From food security to food sovereignty in Tunisia Main challenges and obstacles

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List of acronyms

BNG : Banque Nationale des Gènes
CGDR : Commissariat Général au développement Régional
CRDA : Commissariat régional au développement agricole
FAO : Organisation des Nations unies pour l'alimentation et l'agriculture
GDA : Groupement de développement agricole
INAT : Institut National Agronomique de Tunisie8
INS : Institut National de la Statistique.
ONAGRI : Observatoire National de l'Agriculture
PAM : Programme Alimentaire Mondiale
PNAS : Programme National d'Alimentation Scolaire
PNUD : Programme des Nations Unies pour le Développement
SYNAGRI : Syndicat National des Agriculteurs
SMAG: Salaire Minimal Agricole Garanti
SMIG : Salaire Minimal Industriel Garanti
SMSA : Sociétés Mutuelles de base de Services Agricoles
SMVDA : Sociétés de Mise en Valeur et de Développement Agricole
UTAP : Union Tunisienne de l'agriculture et de la pêche
UTICA : Union Tunisienne de l'industrie, du Commerce et de l'artisanat

1. Introduction: The agricultural question and the political economy of food security in Tunisia

Located in a semi-arid geographical area, Tunisia has managed to control the evolution of its demography and implemented various public policies (agricultural, social, health, commercial, environmental, training, and research, etc.) that have allowed it to have relatively satisfactory economic and social results in comparison with other Arab or African countries.

Considered until 2008 to be the good pupil of the World Bank, Tunisia experienced three major crises. The first took place in the late 1960s with the poorly planned introduction of the cooperative system. Rejected by the majority of the nascent private sector actors and by the populations still attached to their recently nationalized lands, this policy led to a serious crisis in the national agricultural sector and was quickly abandoned.

The failure of this dirigiste phase of collectivization and agrarian restructuring has led to a pauperization of the agricultural world and a massive rural exodus. This phase continues to haunt the collective imagination of Tunisians and to discourage the search for new models of agricultural development. For Ghali and Mohnen (2004): "The problem was that the cooperative movement was imposed by government instead of developing out of a change in mentality and in the interest of its members. The production cooperatives, created by the Law of May 27 1963, embraced land formerly owned by colonialists and now by government and privately owned neighboring pieces of land. They were neither true cooperatives nor public enterprises. They absorbed large amounts of public money without increasing the productivity of the fertile land »[2].

The second major crises, in the mid-1980s, accompanied the uncertainties of the end of the reign of the leader Habib Bourguiba. This crisis led to the riots of 1983, which followed the lifting of subsidies and the sudden increase in the price of bread. This second crisis led, in 1986, to the implementation of a structural adjustment plan in line with the recommendations of the IMF and accelerated the end of the regime of the leader Bourguiba (in 1987). Elloumi (2006) points out that "For the agricultural sector, the implementation of the Structural Adjustment Program and its agricultural component will result in two fundamental elements: the dismantling of the boards and the implementation of a pricing policy that eliminates input subsidies and gives a greater role to the market. The program also includes a policy of disengagement of the State and a profound change in the policy of supervising producers with an increased role for professional and peasant organizations."[3]

The "new era" led by General Ben Ali took advantage of the reforms introduced at the end of the 1980s. It allowed an economic rebound with the signing of an association treaty

2 Ghali, S. ; Mohnen P., (2004),The Tunisian Path to Development: 1961.2001, A case study from Reducing Poverty, Sustaining Growth.What Works, What Doesn.t, and Why A Global Exchange for Scaling Up Success The International Bank for Reconstruction and Development

3 Elloumi, M., (2006), L'AGRICULTURE TUNISIENNE DANS UN CONTEXTE DE LIBÉRALISATION, Région et Développement n° 23-2006. Elloumi also notes, "The other aspect of structural adjustment policy concerns the dismantling of the structures for supervising agricultural producers. Thus, the Office of the Sidi Bouzid region was abolished in 1989 and its prerogatives were taken over by the CRDA. However, this transition has resulted in a loss of management flexibility and proximity to farmers, particularly with regard to perimeters irrigated."

with the European Union in 1995 and, in 1998, the establishment of a free trade area with Europe. In 1987, Tunisia signed a structural adjustment plan with an agricultural component. The objective was to liberalize prices, reduce government intervention, liberalize international trade, improve market infrastructure and trade standards and establish the basis for a market economy[4].

The last major crisis in independent Tunisia began around 2005, following the exhaustion of the neo-liberal model that combined economic "openness" with political "closure" and authoritarianism. In the absence of equitable sharing of wealth, and with the rise in power of corruption linked to the Ben Ali family, Tunisia has been caught in the "trap of intermediate economies". This quickly led to the revolt of 2011. Just before he left, Ben Ali promised to reduce the price of staples (sugar, milk, and bread), but it was too late to save his regime. While raising high hopes, the end of the dictatorship has only exacerbated the economic and social crisis and poses major challenges to the country's food and nutritional security.

Today, Tunisia's agricultural sector accounts for 8% of the country's GDP and plays a fundamental role in the country's social, regional and environmental balance. While Tunisia was able to achieve food self-sufficiency on a number of products (milk and derivatives, red and white meat, vegetables, etc.), the agriculture remains fragile and too dependent on food imports and on climatic hazards.

This work will begin with a quick diagnosis of the situation of the right to food and food security in Tunisia. We will discuss the incorporation of the food and nutrition issue in Tunisian legislation and, from a comparative perspective; we will present the rankings of Tunisia on this issue. In the second phase, we will discuss the main challenges that we believe must be met in order to improve sovereignty and food and nutritional security in Tunisia. The fourth section will focus on governance and the roles of civil society, social movements and popular groups in building this sovereignty. Finally, we will present some recommendations likely to improve Tunisia's food and nutritional security and promote its food sovereignty.

2. Elements of a global diagnosis of the situation of the right to food and food security in Tunisia

2.1 The right to food, security, and sovereignty: legal and institutional framework

a- The right to food in the Tunisian constitution

The second constitution of the Republic of Tunisia (2014) contains no direct and explicit reference to right to food, food sovereignty or security. However, it does include several articles indirectly related to these issues. Thus, Article 12 gives the State the objective of "achieving social justice, sustainable development, regional balance and rational exploitation of national wealth with reference to development indicators and based on the principle of positive discrimination". It also provides that the State shall work for the "proper exploitation of national wealth". Article 13 provides that "Natural resources are

4 Jane Harrigan 2014, The Political Economy of Arab Food Sovereignty, Palgrave Macmillan

the property of the Tunisian people; the sovereignty of the State over these resources is exercised in its name. The exploitation contracts relating to its resources are submitted to the specialized commission within the assembly of people's representatives. Conventions ratified in respect to these resources are submitted to the assembly for approval. ». With regard to water, article 40 of the Constitution stipulates that the right to water is guaranteed and that its preservation and rational use are a duty for the State and society. This constitution also obliges the state to guarantee "the right to a healthy and balanced environment and participation in climate security. The State must provide the necessary means to eliminate environmental pollution" (Article 45). Finally, the fourth section of the constitution provides for the establishment of a high authority for sustainable development and the rights of future generations. This authority would be obligatorily consulted for draft laws relating to trade, social and environmental issues as well as for development plans (Article 129). For the time being, this body has still not been set up.

b- The right to food in international conventions concerning Tunisia

Adopted on 16 December 1966 by the United Nations General Assembly, Tunisia ratified the International Covenant on Economic, Social and Cultural Rights (ICESCR) on 18 March 1969. Article 11(2) of the Covenant provides for the right to be free from hunger and food security[5].

As a member of the Organization of Islamic Cooperation, Tunisia is also a signatory of the "Declaration of Human Rights in Islam" adopted in Cairo on 5 August 1990. Article 17 of the Declaration provides that "The State shall guarantee the right of everyone to a life of dignity, which shall ensure his or her needs and those for which he or she is responsible. These needs include food, clothing, shelter, education, medical care, and all basic needs. However, even though Tunisia is a member of the Organization of the Islamic Conference, it has not yet signed the Statute of the Islamic Food Security Organization, established in 2013.

Similarly, although Tunisia belongs to the League of Arab States, it has still not ratified its charter of human rights. Article 38 of the Arab Charter on Human Rights (2004) states that "Everyone has the right to an adequate standard of living for himself and his family, which ensures their well-being and a decent life, including food, clothing, housing and services, and to a healthy environment. States Parties shall take the necessary measures within their resources to ensure this right. ». Article 39 of the Charter states that States parties recognize the right of every member of society to enjoy the guarantee of "basic food and drinking water".

5 « 2. The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall adopt, individually and through international co-operation, the necessary measures, including concrete programs:
(a) To improve methods of food production, conservation and distribution through the full utilization of technical and scientific knowledge, through the dissemination of principles of nutritional education and through the development or reform of agrarian systems, so as to ensure the optimum development and utilization of natural resources;
(b) To ensure an equitable distribution of world food resources in relation to needs, taking into account the problems faced by both food-importing and food-exporting countries. »

Finally, the African Charter on Human and Peoples' Rights (adopted in 1981) ratified by Tunisia on 16 March 1983, provides in article 29 that the individual has the duty "to preserve the harmonious development of the family and to work for the cohesion and respect of this family; to respect at all times his parents, to feed them, and to assist them if necessary". It remains silent on other aspects that could be directly related to agricultural activities or food and nutritional security.

2.2 Main global characteristics of the Tunisian agricultural sector

Still considered strategic for the country's stability, Tunisia's agricultural sector has seen a relative decline in its contribution to GDP, from 19.6% in 1962 to 8.1% in 2016.

Analysis of the data available since the 1960s shows two main strengths of this sector:

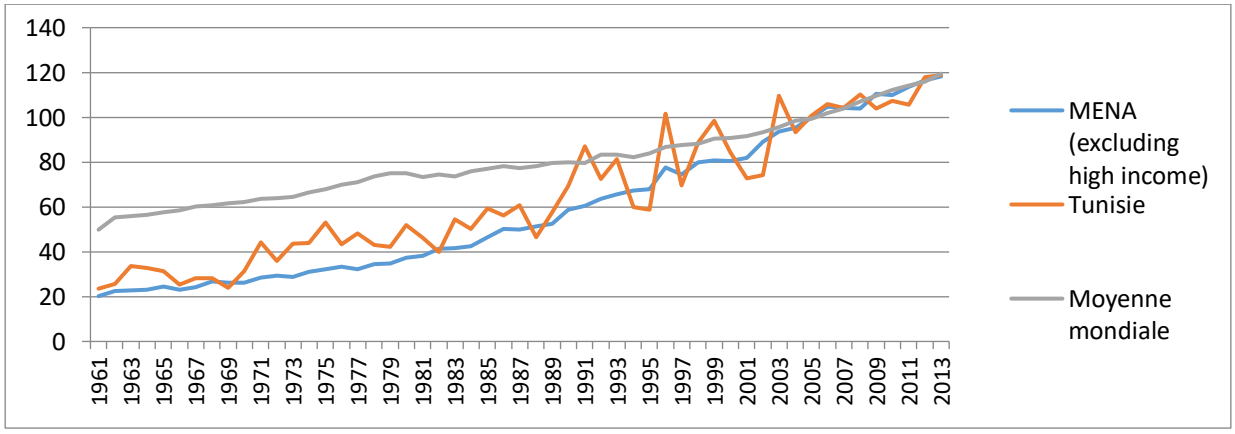
- The Tunisian agricultural sector has been able to recover its production lag compared to the world average;

- Tunisia's agricultural sector is resilient and acts as a buffer against shocks that destabilize the Tunisian economy.

a- An agricultural sector that has caught up.

