



Country Pastoralism and Small-Scale Farming Profile – Tunisia



November 2022

ACKNOWLEDGEMENT

The Country Pastoralism and Small-Scale Farming Profile development exercise primary objective was to identify the current status of the governance landscape for pastoralist and small-scale farming in Tunisia.

The SLGA program supports the implementation of the AU Agenda on Land, in addition the program is part of the BMZ unique initiative **‘One World, No Hunger**. This programme will have immense contribution to the initiative under the Action Area “promoting responsible land use and improving access to land”. The SLGA aims to strengthen the human and institutional capacities required to realise sustainable land policies that recognise the rights of marginalised groups such as small scale farmers, pastoralists, youths and women across Africa. One of the main areas of action for SLGA is the establishment and coordination of the Network of Excellence on Land Governance in Africa (NELGA) under the leadership of the ALPC (African Land Policy Centre).

This study generated evidence to inform SLGA’s capacity to provide advisory support on such issues to decision makers and other stakeholders. This information will contribute to the body of literature available on the Land Governance Agenda of the AU to improve land governance in Africa.

Publishers

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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Photo credits /sources

Cover page: GIZ / Berno Buff

p1: Nations Online Project.

On behalf of

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

GIZ is responsible for this publication

Harare, 30 November 2022.

On behalf of GIZ



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ACRONYMS AND ABBREVIATIONS

ADB	: African Development Bank
AFD	: Agence Française de Développement (French Agency of Development)
DGF	: Direction Générale des Forêts (General Directorate of Forestry)
FAO	: Food and Agriculture Organization
FTDES	: Forum Tunisien des Droits économiques et Sociaux (Tunisian Forum for Economic and Social Rights)
GIZ	: Deutsche Gesellschaft für Internationale Zusammenarbeit
ICARDA	: International Center for Agricultural Research in the Dry Areas
IFAD	: International Fund for Agricultural Development
INGREF	: Institut National de Recherches en Génie Rural, Eaux et Forêts
INM	: Institut National de la Météorologie (National Institute of Meteorology)
INRAT	: Institut National de la Recherche Agronomique de Tunisie (National Institute of Agricultural Research of Tunisia)
INS	: Institut National de la Statistique (National Institute of Statistics)
IRA	: Institut des Régions Arides (Arid Regions Institute)
MARHP	: Ministère de l'Agriculture, des Ressources Hydrauliques et de la Pêche (Ministry of Agriculture, Water Resources and Fisheries)
OTD	: Offices des Terres Domaniales (State Land Offices)
PAM	: Programme Alimentaire Mondial (World Food Program)

1. COUNTRY AND MACROECONOMY

General data

Tunisia is a North African country belonging to the Maghreb. It is bordered to the north and east by the Mediterranean Sea. Its western border opens to Algeria and its south-eastern border to Libya.

Tunisia covers 163,610 km². More than 30% of the territory's surface is occupied by the Sahara Desert, the rest being made up of mountainous regions and fertile plains. Tunisia has a relatively contrasting relief and a significant coastline (1,298 kilometres) mainly oriented towards the east.

Tunisia is characterized by a Mediterranean climate of Saharan influence, with two strongly contrasting seasons (a hot and dry summer and a mild and humid winter). Tunisia is spread over 5 bioclimatic zones, from the most arid in the south to the most humid in the north. The average annual rainfall thus varies greatly depending on the region, from nearly 1,000 mm in the northwest to less than 100 mm in the extreme south of the country.

With a natural growth rate of nearly 1%, the Tunisian population is estimated to reach 11,803,588 inhabitants in 2022.i.e., a density of 74 inhabitants/km². Life expectancy is 76.5 years while the literacy rate is 80.9% (UN, 2018). 64% of the population is urban, 26% are under the age of 15 and 66% are between 15-65.

Socioeconomic indicators

In current US\$, the GDP of Tunisia rises to 46.84 billion in 2021, i.e. a GDP per capita of 3924.3 (World Bank). Tunisia is thus among the lower-middle income economies. The unemployment rate was 16.8% in 2021 and reaches 37.2% for youth and 24.7% for women (ILOSTAT). The poverty rate fell from 23% in 2005 to 15% in



2015¹, but rural people (26 %) and farmers (21,4%) remain among the poorest in the country (INS,2018).

Agriculture and Livestock

Agricultural land covers an area of about 10 million hectares distributed as follows: 5 million hectares of arable land, used mainly for field crops and arboriculture, 4 million hectares of natural usable by livestock and one million hectares of forest or scrubland.

