, PPPs was only developed in the 1990s, with the introduction of sectoral laws that allowed the first BOT-type concessions (see Box 2) in some sectors, such as power production with the creation of the Tunisian Electricity and Gas Company (known as the STEG from its French initial),⁵⁸ and sanitation.⁵⁹

Later, in the 2000s, the Digital Economy Act⁶⁰ introduced the first PPPs in information and communication technologies, followed by a 2008 law introducing the concessions regime.⁶¹ But the most important law is the 2015 PPP contracts,⁶² supplemented by the investment law of 2016⁶³ and the law on improving the business climate adopted in April of this year (2019). In addition, the development of these partnerships has been widely promoted within the framework of the “Tunisia 2020” conference, which presented dozens of investment projects.⁶⁴ Included the PPPs expected by the Tunisian government are seawater desalination plants in Sfax, Kerkennah and Zarrat Gabes.

However, PPPs are far from representing an ideal “partnership” and can involve a certain number of dangers, the more so for a public good as sensitive as water.

While PPPs are most often presented as a solution to government debt, as an inexpensive means of infrastructure development, on closer inspection it is clear actually produce “hidden debt”.⁶⁵ The government must still pay rent, which is not included in its calculation of debt. Debt is actually carried forward to the medium and long term, with the budgetary burden on future generations, considerably reducing their future budget flexibility. Risk sharing, presented as one of the most important advantages of this type of contract, is confused by an opaque system: it is the private entity which assesses the risks and makes the public entity pay them via a “premium risk transfer” included in the rent. Indeed, studies show that PPPs aggravate the budgetary problems of States, as demonstrated by the losses and crashes entailed by the 2008 economic crisis in Europe.⁶⁶ In Tunisia, with ONAS and SONEDE already heavily in debt, PPPs are highly likely to increase this burden. In the case of desalination, the invoice can be very expensive for the citizen. This is especially the case for SONEDE as the price of water paid by the citizen is set at the national level and is well above the costs of desalination plants. In Djerba, water

Box 2

Understanding PPPs

PPP's are defined by the IMF as contracts for «public services management or the design, implementation, maintenance and management of public services infrastructures by which a private company is charged and invests the capital in return for payments made by the State over a long period of time, which may reach, for example, 20 years». (OECD 2014)

Concessions are a particular type of PPP financed by users of public services, in particular through fees (tolls on motorways, etc.). The public entity assumes the operational risk (PPP World Bank). Many concessions are based on the BOT model: Building -Operating -Transfer: the private operator builds the facilities, operates them and transfers them to the State.

For more information:

On the differences between public procurement, PPPs and concessions, refer to:

[Chandoul J., \(2015\) Note de synthèse à propos du projet de loi sur les PPP en Tunisie. Observatoire Tunisien de l'Economie.](#)

On the risks of PPPs, refer to:

[Chandoul J., \(2012\) Les Partenariats Public-Privé : Une bombe à retardement ? Observatoire Tunisien de l'Economie.](#)

⁶⁷ Ben Brahim Neji H., Del Saz-Salazar S., Besrouer A., González-Gómez F., (2017). *Estimating willingness to pay for desalinated seawater: the case of Djerba Island, Tunisia*, *International Journal of Water Resources Development*.

⁶⁸ OCDE (2014). *Water governance in Tunisia: overcoming the challenges to private sector participation*. Paris: OECD Studies on Water. OECD Publishing.

⁶⁹ These renegotiations concern tariff increases (62%), an increase in costs reflected in tariffs (59%), or a postponement or reduction of private sector obligations (69%). Queyranne M. (2014). *Management of budgetary risks related to public-private partnerships (PPPs)*. IMF, Yaoundé.

⁷⁰ Le Gall C. (2012). *Partenariat public privé : gare au boomerang*. *Alternatives économiques*, 2012/7.

⁷¹ Gafrej R. (2017). *Gouvernance de l'eau en Tunisie : étude de cas du gouvernement de Kasserine*. *International Alert*.