The following diagram shows that over the last fifty years, Tunisian agricultural food production has clearly improved and that it has reached the world average:

Figure 1: Food production index[6] (2004 to 2006=100)



Source: World Bank

However, this index also shows that Tunisia has been overtaken by comparable countries and especially that there are large interannual fluctuations that are sources of uncertainty, discourage investment, and risk-taking. Moreover, this increase in agricultural production is more related to the increased mobilization of natural resources (soil and water) than to the improvement of productivity[7]. Overall, productivity in the agricultural sector remains low relative to its potential. The products the most

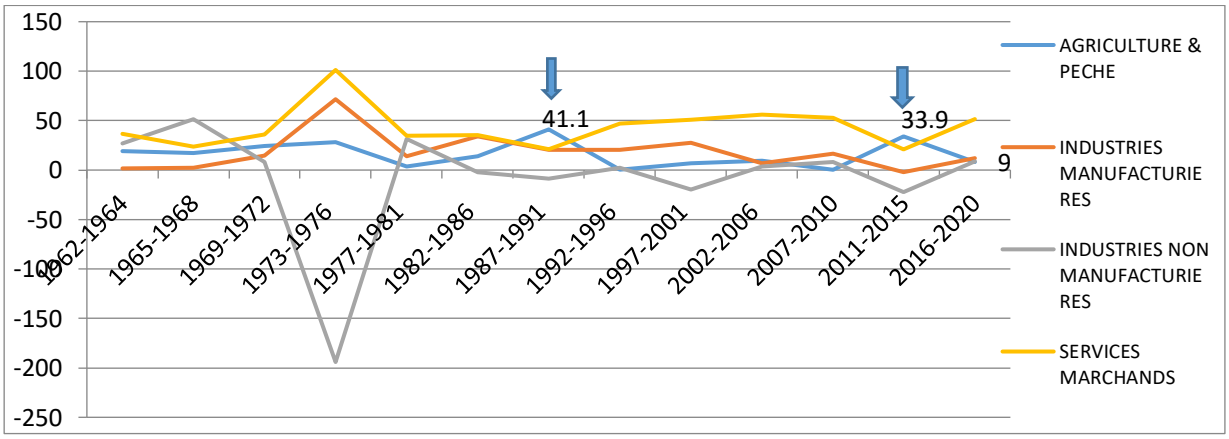
6 The food production index refers to food crops that are considered edible and contain nutrients. Coffee and tea are excluded because although they are edible they have no nutritional value.
7 Mustapha Jouili, Ismahen Kahouli et Mohamed Elloumi, (2013), « Appropriation des ressources hydrauliques et processus d'exclusion dans la région de sidi Bouzid (Tunisie centrale) », Études rurales [En ligne], 192 | 2013

competitive, namely fruit and vegetables (including olive oil), durum wheat and fishing represents 58% of production over the last 20 years and has contributed to the growth of the sector only by 46%, while non-competitive products (common wheat, meat, and milk) and which account for 39% of production contributed only about 52% growth in the sector[8].

b- A resilient agricultural sector

This resilience of the Tunisian agricultural sector to the shocks that the Tunisian economy is undergoing has manifested itself during the two most important crises of the last 40 years: that of the mid-1980s and that following the 2011 revolution. Thanks to its contribution to GDP growth, the agricultural sector has withstood much better than the industrial sector and has given certain stability to the Tunisian economy as a whole.

Figure 2: Agriculture Contribution to GDP Growth (Structure in %) (2005 MD)



Source: INS[9]

As regards exports, the use of statistical regressions over the period (1988-2014) enabled Bakari (2016) to show that agricultural exports have beneficial effects on Tunisia's economic growth as well as on non-agricultural exports[10].

Despite these positive results, the Tunisian agricultural sector remained fragile and dependent on both government subsidies and the import of its inputs.

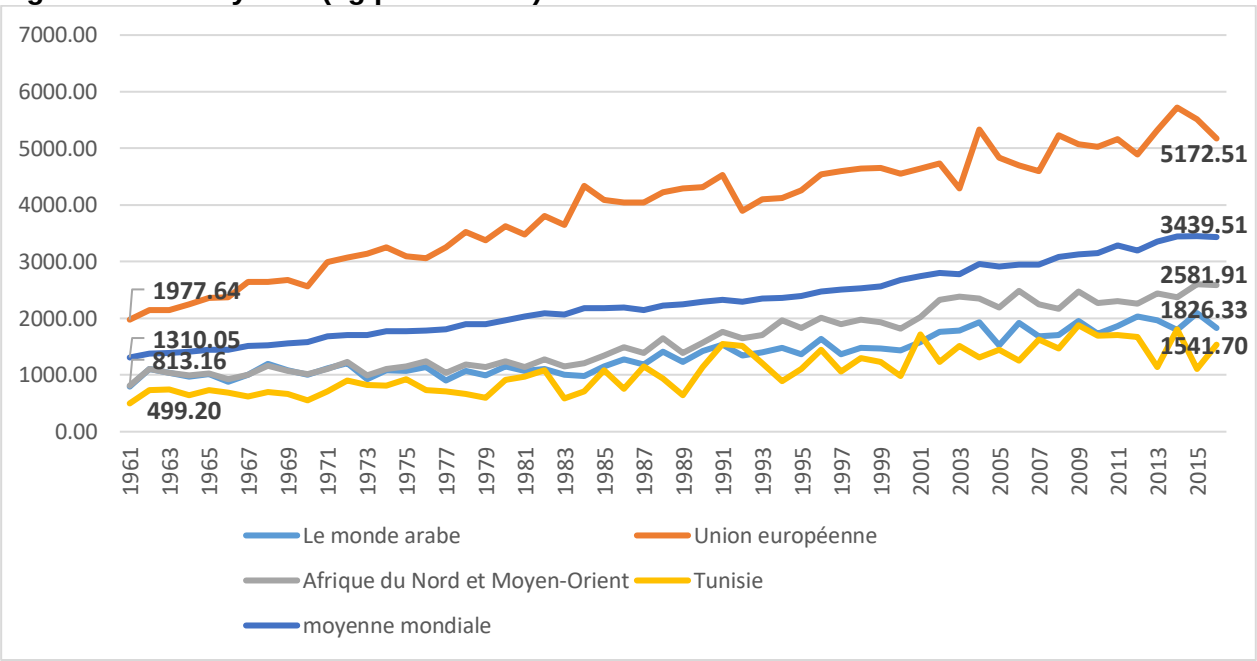
Today, and as shown in the following diagram, agricultural productivity is particularly low for cereals:

8 République Tunisienne Banque mondiale, (2018), PROJET d'INTENSIFICATION DE L'AGRICULTURE IRRIGUÉE EN TUNISIE (PIAIT), Ministère de l'Agriculture, des Ressources Hydrauliques et de la Pêche (MARHP)

9 Institut National des Statistiques de Tunisie

10 Sayef Bakari, (2016), The Impact of Agricultural Exports on Economic Growth in Tunisia During the Period 1988 – 2014, Online at https://mpra.ub.uni-muenchen.de/80655/

Figure 3: Cereal yields (kg per hectare)



Source: World Bank Statistics

The economic growth experienced by the other sectors of the Tunisian economy has been to the detriment of the agricultural sector and not from - or thanks to - its development. According to Jouili (2008), "The deterioration in farmers' incomes is due to the "modernization" model imposed on agriculture since independence. Conceived as a simple superposition on the local reality of techniques and practices developed and practiced in other areas, this model, artificially supported by subsidies, could not bring about the synergy expected from any intensification process, namely a significant improvement in yields. The elimination of subsidies and the dismantling of various forms of state aid have thus highlighted its fragility. The consequence is a sudden and considerable increase in production costs, while yields are still structurally low, resulting in an increasingly pronounced deterioration in farmers' incomes. »

2.3 Some data on undernourishment and malnutrition in Tunisia

According to the report of the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO) and the World Food Program (WFP), Tunisia's performance in terms of the health effects of food remains much better than that of other African countries (with the exception of Morocco and Rwanda)[11]. However, these results are stagnating or declining, mainly due to the rise in food prices after the revolution. The main characteristics of malnutrition and under-nutrition in Tunisia are as follows:

11 Fonds international de développement agricole (FIDA), Fonds des Nations Unies pour l'enfance (UNICEF), Organisation mondiale de la Santé (OMS), Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO), Programme alimentaire mondial (PAM) (2017), « *L'état de la sécurité alimentaire et de la nutrition dans le monde*"

- The rate of undernourished population in Tunisia increased from 5.6% between 2004 and 2006 to 5% between 2014 and 2016 and 4,9 % between 2015 and 2017;
- The wasting rate (weight loss and severe weight loss) in children is estimated in 2016 at 2.8%;
- Stunting in children increased from 9% in 2005 to 10.2% in 2016;
- The overweight rate among children, increased from 8.8% in 2005 to 14.3% in 2016 and 2017 (Tunisia is the only country that recorded such an increase);
- Adult obesity increased from 18.5% (1.3 million people) in 2005 to 24.2% (1.9 million people) in 2014 and 27,3% in 2016.

In general, Tunisians suffer more from malnutrition (prevalence of obesity for children and adults) than from undernourishment

2.4 Limitations of the neoliberal approach to food security in Tunisia

The neoliberal approach to food security is based on the competitiveness of the entire economy and the country's trade balance, which should enable it to obtain supplies at any time and regardless of the evolution of world prices for the commodities consumed. In short, the stronger the economy and the more foreign exchange it has, the less dependent it is on its own agriculture and the more food security the country would achieve.

This approach is defended in a recent African Development Bank report that proposes four main strategies for achieving food security for Maghreb countries[12]:

- Make agriculture a source of foreign exchange by progressively abandoning production for local markets (cereals, dairy products, meat) and favoring export products where the country would have a comparative advantage and which would promote greater efficiency in water use.

- Diversify the economy and exports so as to have foreign exchange and use a workforce whose purchasing power will thus be strengthened. This strategy assumes that the agricultural sector cannot be internationally competitive (due in particular to climate change that will affect supply and demographic and social changes that will shape demand) and emphasize economy diversification rather than agriculture consolidation.

- Streamline imports: by improving logistics[13]; building strategic reserves to mitigate large price fluctuations; using financial instruments to create virtual stocks (futures or options contracts); building regional stocks or entering into reserve agreements; achieving economies of scale through multi-country procurement and implementing a regional system for food security and early warning[14].

- Improve agricultural productivity: This will contribute to food security by three mechanisms[15]:

12 Banque Africaine de Développement (BAD) (2012), L'économie politique de la sécurité alimentaire en Afrique du Nord, Note économiques
13 The conditions (and costs) of international and local transport, warehouse and storage (in particular of cereals).
14 For the Maghreb countries, especially for cereals, where the MENA region is the largest consumer in the world
15 According to Christiaensen et al (2011), "growth in the agricultural sector is more effective than growth in the non-agricultural sector in reducing the number of people living on less than a dollar a day, but only in societies that are

- Increase the purchasing power of the rural poor who, through increased productivity, will be able to buy food;
- Increase foreign exchange earnings from the export of agricultural products in areas where the countries of the region have a comparative advantage, which would then finance food imports;
- Increase local food production, and thereby reduce import needs.

Being based on questionable assumptions, these recommendations do not say anything about the social and political dynamics underlying them. The food security, they are trying to achieve at the national level does not ensure the security of local populations nor the sovereignty of the country. On the contrary, they admit to sacrificing sovereignty in the hope of achieving security. Finally, it is important to recall that national food security is necessary but not sufficient to ensure individual food security and that the productivism already defended by the majority of "green revolutions" has failed, and has been a source of waste, inequality (at national and international levels) and overexploitation of natural resources.

3. From food security to food sovereignty in Tunisia: an overview of main challenges

A country cannot ensure its sovereignty if it does not guarantee its security. However, it turns out that certain policies aimed at ensuring food security end up compromising the sovereignty of countries and populations. Others see security only in the renunciation of sovereignty. We consider food security to be a necessary but not sufficient condition for sovereignty. While food sovereignty is an undeniable objective, it is still necessary, especially for a country with limited resources and accumulating transitions, such as Tunisia, to have the means and ensure the conditions for it. Many of these conditions are challenges shared by food security advocates.

In this section, we will present the ten main challenges to Tunisia's food security by approaching them from the point of view of their contribution to food sovereignty.

3.1 Water and Water Resources Mismanagement: the increased dependency

Tunisia is a semi-arid country, with very variable rainfall and water resources globally threatened and unevenly distributed.