The agriculture and livestock sector generates nearly 11% of national GDP and provides 15% of jobs. The main agricultural productions are cereals (wheat and barley), olives, dates and citrus fruits for the vegetable sector and sheep for the animal sector. Although representing only 8% of the utilized agricultural area, the irrigated sector contributes at 35% of the total agricultural value. Agriculture generates nearly 11% of the country's total exports while agricultural imports represent nearly 12% of total imports.

¹ Data on poverty refer to surveys carried out by the INS every 5 years. the latest published is for 2015. The results for 2020 have not yet been made public.

2. SMALL-SCALE FARMING

General characteristics

As part of the implementation of public policies, administrations and financial organizations have established conventional criteria for defining small-scale agriculture. These criteria are as follows: Land potential (less than 20 ha), average annual income (not exceeding the threshold of 10,200 DT in 2014) and Investment capacity (less than 40,000 DT).

Referring to these criteria, the number of small-scale farms is estimated at 404,104, representing 78% of all farms in Tunisia. 66.8% of small farms have an area of less than 5 ha and 86.7% have an area of less than 10 ha. The proportion of farms with an area greater than 10 ha does not exceed 13.3%. In addition, 76.8% of small farms are rainfed, 12.4% are mixed and 10.8% are irrigated. Finally, by major regions of the country, 32.2% of small farms are in the North against 44% for the Center and 23.8% for the South (Jouili et al., 2017)

Although it represents 78 % of the total number of farms, small-scale farming occupies only about 2.297 million hectares or 43 % of the total agricultural area. 91.2 % of the area is rainfed, 6.7 % mixed and 2.1 % irrigated.

Rangelands occupy nearly 28% of the total useful agricultural area held by small-scale farming. The cultivated area is distributed at the rate of 59% for arboriculture, 33% for cereals, 1.9% for fodder, 2.2% for market gardening and 3.8% for legumes. Finally, the irrigated areas represent 6.3% of the area cultivated by this category of farms (Jouili et al., 2017).

Role and place of women

Estimates in 2017 indicate that the total number of female farm managers is 44,000 compared to 438,000 men. Women thus represent 8% of the total in number. However, women farmers hold less than 5% of global agricultural land (FAO, 2021). The situation of women is even more difficult on small farms.

Women make up 70% of the workforce on small farms. Considered as family helpers, they tend

more to raise livestock and poultry, to take care of craft activities, food processing and are responsible for specific field work. They usually have an excessively heavy workload, as they must combine physically demanding agricultural work, education and care responsibilities in the home.

While small farms account for almost 80% of agricultural production, only 6.7% of them are run by women who hold only 5.6% of the land. Women's access to land is extremely limited. They are almost excluded from inheritance, which benefits only men.

Similarly, only 33% of women working in agriculture have social security coverage¹⁷. A small proportion of rural women, estimated at 10%, have access to free healthcare due to the informal nature of their work.

In addition, women living in rural areas and farmers are more disadvantaged and benefit very little from training and extension opportunities and from a mentoring program. Although they are active in the agricultural sector, they are poorly represented in professional structures.

Role and place of youth

The proportion of farmers aged over 60 rose from 21% at the beginning of the 1960s to 37% in 1994 and in 2004 stood at 43%. This category of farmers holds 46% of the total agricultural area.

Young people are moving more towards service jobs, which are considered less arduous, and are abandoning agriculture. The difficult conditions in which small farmers operate mean that young people no longer want to follow the same orientations as their elders because agriculture does not allow them a comfortable future with sufficient income (ILO,2018). This situation is reflected in an increase in migration from rural areas to cities and urban localities in search of work that they believe is less arduous and more remunerative (Jouili et al., 2017)

A study carried out by the FAO indicated that the decline in agricultural productivity and the increase in land fragmentation are the main reasons for youth immigration and rural exodus (FAO, 2018).

Assessment of available research on Small-Scale farming

Small-scale agriculture occupies an important place in economic and social research. Many books, academic works, reports, and studies have been devoted to this category of agriculture. This work has greatly contributed to deepening knowledge of this type of agriculture. Different reflections and attempts to characterize small-scale agriculture. Its contribution to employment opportunities, its importance for food security, its ability to generate income, manage and mitigate risks and its place in agricultural policies have been analyzed and studied.

The majority of studies and research agree on the fact that despite its economic and social importance, small-scale agriculture is little taken into consideration by public policies. These studies emphasize in particular the lack of legal and institutional recognition of small-scale agriculture, its poor access to land, credit and the various support and supervision services, the high level of indebtedness, the aging of farmers and the low attractiveness of young people as well as strong gender disparities (Jouli,2008; Elloumi, 2018; FTDS, 2020).