⁷² [Justice: la Cour des comptes contre les partenariats public-privé.](#)

⁷³ European Court of Auditors (2018). *Public-private partnerships in the EU: multiple shortcomings and limited benefits*. Special report. Europa publications.

payments cover only 81% of production costs, the difference being managed by SONEDE.⁶⁷ The OECD therefore recommends increasing the rates.⁶⁸

In addition, contract negotiation can be complicated for the public partner: 55% of PPPs can be renegotiated, approximately every two years, favoring the private sector in the vast majority of cases.⁶⁹ The public entity must systematically pay very large amounts of money for each requested change, making these long-term contracts very inflexible. The public-private relationship then becomes very unbalanced in favor of private operators, especially in the face of inexperienced, and often local, public authorities who cannot afford to use lawyers and economists specializing in this type of complex contractual arrangement.⁷⁰ There are concerns that if the Groups of Agricultural Development (GDA) set up PPPs, which they are authorized to do within the framework of water management decentralization, there will be unbalanced relationships developed with large firms. On top of GDA financial difficulties,⁷¹ agents, often volunteers, lack the necessary expertise for negotiation. The situation is likely to worsen with the burgeoning of long-term debt.

Finally, these PPP contracts are not necessarily more effective. In fact, their critics are multiplying in the PPP pioneering countries, namely the United Kingdom and France, particularly in the water sector. In France, these contracts have been described by the Court of Auditors in 2017 as undemocratic and monopolistic and, above all, representing a “headlong rush” motivated by “short-term budgetary considerations”.⁷² In Europe, the European Court of Auditors have identified construction delays and a lack of significant decrease in costs.⁷³ Private companies invest less than public companies in water services, a frequent reason for the water remunicipalization in many cities (see Box 3).

Box 3:

The failures of private water management: a case study

In 2014, the report “Là pour durer: la remunicipalisation de l'eau, un phénomène globale en plein essor” (Lobina et al. 2014) provides a summary of the 180 cases of water remunicipalisation since 2000, i.e. a return to public management of the previously delegated water service. The authors note that this phenomenon is rising, in both North and South, including cities considered pioneers in water privatization: Buenos Aires, La Paz, Johannesburg, Dar es-Salaam...

The reasons are generally the same: poor performance by private companies (as in Dar es Salaam, Accra, or Maputo), chronic under-investment (Berlin, Buenos Aires), conflicts over pricing or costs (Almaty, Maputo), soaring prices (Berlin, Kuala Lumpur), lack of financial transparency (Grenoble, Paris, and Berlin), or a massive reduction of employees coupled with poor service quality (Atlanta, Indianapolis).

In most cases, cities preferred to pay significant compensation than to persevere in private water management. Experience has shown that the return to public water management tends to improve the quality and access to water services, with more investment and better social justice.

In Buenos Aires (Argentina), for example, the local authority cancelled the water and sanitation concession due to a sharp increase in tariffs while the company's investment was very low. The new public operator AySA has allowed a significant improvement in the working conditions of employees (training, safety, hygiene), as well as a real extension of access to water. In Paris (France), the new municipal operator was able to drop the water prices and, above all, allowed more transparency with the establishment of a water observatory to include the participation of Parisians.

⁷⁴ «The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.»

The public sector then seems to be the best placed to provide quality services and ensure the right to water. Instead of providing efficiency and innovation, PPPs most often have negative long-term effects and it is difficult and very costly to terminate them. In addition, water supply is a public service of general interest, which requires a strong involvement of the public person to ensure that water services are accessible to all citizens. This accessibility represents a fundamental human right, recognized at the supranational level in 2010 by the United Nations,⁷⁴ then by the Human Rights Council the same year. In 2014, this right was enshrined in article 44 of the Tunisian Constitution, which accentuates the State's responsibility for water resource management: "The right to water is guaranteed. It is the duty of the State and society to preserve water and to ensure that its use is rationalized." By integrating PPPs into water management, the right to water enshrined in the Tunisian constitution is negated and the government can no longer guarantee this right.

Even if the UGTT has really succeeded in removing the articles concerning PPPs from the new water code, the water sector is still susceptible to these contracts. Indeed, neither the PPP law nor the Investment code and even less the improving business climate law excludes the water sector from public-private partnerships. Thus, whether or not there are included in the new water code articles that allow or encourage PPPs, this type of partnership is now already possible as provided for in the above-mentioned laws. Tunisia should therefore follow the example of El Salvador, where parliamentarians have withdrawn entire sectors from the scope of PPPs, such as education, health and water.⁷⁵

⁷⁵ [Why Public-Private Partnerships don't work.](#)

To protect the right and access to water, an article excluding water resources from the PPP contracts must be included in the new water code.

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