According to the Ministry of Agriculture, water allocation is 79% for agriculture, 15% for food, 3% for industry and 1% for tourism[16].

Receiving on average 230 mm/year, or 36 billion m3/year and having in 2015 a reserve of 450 m3 of water per year and per capita, Tunisia is well below the water poverty line (500 m3 per person per year).

NOT fundamentally unequal". Christiaensen, L., Demery, L. et Kuhl, J. (2011). « The (Evolving) Role of Agriculture in Poverty Reduction – An Empirical Perspective », Journal of Development Economics, vol. 96, n° 2, pp.239-254.
16 According to Tlili (2009), 86% of water resources (surface or groundwater) are mobilized

If no major changes occur in the coming years, water resources are expected to decrease from 1036 m3 per capita in the 1960s to 150 in 2050.

The number of dams in Tunisia has increased from three in 1956 to 34 in 2015 and is expected to increase to 44 in 2020. Nevertheless, Tunisia's hydraulic barrages contain fewer and fewer reserves because of low rainfall, global warming and poor maintenance of infrastructure that is beginning to age. The siltation percentage of some large dams reaches 50%. Louati (2010) even predicts that by 2050, the dams currently in operation should lose 43% of their initial capacity.

In addition to the decline in the quantities of water available for direct exploitation, water quality has deteriorated significantly. According to the National Agriculture Observatory (ONAGRI) (2015), nearly half of the waters (53%) have a salinity greater than 1.5 gr and 35% exceed 2 gr.

After the revolution, thousands of wells were illegally dug, leading to overexploitation of the water table and aggravation of this problem of available water quality.

More frequent and lengthier, drinking water cuts have led to protests and social movements in the affected areas.

The reinforcement of Tunisia's water potential by non-conventional waters is estimated at 150 Mm3 in 2016 at a rate of 60 Mm3 for desalinated waters and 90 Mm3 for treated and reused wastewater. According to the national sustainable development strategy (2014-2030), the potential of non-conventional waters should reach 330 Mm3 in 2030. Nevertheless, with the evolution of Tunisia's energy deficit and the worsening pollution problems, it is expected that the production costs of these non-conventional waters will rise.

Water is wasted on transport and increasingly poorly maintained pipelines, on the choice of water-intensive crops, on the use of inappropriate irrigation techniques and on the pricing of drinking water, which is currently below its average cost. At all levels, from production to distribution and consumption, Tunisia still needs to implement water saving techniques. The financial difficulties of the public water company (SONEDE), which has a monopoly on water distribution, sell water at a loss, suffers from a plethora of staff and finds it increasingly difficult to get paid by its customers, make it even more difficult to maintain and renew installations.

According to the Euro-Mediterranean Human Rights Network (2016), "the water of some dams (those in the far north), although of good quality, is not exploited (and, in the case of the Sidi El Barrak dam, is discharged into the sea), under the pretext that the cost of pumping or transferring it is too high. However, the latter is much lower than the energy required to desalinate seawater. »[17]

Tunisia also suffers from a regional imbalance in available water resources. While the North represents 80% of surface water, the South has only 5%. The government is

[17] Rapport alternatif de la société civile tunisienne au Pacte International Relatif aux Droits Économiques, Sociaux et Culturels – Août 2016

counting on the development of a system for transferring part of the water from the north to the center, Cap Bon and even Sfax, to make up the rainfall deficit and ensure a balance between the supply of drinking water and water intended for irrigation and the agricultural sector as a whole[18].

Finally, despite some protests from civil society, Tunisia's growing energy deficit is pushing the authorities towards the exploitation of schist gas. The report of the Euro-Mediterranean Human Rights Network (2016), states that since 2013, SHELL has been allowed to explore schist gas in the Kairouan governorate. This hydraulic fracturing technique "represents a major danger to water resources, on the one hand, because it leads to overexploitation of these resources, and on the other hand, because it involves risks of contamination of groundwater, soil, air and aquatic environments by toxic substances added to the fracturing water".[19]

3.2 Land sharing and soil quality

In relation to land issues, two major structural problems threaten Tunisia's food, nutritional and agricultural security: on the one hand, the availability and distribution of agricultural land; and on the other, the quality of land that can be used for agricultural activities.

a- The problem of land sharing and exploitation

Tunisia is the smallest country in North Africa. Nevertheless, its geomorphology makes most of its territory cultivable. While arable land as a percentage of the territory decreased from 19.95% in 1961 to 18.67% in 2016 (this percentage rose from 4.39 to 4.71% for the MENA region), agricultural land as a percentage of the entire territory increased from 55.66% in 1961 to 64.83% in 2016 (compared to an average of 33.30% for the MENA region in 2016) (World Bank, 2018)

The irrigated area is estimated at 8% of the useful agricultural area and contributes to 40% of the total production value (about 425 000 Ha). Despite the decline in set-aside land, the increase in the number of farms has meant that the useful agricultural area per farm and the irrigated agricultural area per farm have remained relatively stable. In fact, the average size of farms has not stopped decreasing and 75% of farms have less than 10 hectares, while 54% of farms have barely 2 hectares[20].

In addition to the land whose ownership is private (nearly 6.2 million Ha), Tunisian agricultural land is divided between state land (nearly ½ million Ha), collective land (1.5 million Ha), habous land (nearly 100,000 Ha), and the forest domain (1 million Ha).

The problem of sharing the land and securing its ownership appeared with the installation of the French protectorate in Tunisia in 1881. Indeed, by introducing the land register in 1885, the Protectorate authorities introduced a land tenure system favorable to

18 http://www.flehetna.com/fr/actu/nationale-internationale/3177-coup-d-envoi-au-systeme-de-transfert-des-eaux-du-nord-vers-le-centre-et-le-cap-bon

19 Rapport alternatif de la société civile tunisienne au Pacte International Relatif aux Droits Économiques, Sociaux et Culturels – Août 2016

20 73 percent of landholdings were less than 10 hectares in 2006 versus 64 percent in 1976 (Ministère de l'agriculture et des ressources hydrauliques, Enquête sur les structures des exploitations Agricoles 200'-2005)

colonization[21]. The registration of land in the cadaster thus allowed the settlers who shared the country's fertile land to protect themselves against any disputes. Because in their overwhelming majority, the Tunisians did not register their land and were content to hold notarized titles tainted with numerous imperfections, it was possible to easily strip them of their land[22]. This trend of land expropriation accelerated after the First World War, due to the decline in French agricultural production.

According to Baccouche (2013), "while the French settlers were satisfied with the soil, their government rushed to the subsoil instead". So that "the national liberation movement will recruit among the dissatisfied (fellahs) and subsoil (union members). »

Elloumi (2013) argues that subsequently, the national state authorities exploited the weaknesses of the land tenure system introduced by the protectorate and, under the pretext of better integration of land into economic circuits, "accelerated the unification of the legal system by putting an end to certain traditional statutes, with the objective of imposing the monopoly of positive law whose manufacture they controlled" (Elloumi, 2013).

After 2011, the land and farms that had been allocated to Ben Ali's family members, relatives of the regime, public figures and some SMVDAs, were expropriated by the new government and entrusted to the Office of State Lands (OTD). But, while the Islamists of Ennahda, represented by the Minister of Agriculture, has sought to attract capital from the allied Gulf countries by facilitating investment in Tunisian lands, members of the Congress Party of the Republic (CPR), Ennahda's ally in government and represented by the Minister of State Lands, have sought to increase their popularity by increasing the number of farms recovered (Elloumi, 2013).

According to Professor Habib Ayeb, President of the Observatory of Food Sovereignty and Environment "Farmers with less than 5 hectares constitute 54% of the total number of producers and share 11% of the total agricultural area. At the same time, those with more than 50 hectares are only 3% of the total number of farmers but use 34% of the total agricultural land. If we take into account the fact that the one who has 20 hectares of well irrigated land is already part of what are called investors, the proportion of agricultural land available to "large producers" is even higher. »[23]

With the physical and legal fragmentation of land, a problem of securing land ownership has emerged. Thus, after the revolution, it was estimated that 65,000 hectares were illegally occupied by people who took advantage of the weakening of the state to settle on its land.

21 Mohamed Elloumi, (2013), Les terres domaniales en Tunisie, Histoire d'une appropriation par les pouvoirs publics, Etudes rurales, 192 | 2013, URL : http://journals.openedition.org/etudesrurales/9888

22 Tarak Baccouche, (2013), Le triptyque Terre-Eau-Développement - Une autre histoire sur les origines de la révolution tunisienne. François Collart Dutilleul. Penser une démocratie alimentaire (vol.I), Inida (Costa Rica), pp.103, 2013, 9782918382072

[23] http://www.tunisiainred.org/tir/?p=5651

According to the Tunisian Union of Agriculture and Fisheries (UTAP), problems of availability of property titles concern 40,000 farmers and 350 thousand hectares of agricultural land.

The challenge of transparency and equity in the granting of certain lands and farms to agricultural development and development companies and the desire to improve the efficiency of the allocation of land lots to young people (especially unemployed graduates) has led the State to draw up new specifications for the granting of state land. The "Bureau de restructuration des Terres domaniales agricoles" (BRTDA) ensures compliance with these specifications and the "Agence de Promotion des Investissements Agricoles" (APIA) has the possibility of withdrawing exploitation rights when the promoter does not respect its commitments[24].

Encouraged by the implementation of the structural adjustment program, the revitalization of the land market, which aimed at an "optimal allocation" of resources in general and lands in particular, has limited smallholders' access to land. Jouili, (2008) states that land policy has no other objective than to "grant the small farmer a property title allowing him to sell his land the day he needs it, and he will most probably have it. »

b- The problem of soil quality and desertification

While 46% of agricultural plantations are carried out on lands with limited fertility, it is estimated that 96% of the Tunisian territory is directly or indirectly concerned by the risk of desertification (ITES, 2017).

In the meantime, according to FAO (2008), 62% of the land in central and northern Tunisia is affected by erosion. In the South, only 17.2% of land is not directly threatened by desertification or erosion. If the scenario predicted by INRA of an average temperature increase of 2 degrees by 2050 were to come true, this would mean that all the Maghreb countries would lose 50% of their arable land. Moreover, about 78% of the country's surface area (12 million ha) are affected by medium to high salinization. This salinization removes nearly 3000 Ha of irrigated productive land each year (Selim, Abassi, 2013).

Even though Tunisia has a national council to combat desertification and has developed many water and soil conservation programs, these risks are aggravated by the loss of ancestral soil conservation traditions, over-exploitation of land for production, the use (encouraged by the State) of cereal monoculture and the lack of data on local soil characteristics[25].

3.3 Climate change, food security and loss of sovereignty

The study by ITES[26] (2017) showed that during the twentieth century, Tunisia experienced an average ten-year rise in temperature of +2.39°C. A USAID study (2015) shows that by 2050, the temperature increase will reach 1.8 to 2.7°C. The same study also forecasts an annual reduction in rainfall of -4.1% to -6.8%. Finally, sea levels should rise

24 In particular the implementation of the investment and upgrading programs, job creation and supervision.
25 Tunisia has a network of 14 soil analysis laboratories but this network is insufficiently exploited by Tunisian farmers.
[26] ITES : Institut Tunisien des Etudes Stratégiques

by 3 to 61 cm and 1% to 3% of the territory should even be affected by a 1 meter rise in sea level.

According to a recent ONAGRI document, "The high variability of climate combined with an unevenly distributed water resource in space and time, have made drought the most significant risk affecting the agricultural sector, farmers' income, and the state budget". In periods of increasingly severe drought, phases of heavy rainfall and even floods are superimposed, which affect agricultural land without being useful for groundwater recharge.

This same ONAGRI study states, "the measures adopted so far have been reactive rather than proactive and remain insufficient"[27]. It is therefore necessary to integrate climate risks into development plans and programs by adopting the "Climate Proofing" methodological approach, developing agricultural insurance based on a public/private partnership and training farmers in managing this risk, which has become systemic.

Initially, these climate-related challenges led Tunisia to ratify the United Nations Framework Convention on Climate Change (1993) and adopt the Kyoto Protocol (2002). Secondly, it has put in place a national strategy for adapting the agricultural sector to climate change and a national strategy for adapting the coastline to sea-level rise.