Public policy in support of Small-Scale farming

Traditionally, the strategic orientations of the agricultural sector have been included in the framework of five-year development plans. The most recent (12th) was drawn up for the period 2016-2020 and set the following objectives: supporting the role of agriculture in the national economy and regional and rural development, guaranteeing significant incomes for farmers, ensuring the sustainability of natural resources and enhancing food security.

To achieve these objectives, the strategic orientations that have been defined for the development policy have devoted an axis dedicated to the promotion of small-scale agriculture and the strengthening of its role in rural development. The assigned objective consists mainly in extending and widening the programs and incentives to this category of farmers so that

they can fully benefit from them. The planned actions focus mainly on the aspect of financing small farmers with the possibility of creating a line of credit with a reduced interest rate (less than 5%). It is also about improving their living conditions by providing them with infrastructure and means of production and working to limit the impacts of climate change.

The plan also provides the implementation of laws and programs relating to social and economic support and social coverage of rural women and the improvement of transport conditions of farmers. The same plan proposes the revision of the legal framework governing cooperative societies and the continuation of awareness programs on the importance of joining these societies to benefit from the agricultural services they provide. Finally, the formulation of a strategy for the promotion of the social and solidarity economy and its institutions in the agricultural sector is envisaged.

Access to land and land governance

The results of the latest survey (Enquete sur les Structures des Exploitations Agricoles 2004-2005) show that direct tenure is still the predominant mode of farming, since in 2004-2005 it affected almost 95% of plots. On the other hand, the areas exploited for rental have experienced a remarkable reduction (MARHP,2006). Indeed, the status of tenant did not give access to agricultural credit until recently.

Furthermore, the results of the Survey show that inheritance represents the main source of ownership of plots operated in direct mode. the inheritance concerns nearly 80% of the plots against 17% for the purchase.

Tunisian agriculture is also characterized by strong inequality in the distribution of land. 54% of farms have less than 5 Ha, and hold 11% of agricultural land, also the proportion of farms of less than 10 Ha rises to 75% of the total number of farms and cover an area equivalent to 25% of the total area. While farms with a surface area of more than 50 Ha represent only 3% of all farms and monopolize 34% of agricultural land.

There are three forms of agricultural land tenure in Tunisia (AUC-ECA-AfDB,2010): (i) private lands (4.7 million ha of which 54,000 ha of forest), state-owned land and forest domain (1.3 million ha of which 926,000 ha of forests) and collective lands (about 4 million ha, mainly rangelands). To this complexity of the land status of land ownership is added the multiplicity of stakeholders and the slowness of registration and land consolidation operations (Banque Mondiale, 2006). Only 50% of land potential is registered and nearly a third of farms do not have a title deed or certificate of possession, with many titles frozen (Jouili et al., 2017).

Climate change and small-scale farming

The projections of the National Institute of Meteorology (INM), published in 2018, predicted an increase in average temperatures for Tunisia varying between 2.1°C and 2.4°C by 2050, and between 4, 2°C and 5.2°C at the end of 2100. The same projections expect a decrease in annual precipitation reserves varying between -1% and -14% in 2050 and between -18% and -27% in 2100.

The impacts of climate change on the agriculture sector are undeniable. Prospective studies carried out over the past few years have highlighted the irrefutable evidence of climate change and the vulnerability of the agricultural sector to its effects. Forecasts agree on a contraction of favorable areas and a drop in yields for most crops (MARHP, 2022).

This change particularly affects small-scale agriculture. Small-scale farms are more vulnerable to climate change as they lack the technical means to prevent or respond to it. They also lack the level of education required to cope with natural disasters (FTDES, 2020).

International or regional cooperation in support of Small-Scale farming

The State supports the agricultural sector through various programs financed by technical and financial partners. These are mainly the EU, the World Bank, the African Development Bank (ADB), IFAD, and the FAO as well as bilateral cooperation agencies with, among others, the

French Development Agency (AFD), or the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

The European Union supports the Tunisian authorities within the framework of the ENPARD initiative - European Neighborhood Program for Agricultural and Rural Development. The World Bank supports the agricultural sector through several projects in the field of irrigation, preservation of biodiversity. The AfDB operates in Tunisia within the framework of Integrated Agricultural Development Projects (PDAI).