3.4 Loss of biodiversity, Bio insecurity, and Genetic Heritage

a- GMOs and biosafety of imported food products

After the creation of the Gene bank, Tunisian governments have shown more good intentions than effective and concrete actions to guarantee food biosafety.

For example, despite the adoption of the national Agenda 21 since 1996, which incorporates precautionary requirements, Tunisian legislation remains silent on this principle. Similarly, having ratified (since 2002) the "Cartagena Protocol" on the prevention of the risks of modern biotechnologies, Tunisia has still not put in place the legal framework for the labeling and traceability of products.

In addition, a draft law on biosafety has been pending since the early 2000s. In the absence of control, there is still some opacity about the presence of GMOs in imported products. This problem concerns both certain imported food products (in particular soybean oil, maize, and their derivatives) and seeds used in agricultural activities.

Tunisia has four laboratories involved in the detection of GMOs[28] that benefit from quality infrastructures, but have important training and human resources recruitment needs, if only to be able to adapt to technological evolutions.

b- Pesticide Uses and Quality

Tunisia imports nearly 5,000 tons of pesticides annually and grants 700 import authorizations. About 150 import control operations are carried out and 600 samples are

27 ONAGRI (2017), Lettre de l'ONAGRI, Vol3, N°4, quatrième trimestre 2017
28 the laboratory of the National Bank of Genes, the technical agro-food center, the central analysis laboratory and the seed laboratory within the Ministry of Agriculture)

analyzed[29]. The use of pesticides and fertilizers has increased, in particular because of the use of hybrid seeds supposed to improve the productivity of farms in accordance with the objectives of national authorities. For example, according to the Yearbook of Agriculture Statistics (2014), the area of cereals treated with pesticides in the North of the country increased from less than 500,000 Ha in 2004 to 576,000 Ha in 2014 which represent 44,26% from the total[30].

According to the ITES strategic review (2017), old stocks of insecticides banned in Europe are still being sold in Tunisia. Bouguerra (2016), states that a survey conducted in 2007 showed that 1170 tons of obsolete pesticides are spread over 150 sites and 230 stores[31].

For its part, Dekhil (2017), Director of Environmental Product Control, states, "Only 16% of retailers know the meaning of the pictograms on the labels of the packaging of pesticides they market and no retailer has the safety data sheet"[32]. Dekhil also claims that the "Agence Nationale de Contrôle Sanitaire et Environnemental des Produits" (ANCSEP) has obtained a grant to finance the implementation of a National Vigilance System to control risks related to Pesticides in Tunisia (SNVP).

Another study conducted by the ANCSEP in 2005, concerning the existence of pesticides in the food chain, stressed the need to update the Tunisian standard that deals with the maximum tolerated pesticide residue limits[33].

The ANCSEP has also assessed the state of the control laboratories. It recommended to strengthen laboratories with equipment and human skills; assist laboratories that have the required prerequisites in setting up a quality system with a view to accreditation and consolidate those that are already accredited and to create a network of qualified laboratories by field of competence and respecting the geographical distribution necessary for regional balance.

c- The dependence on seeds and pesticides and the erosion of the national genetic heritage

Even though Tunisia has long been one of the main world producers of phosphates, and has developed a certain autonomy in terms of fertilizers, today, with nearly 72% of the world pesticide market and 61% of the seed market controlled by three large multinationals (Clapp, 2017) [34], Tunisia is forced to suffer the consequences of this concentration phenomenon.

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29 Data published by the Ministry of Agriculture at a seminar on "The role of the Ministry of Agriculture in plant protection and the control of pesticides, seeds and plants". (https://www.babnet.net/cadredetail-121023.asp

30 Ministère de l'agriculture, Annuaire statistique de l'agriculture, 2014.

31 Bouguerra L, (2016), Pour une agriculture performante et des aliments sains, http://www.leaders.com.tn/article/19213-pour-une-agriculture-performante-et-des-aliments-sains

32 Dekhil, H. (2017), La maitrise des risques liés aux pesticides « Actions entreprises par l'ANCSEP », communication à la journée mondiale des aliments 12 OCT.2017

33 ANCSEP (2005) Etude sur la contamination de la chaine alimentaire par les résidus de pesticides.

34 Clapp J, (2017), Bigger is not Always Better : Drives and Implications of the Recent Agribusiness Megamergers, colloque international, THE FUTURE OF FOOD AND CHALLENGES FOR AGRICULTURE IN THE 21st CENTURY: Debates about who, how and with what social, economic and ecological implications we will feed the world, www.elikadura21.eus

Indeed, because of the poverty of peasants who have difficulty developing to become independent farmers and the imperative of competitiveness for exporters whose main sales argument is the products low prices, it becomes difficult to reconcile economic and ecological logic to get out of the trap of dependence on so-called modern agriculture.

The intensification of agriculture and the massive use of imported varieties has led to the near extinction of many local varieties. "Improved" seeds have gradually displaced local seeds and led to the dependence of many Tunisian farmers.

This is particularly the case for national cattle breeds, which have practically disappeared (ITES, 2017). However, if local species do not seem competitive in the short term, they are of better quality and especially more resistant to climatic hazards which are becoming important in Tunisia.

Genetic erosion is also linked to international trade considerations: while export remains subject to the presentation of a certificate of no genetic transformation, Tunisia does not put barriers to the import of genetically modified products.

To address these biosecurity challenges, Tunisia has established a gene bank that does important work both to protect and repatriate local species and to help farmers recover local techniques and species. Tunisia has also adopted a biosecurity strategy that includes policy, legal and institutional guidelines and capacity-building guidelines[35].

3.5 The issue of Agricultural Human Resources

This issue refers to four dimensions: rural women who play a key role in agriculture, young people and the low-skilled agricultural workforce, agricultural graduates and entrepreneurs, and human resources involved in agricultural administration and farmer management structures.

a- The situation of rural women

Rural women constitute the bulk of the Tunisian agricultural labor force: 509208 women are active in this sector, 427534 of whom are unpaid family workers[36]. But despite Tunisia's progress in gender equality, rural women are still heavily penalized with regard to access to property and land, guarantees to access credit; access to social security[37] and education[38] and opportunities for monitoring and extension assistance[39].

Thus, the feminization of Tunisian agriculture and the transition of women from peasant to agricultural worker status is synonymous with precariousness, dependence, and aggravation of inequalities in society in general and in the agricultural sector in particular.

b- Youth, rural exodus and lack of interest in agriculture

35 Ministère de l'environnement, (2017), Synthèse de la stratégie nationale sur la biosécurité, publication sur le site web

36 Statistics of the Ministry of agriculture- campagne 2011/2012

37 these women's work is generally not declared and is done in the informal sector

38 32% of these women are illiterate. («Recherche sur la situation des femmes en milieu rural tunisien et leur accès aux services » MAFF/ AECID- Décembre 2013)

39 Designed and implemented by men, this assistance and popularization does not take into account the specific difficulties of women

Agricultural labor is becoming scarcer, more feminine and rapidly aging. While the share of agriculture in total national employment continues to fall, the percentage of farmers aged 60 and over is now around 60%.

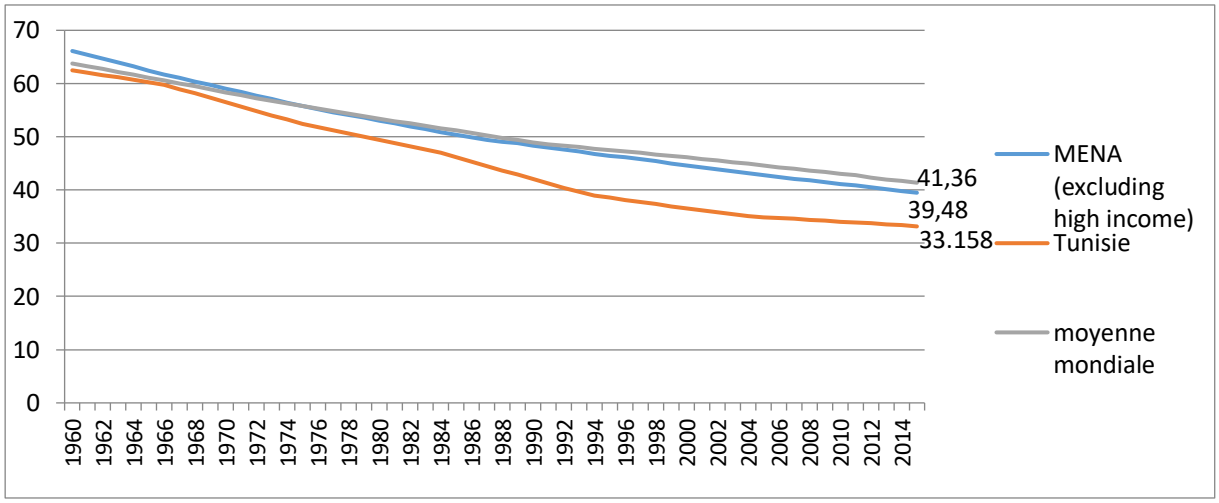
With these demographic changes, it is also traditional knowledge that tends to be lost or marginalized in favor of more "modern" techniques, often beyond the reach of small farmers and which have not given way to innovation and the development of locally anchored technical alternatives.

The first wave of emigration is linked to the social lift that came along the Tunisian education system. This has led to a qualified rural migration to settle in the city and work in the Tunisian administration or private companies.

The poor living conditions, the fragmentation of agricultural land, the problems of profitability of agricultural activities, the wage differential between the agricultural sector and other sectors in terms of labor (notably the industrial and construction sectors) and the so-called "active policies" to combat unemployment in the cities largely explain the ongoing rural exodus which worsened after the revolution.

This exodus was stronger in Tunisia than in the countries of the MENA region and the average of the rest of the world:

Figure 4: Rural population as a percentage of the total population



Source: World Bank

Tunisian agriculture suffers from a waste of natural, human and knowledge resources necessary for agricultural development (ITES, 2017).

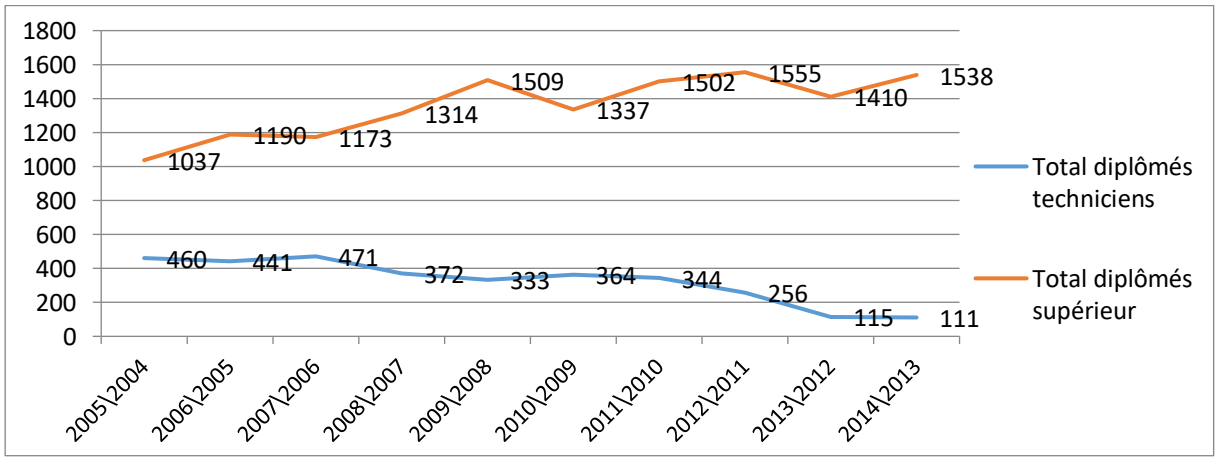
This process of abandoning agriculture is dependent on the growth of industrial and non-agricultural jobs. Indeed, “the small farmer abandons his exploitation only in the hope of finding a more stable and remunerative job elsewhere. In the absence of such a perspective, it tends to remain in place, even if it means reproducing itself in poverty and precariousness.” (Jouili, 2008).

c- Diploma courses and qualifications in agricultural fields

Tunisia is experiencing a drop in the number of graduated agricultural technicians (111 in 2014) to the benefit of engineers, doctors, and veterinarians (1538 in 2014)[40]. This inversion of the training pyramid is more problematic as it corresponds to an increase in graduate unemployment.