The International Fund for Agricultural Development (IFAD) recently gave its approval to finance an economic, social and solidarity integration project, of which women will constitute half of the beneficiaries while young people will represent 30%. The FAO focuses its intervention on improving the performance of the agricultural sector by supporting agricultural sectors, strengthening the institutional framework, and the sustainable management of natural resources. AFD's interventions concern the modernization of the agricultural sector, particularly within the framework of the Program for the Recovery of Investment and the Modernization of Agricultural Operations (PRIMEA). GIZ is implementing a program to promote employment and incomes in small and medium-sized farms, as well as cooperation within farmers' organizations.

Table 1: Examples of cooperation projects in support of small-scale farming (Source: APIA)

Project / Donor	Objectives
Investment Recovery and Farm Modernization Program (Component II) / AFD	Creation of 670 support units by agricultural engineers and the modernization of 10,000 farms
Investment Recovery and Farm Modernization Program (Component I) / AFD	An in-depth diagnosis of the system for granting advantages and the preparation of recommendations to remedy the shortcomings to improve the investment climate.
Support for the development of sustainable agro-food micro-enterprises and creation of job opportunities in disadvantaged areas of Tunisia / AICS	Improving living conditions in rural areas
Innovation for Agriculture and Agrifood (IAAA)/ Federal Ministry for Economic Cooperation and Development (BMZ)	Innovation at the service of small farmers and SMEs in the agricultural and agri-food sector in Tunisia
Project for Access to Markets for Agrifood and Local Products (PAMPAT II) / State Secretariat for Swiss Cooperation	Development of agri-food value chains promotion of quality labels linked to origin as well as marketing to ensure the influence of local products on the national and international market
Project for the Intensification of Irrigated Agriculture in Tunisia (PIAIT) / WB	Improve the efficiency and reliability of the irrigation and drainage service and strengthen market access for production from these Public Irrigated Perimeters (PPI).

3. PASTORALISM

General characteristics

Pastoralism, although being a very old agricultural activity in Tunisia, still retains an important place. The specific diversity of vegetation is, in fact, an asset for animal grazing (Hubert, 1994).

The pastoral livestock consists mainly of small ruminants and camels. In the past, the numbers of these species fluctuated considerably depending on the production of rangeland, which depended on the vagaries of rainfall. Since the introduction

of food supplements and their generalization for the benefit of all types of livestock, including pastoral, the fluctuation in numbers has been less remarkable. In 2017, the sheep herd numbered around 6.4 million head, of which 38% in the North, 43% in the center and 19% in the South. As for the number of goat species, it is estimated in the same year at 1.18 million heads distributed in a proportion of 24.4% in the North, 28.4% in the Center and 46.2% in the South. For camels, the herd has 80,000 heads, 80% of which are in the south (ONAGRI).

The available data do not really allow us to estimate the size of the population directly concerned by pastoral activity. However, the South and Center-West regions remain marked by the presence of a large sheep and goat herd (about 3 million heads) closely linked to the exploitation of about 4 million ha of rangeland, which requires the direct or indirect mobilization of a large part of the active agricultural population of these regions, which represents approximately 15% and 37% of the total active population respectively for the South and the Centre-West.

Role and place of women and youth

There are no reliable statistical data on the contribution of women in livestock breeding activities and even less in pastoralism. However, one of the major takeaways from a study carried out by ICARDA is that women's involvement in livestock grazing and rearing activities is way more significant than is generally assumed. On average, women devote 3.5 hours/day to livestock activities compared to 3.4 hours/day for men (ICARDA, 2020).

According to the same study, the combination of increased drought, privatization of land and migration of men has led to a change in the dynamics of household livelihood practices. Women are increasingly taking on responsibilities traditionally considered masculine: irrigation, livestock grazing, buying, and selling in markets. Women also contribute to the protection of rangelands and pastoral livelihoods and play a fundamental role in climate change mitigation and adaptation strategies.

However, despite their changing role in livestock activities, women own less land and livestock. Women find it harder to access loans and credit that could help them cope with climate stress and improve their livelihoods. Since agricultural training for drought mitigation and pasture management is generally considered important only for men, women are often unable to learn about new technologies that could support their livestock activities.

For youth, data are sorely lacking. But we can admit that, as for agriculture in general, youth are

not attracted by pastoralism and prefer to migrate to big cities or abroad in search of more stable and more remunerative employment.

Assessment of available research on Pastoralism

Research work on pastoralism and rangeland, undertaken by the researchers and institutions concerned (IRA, INRAT, INRGREF), has made it possible to study most pastoral species and the different modes of pastoralism. The results obtained made it possible not only to know the behavior of these species but also to propose technical solutions to remedy the process of degradation of the rangelands.