The following figure illustrates this growing imbalance between the number of technical graduates and those from agricultural university training:

Figure 5: Evolution of agricultural education graduates



Source: INS

d- Farm administration and management structures

Tunisia has an Agricultural Extension and Training Agency (AVFA), which groups 24 coordination units at governorate level, 187 territorial extension units (CTV) at delegation level and 849 agricultural extension units (CRA) at a local level. Other actors intervene on a more ad hoc basis in training/extension activities. These include the offices concerned by the activity in question; the Regional Agricultural Development Commissions (CRDAs); agricultural unions and various international development organizations. However, the extension system currently has only 414 full-time equivalent extension workers, or a ratio of 1 extension worker for 1246 farmers (ITES, 2017).

This lack of supervision penalizes farmers who do not have the financial means to use private agricultural advisors.

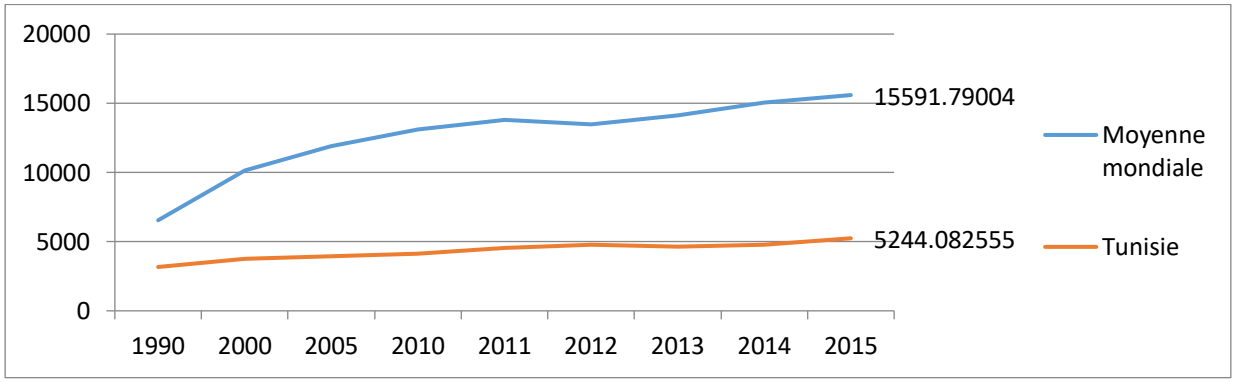
The problem of farmers' supervision is also linked to that of the weak structuring of basic professional organizations and the lack of coordination between institutions. Thus, of the

40 National Institute of Statistics

516,000 farms, only 27,000 farmers belong to mutual agricultural service companies (SMSA) (Bessaoud, Ton Nu, 2017)[41].

Combined with the low mechanization of Tunisian agriculture, these factors contribute to the low productivity of agricultural work in Tunisia:

Figure 6: Agricultural labor productivity (Value added per worker at constant 2010 prices)



Source: Knoema, World Bank

3.6 Agri-food competitiveness as a means for State sovereignty

Business climate: the Tunisian business climate deteriorated markedly in the years following the revolution. It rose from 69 in 2010 to 88 in 2018. Unfair competition (resulting in particular from the development of the informal sector), smuggling (of products from Libya or Algeria in particular), violence (linked to terrorism and decline of State authority), bureaucracy (linked to procedures that are as numerous as they are inefficient) and the deterioration of the social climate are all factors of a bad business climate.

a- **Logistics and distribution channels:** The growing deficit in the State budget weighs heavily on the maintenance and development of today's aging infrastructure necessary for the production and transport of agricultural products. Their limited storage capacities make farmers dependent on a few intermediaries or wholesalers who thus succeed in imposing their market conditions. As regards cereals, an ITES study (2016) concluded, "collection and storage capacity does not meet the needs of the sector and presents serious risks during good harvest years"[42]. According to Rastoin and Benabderrazik (2014), over the last ten years, collection rates for cereals have not exceeded 52% for durum wheat, 17% for barley, 59% for common wheat and 13% for Triticale[43].

41 Bessaoud, O; Ton Nu, C, (2017), Étude sur l'agriculture familiale à petite échelle au proche orient et Afrique du Nord pays focus. Tunisie, Organisation des Nations unies pour l'alimentation et l'agriculture, Center de Coopération Internationale en Recherche Agronomique pour le Développement, International Centre for Advanced Mediterranean Agronomic Studies

42 ITES (2016), Le secteur des céréales en Tunisie : état des lieux et orientations stratégiques.

43 Rastoin, J-L et El Hassan Benabderrazik E-H, (2014), Céréales et oléoprotéagineux au Maghreb , Ch3 Tunisie, IPEMED

Besides collection and storage problems, and although there are no official figures, agricultural losses due to logistical and distribution problems seem to be significant. Thus, "whereas developing countries essentially experience losses of foodstuffs intended for consumption and developed countries suffer more from discarded food waste, Tunisia seems to suffer both phenomena at the same time" (ITES, 2017).

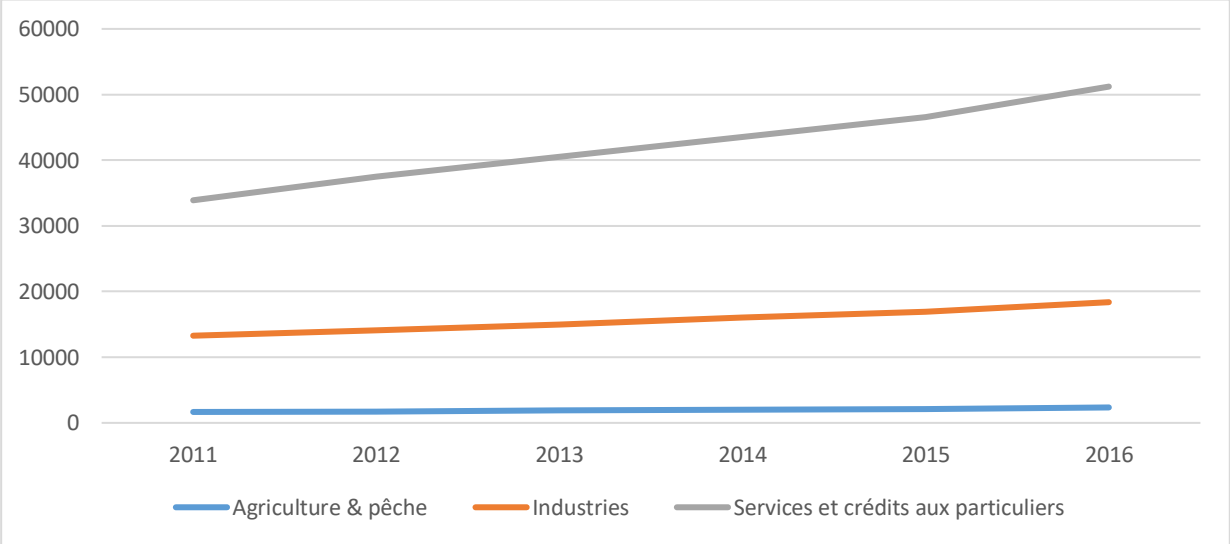
b- Agro-food industries: with a thousand private companies and a little over 70,000 employees, the agro-food industry contributes nearly 3% of Tunisian GDP. A relatively stable rate since 2010. This industry has accompanied the change in consumption habits of Tunisians and the emergence of mass distribution. The challenge of local processing of agricultural products has led the State to formulate a program to support the quality certification of companies in the sector and the creation of an industrial zone dedicated to food industries. Nevertheless, this sector also faces many constraints, including large fluctuations in the level of agricultural production due to climatic conditions, poor coordination between the sector's players and barriers to entry into foreign markets.

3.7 Access to finance as a source of inequality

Despite the existence of a public agricultural bank[44], the Tunisian agricultural sector remains under-banked and few farmers have access to bank credit.

In an attempt to facilitate the financing of small farmers, the agricultural policy of the 1990s will over-indebt them and create major inequalities in access to credit (Baccouche, 2013). According to UTAP[45], less than 7% of farmers have access to bank credit and commercial banks contribute only 15% of total agricultural investments. Two-thirds of farmers' debts to banks consist of interest and late payment penalties[46].

Figure 7: Loans to the economy of the financial system (in MDT)



Source: Tunisian Central Bank

44 La Banque Nationale Agricole (BNA)
45 Union Tunisienne de l'Agriculture et de la pêche
46 These debts are estimated at 1161 million dinars.

According to Jouili (2008), 77.5% of farms are economically unviable from a banking eligibility point of view. As a result, the majority of farmers are excluded from bank financing, while those who have access to it quickly find themselves over-indebted.

These difficulties are much greater for women: according to Mahfoudh (2013), 52.8% of women wishing to launch a project are penalized by the lack of sources of funding. This rate is only 73.7% for men[47].

Finally, despite the worsening weather conditions, agricultural insurance still represents only 2.78% of the Tunisian insurance market. Established at the end of the 1980s, the national fund to guarantee agricultural activities in the face of natural disasters suffered from multiple dysfunctions and it was only in 2017 that the government decided to relaunch it as a solidarity fund benefiting from tripartite financing (State, consumers and farmers).

3.8 The Deep and Comprehensive Free Trade Area (*DCFTA*) with Europe: a deadly threat?

Announced for 2019, the Deep and Comprehensive Free Trade Agreement (DCFTA) with the European Union (EU), is strongly criticized and presented as a serious threat to Tunisian agriculture.

Even, if the European market weighs for more than 500 million consumers, agricultural products constitute only 8.5% of Tunisian exports to the European Union while 6% of total Tunisian imports, from the EU, consist of agri-food products.

Since 2001, the European Union and Tunisia have agreed to "mutual concessions". Those granted to Tunisian exports of agricultural products vary according to their nature and the sensitivity of the products for the European market. Four cases are foreseen48:

1. Total exemption from customs duties, with no restrictions on the quantities traded or the export period;
2. Total exemption from customs duties, with limitations on the export period;
3. Total exemption from customs duties for a given quota; and
4. A partial reduction of customs duties, without any quantitative restrictions.

In return, Tunisia undertook, on the one hand, to offer the EU preferential market access for cereals, meat and dairy products and, on the other hand, under the GATT agreements, to consolidate its concessions.

Supporters of Tunisia's accession to the DCFTA with the European Union cite four main arguments in its favor:

- Tunisian farmers would have access to the European market of 500 million consumers,
- Farmers could align their prices with those of the world market,

47 Mahfouh, Dorra (2013), Recherche sur la situation des femmes en milieu rural et leur accès aux services publics dans onze gouvernorats de la Tunisie, secrétariat d'Etat de la femme et de la famille.
48 http://www.aleca.tn/2016/11/pourquoi-la-tunisie-doit-elle-avancer-sur-laleca/

- Tunisia would receive assistance to upgrade its agriculture,

- The implementation of DCFTA would be gradual and sectoral.

In reality, the European and global market is not as accessible as it is presented. They remain dominated by large operators against whom small Tunisian farmers could not resist. Moreover, Tunisian peasants would have little chance of complying with European standards and input prices will only increase.

Other DCFTA critics insist on the negative consequences that the 1995 EU-Tunisia Association Agreement would have had on the Tunisian economy.

While the outcome of the 1995 Association Agreement is mixed and difficult to assess, some DCFTA advocates acknowledge its weaknesses in order to better defend the idea of a deepening of economic relations. In other words, the 1995 agreement had negative consequences precisely because it would not have been sufficiently "comprehensive" and "deep".

In this debate between experts who do not share the same hypotheses, nor the same interests, it seems important to stress that national sovereignty could be strengthened by better regional security and deeper cooperation between Tunisia and its geopolitical environment. Nevertheless, this deeper cooperation requires common policies and not only free trade. Tunisia could therefore, rely on the Maghreb, North Africa, the Arab world or even Europe to improve its food security and indirectly its national sovereignty. However, this requires real cooperation to develop fair common public policies and not only a deepening of international trade and free trade. For the time being, these conditions do not seem to be met, due to the lack of transparency of the Tunisian authorities on an issue that risks being politicized and the uncertainties of the European Union's neighborhood policy.

3.9 Food security and sovereignty through science, information, and technology

Food security and sovereignty should not be confused with the protection of some acquis, nor with the defense of a vital minimum. This security also implies innovating production processes, diversifying agricultural production and multiplying forms of agriculture or developing viable agricultural alternatives.

In turn, these imperatives require the development of agricultural scientific research, the exploitation of ICTs and the exploration of alternative forms of agriculture.

a- Agricultural scientific research

Agricultural innovation is inseparable from scientific research. Today, Tunisia has 22 agricultural education and research organizations. Tunisia's research yearbook (2018) shows that there are 29 laboratories and 10 research units working directly on agricultural issues. Other research structures are working on important issues for agriculture, such as biotechnology, biodiversity or physiopathology.

A recent evaluation report shows the main weaknesses of scientific research in general and agricultural research in particular in Tunisia[49]. These include:

- The fragmentation of structures and the dispersion of resources and efforts;

- The lack of valorization of the results of scientific research;

- The brain drain that increased after 2011;

- Poor coordination of structures and programs linked to dual supervision (Ministry of Agriculture, Ministry of Higher Education and Scientific Research);

- The lack of interest of companies in scientific research;

- Segmentation between universities and research centers;

- The status of teacher-researchers that do not encourage continuing scientific research;

- The evaluation of research structures remains complex, not very transparent and with uncertain benefit;

- The interface structures between public research and the business sector are often inefficient and poorly positioned.

b- ICT exploitation and smart agriculture

The use of ICT in Tunisian agriculture is in its infancy. Recently, a 93.1 million Euro World Bank funded loan project, planned a 56 million US$ sub-component "Smart and Sustainable Agricultural Practices". In the same direction, the Ministry of Communication Technologies and Digital Economy recently took advantage of the 2017 Agriculture, Machinery and Fisheries Fair to organize the first "Smart Agriculture Hackathon". Finally, between 2017 and 2018, a budget of 300 000 Euros was dedicated by the German cooperation to the implementation of a new digital application "Plantix Tunisia"[50].

However, these efforts are still penalized by the low financial capacities of farmers who are not always convinced by IT solutions nor able to master them well. These efforts are also penalized by legal and security considerations. This is the case, for example, for the use of drones in agriculture, which remains subject to dissuasive authorizations.

3.10 Poverty, regional imbalance and social transfers

Four major public policy programs were mobilized in order to fight poverty and promote regional imbalance [51]:

49 Emmanuel HASSAN (2016), DIAGNOSTIC DU SYSTÈME NATIONAL DE RECHERCHE ET D'INNOVATION EN TUNISIE, PASRI

50 It is a partnership between the German cooperation GIZ, the Ministry of Agriculture, Water Resources and Fisheries (APIA, AVFA, DGPCQPA), PEAT (German Startup and owner of Plantix), Royal Green Technologies (Tunisian Startup) and the association Appui aux Initiatives de Développement (A.I.D). Developed in Germany in 2015, the Plantix application is a digital decision support tool. It is a digital solution for smartphones that allows farmers to identify diseases and pests that attack their plants through photos and to quickly access information on curative and preventive control methods.

[51] Other programs less directly related to food security could also be mentioned: school aid, regional workcamps, housing aid, aid granted under active employment policies, etc.

a- The general compensation fund: set up in 1971 for a one-off intervention to rationalize subsidies, this fund has been used to subsidize products as diverse as bread, milk, sugar, meat, soybean meal, rapeseed oil, corn, school books, cultural books, milk collection, potato seed, fertilizers and even cement. After the fall of the Ben Ali regime, the situation of this fund deteriorated rapidly and its expenses went from 730 million dinars in 2010 to 1605 million dinars in 2017.

In terms of targeting the poorest populations, food subsidies are weakly effective. Indeed, according to data from the 2010 National Budget and Consumption Survey, only 9.2% of subsidies go to the poorest households, 60.5% to middle-class households, 7.5% to the rich population and 22.8% are transferred outside households (restaurants, cafés, tourists, illegal cross-border trade).

b- The national program to help needy families (PNAFN): Launched in 1986, the main objective of this program was to limit compensation expenditures within a vision favoring direct targeting instead of the universal subsidy system used with the General Compensation Fund.

The number of beneficiaries of this program has increased sharply since 1987, from 78 000 in 1987 to 118 000 in 2010 and 235 000 in 2014. To date, it is the only cash transfer program in effect.

Targeting 8.3% of all the poorest households, this program only reaches 3.9% of them, i.e., an accuracy rate of 47%.

c- The national school-feeding program: Aware of the importance of the school feeding program in promoting the attendance of pupils from disadvantaged areas and in increasing their learning capacities, the Tunisian Government has decided to relaunch this program on a large scale and has requested, to this end, the continuation of the partnership with the World Food Program.

d- The Reduced Fee Access to Health Care program (AMG2): launched in 1998, this program provides its beneficiaries with reduced-fee access to health care within public health structures for a fixed annual fee of 10 dinars. Families benefiting from AMG2 represent 21.7% of all families (those ranking just after the 8.3% of the poorest households) but this program only affects 10.9% of this 21.7%, which is an accuracy rate of 50.2% (CRES, AfDB, 2015).

While the PNAFN, the school assistance program and the AMG2 implement a strong targeting for disadvantaged regions in the west of the country and for rural areas, the absence of a unified database of all social assistance granted means that some families could combine the benefits while others do not have access to them.

4. Food sovereignty in Tunisia: the role of the State, political parties and civil society.

4.1 Food sovereignty in Tunisia: some remarks and elements of a definition

There is often a great deal of confusion between food security and food sovereignty. In other cases, these two approaches are completely opposed. However, several authors

insist on the complementarities and bridges that it would be useful to establish between these two paradigms[52].

Even if the right to food is said to be central to both approaches, the difference between food sovereignty and food security lies in the way in which the objective of feeding the entire population is achieved.

Five remarks deserve attention:

- First of all, the concepts of food security and food sovereignty are developing, evolving and are subject to appropriation and instrumentalization that leave little room for theoretical details and nuances. In fact, while it is always useful in theory to establish links between security and sovereignty issues, in activism it is difficult to accommodate theoretical nuances. This often leads to a double misunderstanding linked to rather dogmatic and stigmatizing positions: on the one hand, "sovereigntists" accuse "securityists" of being bearers of a neo-liberal ideology of a (farming) economy without farmers (or peasants) and at their expense. On the other hand, "securityists" accuse "sovereigntists" of being neo-conservatives or neo-protectionists and of being carriers of the utopia of an agriculture that would free itself from market logic because people are supposed to "produce what they consume and consume what they produce" at the national, local and individual levels.

- Second, food sovereignty is a political movement that, in the case of Tunisia, lacks resources and structuration. However, it is also both a theoretical approach and a conceptual framework for interpreting and understanding reality and the result of concrete actions taken by the State, peasants and farmers alike. As such, it covers tensions and arbitrations and assumes the resolution of a number of contradictions and conflicts between the interests involved53.

- Third, food sovereignty considers that the achievements of public agricultural policies are linked to decision-making procedures and so that food security results from democratic processes and proactive policies that combat inequalities, vulnerabilities and dependencies rather than from free market mechanisms.

- Fourth, the duality of food security through sovereignty or security through markets and competitiveness overlaps with another equally important duality: that of the formal or real right to food. In fact, food security and food sovereignty cannot be completely separated. Without sovereignty, security may not be sustainable and ultimately undermine its own foundations. However, without security, sovereignty could be nothing more than a mere political slogan.

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[52] See for example: Marc Edelman, Tony Weis, Amita Baviskar, Saturnino M. Borras Jr, Eric Holt-Giménez, Deniz Kandiyoti & Wendy Wolford (2014) Introduction: critical perspectives on food sovereignty, The Journal of Peasant Studies, 41:6, 911-931; and Marc Edelman (2014) Food sovereignty: forgotten genealogies and future regulatory challenges, The Journal of Peasant Studies, 41:6, 959-978

53 According to Agarwal (2014): "food self-sufficiency, diversity, agroecology, community, democracy and equality is undeniably attractive and important, but some elements can also be in serious conflict with others in practice (...) national self-sufficiency goals cannot translate simply into local or household self-sufficiency goals."Bina Agarwal, Food sovereignty, food security and democratic choice: critical contradictions, difficult conciliations, The Journal of Peasant Studies, 2014 Vol. 41, No. 6, 1247–1268

- Finally, while Via Campesina defines food sovereignty as the "right of populations, their States or Unions to define their agricultural and food policy", the Tunisian democratic transition has shown all the difficulties to exercise such a right. For example, Tunisia's latest development plan (2016-2020) was presented as participatory and in stark contrast to the centralizing planning practices of the Ben Ali regime. However, it was soon realized that people were not really prepared to participate in decision-making, that they did not have the means to control and participate in implementation, that the concern of the most vulnerable was limited to short-term demands and that arbitration and coherence could not be ensured by participation alone. On the contrary, this participation has exacerbated regionalism and local conflicts over the means of the state as a rent to be shared. In other words, the right to participate in policy making is much more complex than the definition suggests and it is not enough for the democratic transition to be described as successful, for participation to be real and transformative, rather than formal and disappointing.

4.2 Food sovereignty and the changing roles of the State

From a strict point of view, the end of the French protectorate meant the recovery of the sovereignty of the Tunisian Nation. Nevertheless, this sovereignty of the Nation was to be constructed and defended on the economic and political side. Very soon, it has been confused with absolute domination of the State over the society and an increased dependence of the populations on the center of power. In the name of reforms, everything was happening as if the consolidation of state sovereignty required increased dependence on the people and a progressive deprivation of their rights.

By taking back from the settlers the best resources they confiscated for themselves, and by affirming that he wanted to organize their exploitation by the populations, the State began by appropriating these resources and then turned them into an element of its political domination over society as a whole.

Lacking a development model and the means to diversify away from the agricultural practices and sectors developed by the settlers for the benefit of the French colonizer, the new independent Tunisian state confused the modernization of its agriculture with its extroversion and the ability to export to European markets in general and France in particular. According to Jouili (2008), the actions of the State "far from aiming at a real promotion of the peasantry and the rural world, most often take on an ideological aspect in order to defend the socio-political legitimacy of the State. All the more so as their scope and continuity are increasingly hampered by the reduction in budgetary resources."

Gradually, the Tunisian social state became a protective, clientelist and disempowering state. Instead of promoting the capacity for self-organization and thus the sovereignty of the populations, it increased their dependency, and with the Ben Ali regime, it wanted to impose on them a forced march towards modernization through economic liberalism, increased surveillance, control and domination. Resources and inputs to the agricultural sector (Typically land, financial resources and crops) became the backbone of a political

patronage directed by the RCD party, and a privilege for those close to the regime and the president's family.

In terms of the structuring of social groups, the combination of the economic development and social insurance model under Ben Ali's rule aimed to keep farmers alive, to ensure the political adherence or neutralization of middle-class consumers and to promote a class of sub-contractors-at first- and exporters-at the second stage.

After the fall of the Ben Ali regime, in the name of freedom, revolution and the return to identity, all state institutions were called into question, leading to a crisis of authority and a growing inability of the executive power to meet the people’s expectations.

These expectations have been fueled by the race for power of parties with no experience of government, no real democratic traditions, weak roots in the society and a strong tendency to favor simplistic, ineffective and demagogic solutions or populist and short-term proposals. At the same time, state authority has been weakened by the emergence of new actors and new social demands based on corporatism or regionalism, while political instability has been aggravated by weak or false compromises.

As a result, if it is more democratic, Tunisia after 2011 is more dependent on foreign funding, less productive and respectful of its natural environment, more unstable and therefore less sovereign.

The marginalization and subordination of agriculture to other sectors of the Tunisian economy, is the result of several policies: Economic policy focused on tourism, industrial subcontracting and phosphate; social policy having bet on the emergence of the urbanized middle class and bought social peace through food subsidies; educational policy having devalued manual labor and idealized the school social elevator; environmental policy marginalized or entrusted to ministries that consume the most natural resources.

While the discourse of food self-sufficiency was a constant in the different national development plans, there was no real and coherent public policy for food security (ITES, 2017), and agriculture was approached from the perspective of control, social peace and its potential contribution to the perpetuation of a securitarian regime.

Rather than focusing on a harmonious, balanced and synergistic development between agriculture, industry and services, the state-led development model validated by the social partners, has led to the definition of a guaranteed minimum wage in the industrial sector that is much higher than that of the agricultural sector. This choice pushed the latter to take refuge in a form of institutionalized precariousness and informality. In the meantime, these industrial and service sectors were all the less inclined to draw the agricultural sector, since they were themselves built in a logic of rent and predation of the State's resources. In other words, agriculture has subsidized the rest of the economy and the precariousness of most of its actors has indirectly contributed to building Tunisia's comparative advantages. While being oriented towards exports and foreign investment, industry and services came to compete and strip agriculture of the resources that could have been allocated to it. It is this development model that has accentuated the country's two main issues: regional imbalance and youth unemployment.

4.3 The role of political parties and agricultural unions

a- Political parties

Before the fall of the Ben Ali regime, a certain political ecology developed in Tunisia with two parties which, because of the authoritarianism of the regime and the lack of awareness of the issues of that time, did not have a real popular base.

The first, "Tunisie la verte" was created in 2004 but could not obtain an authorization to exercise from the government. This opposing party was nevertheless able to develop relations with the European Green Parties and after 2011, it was able to be part of the council of the higher authority for the achievement of the objectives of the revolution. Having joined and then abandoned a coalition of left-wing parties (the "popular front"), this political party was unable to win the elections and seemed to have great difficulty in positioning itself in Tunisia after 2011.

The second "Green Party for Progress" was created in 2005 and quickly recognized in 2006. With the objective of "strengthening the environmental awareness of Tunisians", this party was reputed to be close to the Ben Ali regime[54] and was able to participate in the elections in 2009 and win six seats. After 2011, the party's president was banned from traveling in connection with the Ben Ali regime's political party financing affair, but was able to continue to participate in the elections without having any real political weight.

After 2011, a new party called "La voix des agriculteurs" ran in the 2014 legislative elections with six electoral lists and succeeded in obtaining a seat in the National Assembly. Nevertheless, this party seems to depend on its president who, as a Member of Parliament, shines through his highly controversial media appearances, often mixing populism and regionalism[55].

b- The unions

At the trade union level, two main structures defend the interests of Tunisian farmers and peasants.

The first, UTAP (Union Tunisienne de l'Agriculture et de Pêche) was born after Tunisia's independence and was, for a very long time, closely controlled by the ruling government and associated with the activities of the then single party. Largely financed by the State for 75% of its budget, this structure drew its strength from the number of farmers who were practically obliged to join in order to obtain farming status and thus benefit from State aid.

After the end of Ben Ali's regime, this structure elected a close president of the Islamist party Ennahda as its head and saw a split from some of its leading members who presented themselves as "reformers" and created a second agricultural union (SYNAGRI: Syndicat des Agriculteurs de Tunisie).

54 it had supported its candidature for the 2009 presidential elections

55 Recently, in March 2017, the Tunis court decided to expel this president from a 220-hectare farm he was illegally farming in northwest Tunisia, which did not fail to discredit this leader who said he spoke on behalf of the poor.

Today, although often ignored by the authorities in power, this structure, which claims to be independent, has gained ground and seems to attract relatively well-trained and organized young farmers.

Attracting farmers and small farmers, often motivated by subsidies in the first case, and a few young bosses more rooted in the so-called modern agricultural sector than in traditional peasantry, in the second case, these two structures "act in parallel and not in synergy"[56]. Even if sometimes they are consulted, these unions have difficulty in stimulating, organizing and supervising collective movements of farmers, and in effectively influencing national policies.

All in all, despite the democratization of the political field, the government remains "rather deaf to the demands of small farmers, refusing in particular, to accede to requests for debt cancellation that threaten to expropriate many of them and (...) in a logic of bringing agricultural organizations under control, the new authorities do not welcome the emergence of an agricultural trade union pluralism" (Gana, 2013)[57].

4.4 Civil society, social movements and other food sovereignty actors in Tunisia

Apart from the Ministry of Agriculture and Water Resources and a few other ministries (notably the Ministry of Environment and Trade), which are involved in the regulation of the agricultural sector, Tunisia's agricultural institutional landscape is made up of associations, mutual societies, and unions.

a- Agricultural and environmental associations and civil society

The Tunisian NGO sector has always been closely controlled by the Ben Ali regime. After 2011, there has been a real explosion in this sector. This includes "classic" associations and "Agricultural Development Groups".

The number of traditional associations has increased from 10,000 in 2010 to 21,776 in 2018. Of these, 548 declare themselves as environmental[58]. According to several observers, it is this dynamism of civil society that has enabled Tunisia to avoid the crises experienced by other "Arab spring" countries. Nevertheless, despite this dynamism, Tunisian civil society still suffers from many weaknesses, including[59] :

- Economic dependence on state subsidies or foreign aid;

- The absence of State aid or support structures;

- Poor knowledge of the legal, financial and accounting aspects;

- Poor governance and personalization of structures (around the president);

56 Nora Ourabah Haddad le rôle des organisations professionnelles agricoles en Méditerranée les notes d'analyse du Centre international de hautes études agronomiques méditerranéennes numéro 13 juillet 2006
57 Alia Gana, (2013), Tunisie : les oubliés de la révolution. Protestations et conflits dans le monde agricole, ALTERNATIVES SUD, VOL. 20-2013 / 91
58 476 out of a total of 19915 in 2017
59 Karim Ben Kahla, (2017), Mise en œuvre d'un modèle de développement du grand Tunis basé sur l'économie sociale et solidaire, Projet RETICEL, Association Mohamed Ali pour la Culture Ouvrière

- False vocations (or even sometimes false associations), created with the sole objective of benefiting young people through employment schemes;

- Insufficient proximity to the ground and populations;

- Atomization, rivalry and rudimentary collaboration between organizations;

- Lack of an institutional framework for collaboration between state actors and civil society organizations.

Among the most active associations in the field of food sovereignty, we can mention:

- The Tunisian Forum for Economic and Social Rights. Created in 2011, the FTDES works on the following themes: labor law, women's rights, environmental rights, and migrants' rights. With four regional sections, this forum has been working for almost two years to facilitate the structuring of popular movements. To this end, it organizes each year a "Congress of Social Movements", and publishes a monthly report on the state of freedoms in Tunisia as well as an annual report of social movements and other studies on current issues.

- The Observatory of Food Sovereignty and Environment: this association has as its general objectives the development of research, information, awareness, and training. In 2016, the Observatory organized in Tunis a first "Forum for Food Sovereignty" which brought together about fifty people. In 2017, it participated in the creation of the “North African Food Sovereignty Network” that brings together nine North African organizations with an anti-capitalist orientation[60] and aims in particular, to "federate" all associations, popular organizations, trade unions and social movements of anti-capitalist and anti-extractivist tendencies[61].

- The Tunisian Permaculture Association: launched in 2013, this association aims to promote permaculture culture; master permaculture techniques through the organization of workshops; the creation of collaborative projects; the strengthening of projects of Tunisian permaculteurs and the discovery of local, ancient or rare species and seeds and their conservation. In addition to the training workshops and in partnership with the Genebank, this association also organizes an annual farmers' seed festival.

Having been created after 2011, these associations lack the resources to be able to promote and support strong social movements. The president of the Observatory of Food Sovereignty and Environment states "Regionalist conflicts, every man for himself within the different movements, the lack of a common conscience have prevented mobilizations from taking hold and the social question from becoming central after the revolution". However, the most interesting experience comes from Jemna:

60 Including three Tunisian women: Association écologie pour l'environnement agricole vert, Association un million de femmes rurales and Observatoire de la souveraineté alimentaire et écologique (http://www.cadtm.org/Constitution-d-un-reseau-nord)
61 Moncef Mahroug, (2017), Constitution d’un Réseau nord-africain pour la souveraineté alimentaire, https://www.webmanagercenter.com/2017/07/27/408646/constitution-dun-reseau-nord-africain-pour-la-souverainete-alimentaire/

Box 1: Jemna: is the social and solidarity economy the solution?

The day after Ben Ali's flight (January 12, 2011), about a hundred inhabitants of the city of Jemna in southwest Tunisia seized the largest farm in the region that was rented to private individuals ("Henchir EL Moamer").

Created by the settlers, this farm was managed by a public company ("STIL") that went bankrupt before being recovered and leased to private individuals known to be close to the Ben Ali regime.

They obtained the operation of the farm for a period of 15 years and for a paltry sum (between 16,000 and 40,000 Dt depending on the sources)

It was therefore in the name of revolution and the right of the people to the ancestors' lands that the new occupants refused to leave this farm.

If in the beginning, it was a question of sharing the 185 hectares and 11000 palm trees between the occupants, very quickly the idea of a collective farm was born so that the whole village could benefit from it. For this purpose, an association (the Jemna Oasis Protection Association) has been created.

A management committee has also been set up, whose members are elected by the city's residents. This committee manages the affairs of the Oasis in a participatory and transparent manner. Major decisions (including the sale of the harvest) are made in the middle of the village, in the public square and adopted by a majority of votes.

Very quickly, an arm-wrestling match was set up with the local authorities. The Tunisian State could not accept such a situation, which risks spreading to other lands also occupied by populations, either in the name of the revolution, or the fight against unemployment, the misuse by the State or the private sector, or even in the name of the legitimacy of taking back what would have belonged to the ancestors.

The association for the protection of the Jemna Oasis has thus been accused of taking advantage of the revolutionary situation to flout State authority by illegally exploiting a public good. Some even saw it as a no-go zone favorable to money laundering and all kinds of trafficking. It has also been accused of being politically manipulated (or recovered) and lacking transparency (although this could be linked to ongoing negotiations with the state).

For the time being, and in economic and social terms, the Jemna experience seems to be a success. The crops are sold at 1.8 million dinars and the association has been able to develop many social projects for the city while resisting the strong political polarization that characterizes Tunisia after 2011.

According to Kerrou (2017) "Despite the obstacles raised against their experience, the members of the Association for the Protection of the Oases of Jemna have succeeded in revitalizing the city and maintaining cordial and transparent relations among themselves and with the national and international support network. Jemna has thus become a symbol of civil society's resistance to state authoritarianism and clientelism. »

One of the outcomes of the battle between the State and the association that manages the farm could be that it becomes an SMVDA. In 2017, the Ministry of Agriculture proposed to create a cooperative agricultural production unit (under the 1995 Law) to be managed, for a transitional

period, by the Association for the Protection of the Jemna Oases. Although it could save the face of the State and safeguard the interests of local populations, this proposal has still not been implemented.

The definitive solution to the legal and political problem posed by the Jemna experience could come from the adoption of a new law on the social and solidarity economy (currently under discussion).

For the time being, three challenges must be met if this experience is to make a definitive and lasting contribution to true food sovereignty:

- Legal coverage should be given to a largely popular action, considered legitimate because it has done justice to local populations and has had a largely positive impact on the inhabitants of the region;
- Diversify production so that it is no longer dependent on date exports, international markets and to better meet the food needs of local populations;
- Change production and power relations, and redefine work organization methods within the farm itself to adopt more democratic and less traditional methods of internal management.

b- Agricultural Development Groups (GDA)

Created following the 1999 framework law, GDAs are non-profit associations generally located in rural areas whose mission is to safeguard natural resources and rationalize their use.

In 2011, the number of GDAs was estimated at 2742 for 526830 members, including 1267 drinking water agricultural development groups, 1243 irrigation agricultural development groups and 232 agricultural development groups and fisheries development groups[62].

The GDAs for access to drinking water manage about 1000 water points and thus contribute to the supply of 232,000 rural families, equivalent to 1,600,000 inhabitants or 50% of the rural area in Tunisia (Ministry of Agriculture, 2012).

Generally considered as a propaganda tool of the former political regime, the GDAs have several weaknesses (Kalboussi, 2015; Abidi, 2016[63]):

- The absence of adequate training and support mechanisms for their development. For instance, GDAs lack the skills and capacity to carry out maintenance work on drinking water access systems.

- The large volume of their debts (particularly to STEG and CRDAs). According to the World Bank, in 2018 out of 1253 GDAs, only 20% are considered functional with a cost recovery rate above 60%. Unlike drinking water GDAs, beneficiaries of irrigation GDA

62 MedESS (2017)
63 ABIDI W, (2016), ANALYSE DE L'ORGANISATION COOPÉRATIVE DANS L'AGRICULTURE ET L'ÉLEVAGE EN TUNISIE, RESEARCH COLLECTIVE ON AGRICULTURE, ENVIRONEMENT AND LABOUR IN THE ARAB WORLD, HTTP://WWW.ATHIMAR.ORG/

services are required to pay for water before it is consumed. This explains why the former are much more indebted than the latter. In addition, some farmers pay GDA members in cash and they do not transfer the money to their structure's account. As a result, while the water paid for and consumed is not included in the GDA's revenues, but STEG's bill is increasing[64].

- The irregularity of the audit of their finances: The Ministry of Finance do not have sufficient resources and staff to carry out the financial audit of the GDAs on the spot, and it cannot force them to voluntarily report for the audit of their finances. Moreover, financial control is limited to checking the balance of the accounts, without looking in detail at the conformity of expenditure with the missions of the GDAs.

- Poor governance: Boards of directors are often subject to family and political considerations. In addition, the policy is to change the managers of the GDAs whenever it appears that the elders are unable to manage. The formers are therefore not in any way concerned when the result of their management.

- Bureaucracy and lack of autonomy: agricultural development groups are under the supervision of two ministries: the Ministry of Agriculture and Water Resources and the Ministry of the Interior through the Governor. While the latter is devoted to controlling, the support of the Ministry of Agriculture is weak.

- The existence of corrupt practices within some GDAs. For instance, there is no standardization of water meters, frequent connections without putting the meter on and refusal to pay SONEDE and STEG for its consumption.

c- Mutual Agricultural Service Companies (SMSA)

Created in 2005 as part of the restructuring of professional agricultural organizations, SMSA's mission is to provide services to "farmer" members in order to upgrade agricultural production and improve production management.

SMSAs are founded on several principles (free membership, democratic governance based on the principle of "one man one vote" and annual distribution of management surpluses to all members) and provide services such as the purchase of raw materials or inputs, collection, processing, and marketing. Currently, there are 177 Mutual Agricultural Service Companies (SMSAs).

SMSAs face several problems (Abidi, 2016; ITES, 2017; MedESS, 2017):

- Low coverage of Farmers (no more than 5% of all farmers) and concentration in the coastal regions (64%),

- Concentration of activities in the dairy sector: 61 SMSAs are engaged in milk collection activities, while the three main SMSAs involved in cereal collection have been in a "bankruptcy" situation for more than ten years (ITES, 2016)[65] because of rigidity of the

64 A recent World Bank report (2018) states that only 20% of GDAs are considered functional with a cost recovery rate above 60%.
65 ITES, (2016), LE SECTEUR DES CEREALES EN TUNISIE : ETAT DES LIEUX ET ORIENTATIONS STRATEGIQUES

statutes, highly dependent management of the Grains Board, debt, insufficient investments and lack of farmer confidence (Rastoin, Benabderrazik, 2014)[66].

- Problems of decision-making autonomy: SMSAs are subject to triple supervision (the Ministry of the Interior, the Ministry of Agriculture and the Ministry of Finance). A control logic seems to replace other forms of cooperation (training and extension logic),

- Financing problems (26 SMSAs suffer from survival difficulties, 21 of which have abandoned their operations; debt of mutual companies providing central agricultural services is estimated at 400 million dinars). The financial contributions of members to the incorporation capital of companies remain low. Their access to bank financing is hampered by the difficulties of providing guarantees and there is no credit line for SMSAs with public banks;

- Management and skills issues and lack of abilities to carry out technical or management work: of the 165 mutual basic agricultural service companies, only 29 have internal regulations.

- Limitation of the scope of activities of SMSAs to the provision of services (in order to deal with the fragmentation of agricultural holdings and the lack of technical and financial resources of small and medium-sized farmers, it would be appropriate to create mutual agricultural production companies (Smpa)),

- Image problems: there is a lack of trust in the boards of directors of mutual companies and SMSAs have difficulty benefiting from the subsidies provided for in the legislative texts.

- Internal governance issues: there is no eligibility criteria for restrictive boards of directors; Poor communication between members and the executive board; Poor understanding of laws and legal frameworks for farmers; failure to respect the regular holding of general meetings.

5. Conclusion

This work began with an analysis of the current situation of Tunisian agriculture and the anchoring of the food issue in Tunisian legislation.

We have thus been able to show that Tunisian agriculture has been successful in catching up with world averages and that it has developed a resilience that has enabled Tunisia to cushion the political and institutional upheavals that followed the end of Ben Ali's regime.

We also showed the fragility of the results achieved and the precariousness into which Tunisian agriculture has plunged.

Secondly, this work presented food security as a necessary but not sufficient condition for food sovereignty. We thus gave an overview of the main challenges that Tunisia must face in order to reconcile food security and sovereignty.

66 RASTOIN, J-L ET EL HASSAN BENABDERRAZIK E-H, (2014), CÉRÉALES ET OLÉOPROTÉAGINEUX AU MAGHREB , CH3 TUNISIE, IPEMED

In a third and final section, we analyzed the transition from the imperative of security to that of food sovereignty. We discussed the limits of the neoliberal analysis of food security, presented elements of the food sovereignty question in the Tunisian context and brought this issue in line with the evolution of the Tunisian State's roles. Finally, we discussed the role of the various actors of the food sovereignty movement in Tunisia.

Conceptually, our work has developed the following hypotheses:

- Food security brings essential elements to the analysis of the sovereignty issue, but as Schanbacher (2010) states, "The food security model has failed both on its own terms with respect to its goal to feed the world's hungry and malnourished, and with respect to the radicality of its goals. This failure is part and parcel of a dominant neoliberal model of globalization that divides humanity, destroys lives and the environment, and insists that this is a desirable state of affairs."

- Food sovereignty is inseparable from national sovereignty and therefore from a certain idea of the Nation, its power, the social contract that binds its components, and its integration into its geopolitical environment. While globalization and neoliberalism convey the idea that it is necessary to sacrifice sovereignty in order to achieve security, there can be no sovereignty without security for all.

- Just as national food security is necessary but not enough to ensure individual food security, national sovereignty requires that of individuals and local populations: a nation cannot be sustainably sovereign if it does not develop the autonomy, freedom and in a way the "sovereignty" of its populations and citizens.

- The question of food sovereignty refers to a configuration of tensions and conflicting relationships between several understandings of sovereignty and security at different levels and for different actors. The sovereignty system is a consequence of the dynamic equilibrium that results from these conflicts.

In Tunisia, the fall of the Ben Ali regime and the democratization of the political field have boosted civil society and given people new means of pressure. But at the national level, political instability, economic crisis, and growing debt constitute the backdrop to the growing intervention of international institutions and even foreign chancery in Tunisian internal affairs.

As it takes hold, the crisis leads both to a weakening of the State's negotiating capacities and a race towards eroding comparative advantages that are pushing the country into its rigidities. A real vicious circle that primarily traps the poorest and most vulnerable. They are generally the least able to redeploy and the least flexible in terms of behavior. Unable to adapt, farmers and peasants prefer to leave their fields and try to retrain as workers. Farmers and peasants who hardly vote, are unable to organize politically and are poorly represented in civil society, are than becoming more and more precarious.

This work has also shown that if agriculture has been one of the most resilient sectors of the Tunisian economy, it is at the cost of impoverishing and increasing the precariousness of rural areas. Agricultural policy was thus confused with a social policy whose objectives are contradictory: on the one hand, to combat poverty and regional imbalances and, on

the other, to make agriculture a component of a social policy favorable to the urbanized middle classes.

Some issues (including climate change) require coordinated policies between nations. Without leading to a new form of post-national sovereignty, it seems to us those types of coordination for both supra- and infra-national sovereignty are needed.

The complexity of the issue of food sovereignty and its articulation with that of security, as well as the multidimensionality of agricultural problems and their economic, social and environmental ramifications, require non-linear, non-binary and non-exclusive approaches. These approaches, must take into account the tensions between a priori contradictory logic and levels of activity. Indeed, developing sovereignty is as much a technical matter as it is a political and cultural one. Similarly, it should be possible to think of the tensions between the global, national and local levels; the parts of the national food security and sovereignty system and the whole; the coordination between interests as well as the contradictions they can convey; conservation in the name of identity, tradition or resource preservation and change that can result from innovation, imitation or adaptation.

Habib Ayed states that "If the «phantasm» of food self-sufficiency is based on an unrealistic assumption at best «dreamy» and at worst «dogmatic» and irresponsible, real food sovereignty is not only a goal and an «objective possibility" but also a condition for total political sovereignty. To do this, we must dare the "impossible" and opt for a real agrarian, hydraulic and ecological reform". Among the reforms he proposes, we quote[67]:

- Do not hesitate to tax imports of agricultural and food products that compete with local products as well as exports of agricultural products that consume large quantities of water resources;
- Increase the level of Taxes on pesticides and chemicals used in agricultural production;
- Set a very high price for groundwater (soundings and wells) or surface water (dams, lakes, rivers) intended to irrigate production to be exported;
- Impose an effective minimum wage on agricultural work, prohibit the employment of young children and protect women in paid agricultural work (seasonal or permanent) from all forms of exploitation and harassment;
- Subsidize local agricultural products whose production costs are too high;
- Protect natural resources and safeguard biodiversity
- Set a minimum and maximum size for private farms

Among other recommendations aimed at improving food sovereignty in Tunisia, we can mention:

67 Habib Ayed, (2018), Une réforme agraire radicale pour sortir de la crise économique et viser la souveraineté alimentaire. In https://habibayeb.wordpress.com/2018/11/01/une-reforme-agraire-radicale-pour-sortir-de-la-crise-economique-et-viser-la-souverainete-alimentaire/

- Establish programs to inform the population, train farmers and those responsible for supervising them in order to avoid extreme situations of denial of the dangers to sovereignty and panic in the face of poorly negotiated and prepared crises. These programs would make it possible to act at the right time on strategic variables for Tunisia's sovereignty and food security;

- Establish institutions capable of better coordinating the actions of the various stakeholders, reconciling the interests involved and, above all, defending those of future generations. A national council on food security and sovereignty supported by an agency with an observatory on food security and sovereignty and regional branches could provide coherence and evaluate the action of institutions under the supervision of different ministries;

- Develop comprehensive food security and sovereignty strategy to provide a clear vision, means, and objectives for all stakeholders (including NGOs, public authorities and the private sector);

- Network citizen movements and civil society actors by developing a national platform of civil society organizations, organizing meetings of social movements and exploiting new information technologies;

- Adopt new legislative texts to give concrete expression to constitutional choices (in particular the creation of the body dedicated to future generations and a law on the circular economy in addition to that on the social and solidarity economy);

- Launch a specific program of assistance and support for farmers and small farmers and use fiscal leverage and public subsidies to better encourage farmers to work together, share their resources and means of production and group together in collectives;

- Reform social intervention instruments so that only those who deserve it benefit;

- Radically reform the status of the GDAs;

- Monitor the uncontrolled exploitation of underground water resources and set up a national program to combat water waste (in particular by SONEDE)

- Restructure and empower the Genebank so that it can better defend Tunisia's genetic heritage and better control the quality of inputs imported into Tunisia.

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