However, the exploitation of research results remains insufficient and requires more collaboration between research centers and development organizations. While certain research achievements have given rise to valorization by the technical services and breeders, such as the improvement of goat and camel breeding, the adoption of certain rangeland restoration / rehabilitation techniques and the use of certain local pastoral areas, it is clear that, for lack of a real transfer and partnership strategy, the involvement of the research sector remains limited in terms of pastoral improvement.

Similarly, research work in the socio-economic field requires strengthening to provide the expected responses to the difficulties encountered by pastoral development projects in terms of the organization of stockbreeders and the effective involvement of their grassroots organizations in a dynamic of sustainable management of routes developed by technical services.

Public policy in support of Pastoralism

In a context of chronic food deficit, justifying a policy of intensification of agricultural production, livestock systems have undergone remarkable intensification. Indeed, the use of supplementation of animals, with food purchased on the market or self-produced by the stockbreeder, has become a structural feature of the stockbreeding system, including in regions where pastoral stockbreeding dominates. In addition, in the steppe areas,

formerly pastoral, the State has chosen to transform a large part of these steppes into tree plantations and irrigated perimeters. As a result, it can be said that the place and role of rangelands in the development strategy of the agricultural sector in general and livestock farming have been neglected, despite the efforts undertaken by the various organizations in charge of pastoral space. The intensification of agricultural activity, including for animal production, has made rangelands lose their importance for the livestock system.

In addition to the cost of achievements in the field, particularly in terms of pastoral infrastructure, the State allocates significant budgetary resources in the form of subsidies granted directly to the beneficiaries of pastoral development projects through the provision of food for the cattle. These subsidies have become almost a structural element of any intervention in favor of collective or private pathways and therefore weigh heavily on the budgets of projects and technical services, in an economic situation characterized by an aggravated deficit in the State budget.

Pastoralism and rangeland management

The rangelands occupy approximately 4.5 million ha which mainly belong to the arid and desert bioclimatic stages of Tunisia where the average annual rainfall rarely exceeds 300 mm per year. According to the results of the forest and pastoral inventory, the area of rangeland is distributed as follows: 82% in the South, 12% in the Center-West, 4% in the Center-East and 2% in the North of the country (DGF, 2010).

The fodder production of the 4.5 million hectares is estimated at about 500 million FU in a dry year and more than 1500 million FU in a rainy year. In 1965, rangelands covered 65% of the food needs of Tunisian livestock, currently this rate is estimated at 10-20% (World Bank, 1995 in Elloumi et al., 2001). Their surface area is decreasing sharply due to the strong extension of crops, while the size of herds at the national level tends to increase.

The old ways of exploiting the rangelands made it possible, thanks to transhumance, to distribute the

animal load over very large areas, to take advantage of the complementarity between the regions and at the same time to give the rangelands a rest essential for their restoration. Nowadays, the intensification of the breeding system has completely changed the behavior of breeders regarding rangelands. For several decades, there has been a continuous deterioration of the pastoral ecosystem linked to the phenomenon of overgrazing, which affects, particularly, collective rangelands. The rangelands also suffer the consequences of the process of privatization of collective lands which leads to their conversion into olive plantations, irrigated perimeters, and cereal lands. Thus, the surface area of rangelands increased from 6.1 million ha in 2005 to 5.5 million ha in 2012.

Rangelands are characterized by the multitude of land statuses and the diversity of actors and management organizations thus, making the situation quite complex. Four types of land tenure are identified:

- *Rangelands of the State Forest domain* (970,000 ha): These rangelands are subject to the forestry regime and are in principle used as pasture reserves to be used in the event of calamitous periods. They are managed by the General Directorate of Forests (DGF) under the Ministry of Agriculture.
- *State rangelands* (67,881 ha): Belonging to the private domain of the State and managed by the DGF and the Office des Terres Domaniale (OTD). The state rangelands are used, to a large extent, by the OTD, the Cooperative Agricultural Production Units (UCPA) and state land tenants.
- *Collective rangelands*: Concentrating in the arid and semi-arid part of the country (Center and South) and cover an area of approximately 2.5 million ha. Collective rangelands are rangelands owned by an ethnic community (tribe) and enjoyed by all members of that community. They are managed by Management Councils (CG) elected by members of the community.
- *Private rangelands*: Belonging to a natural person or a well-identified group, they are generally included in farms and constitute portions abandoned for grazing animals.

The legal and legislative framework of rangelands in Tunisia has undergone a significant evolution since the colonization of the country in 1881. From its installation in 1881 in Tunisia, colonization set up a land policy aimed at delimiting and clarifying the land status of land, facilitating the installation of settlers, sedentarization and control of pastoral populations.

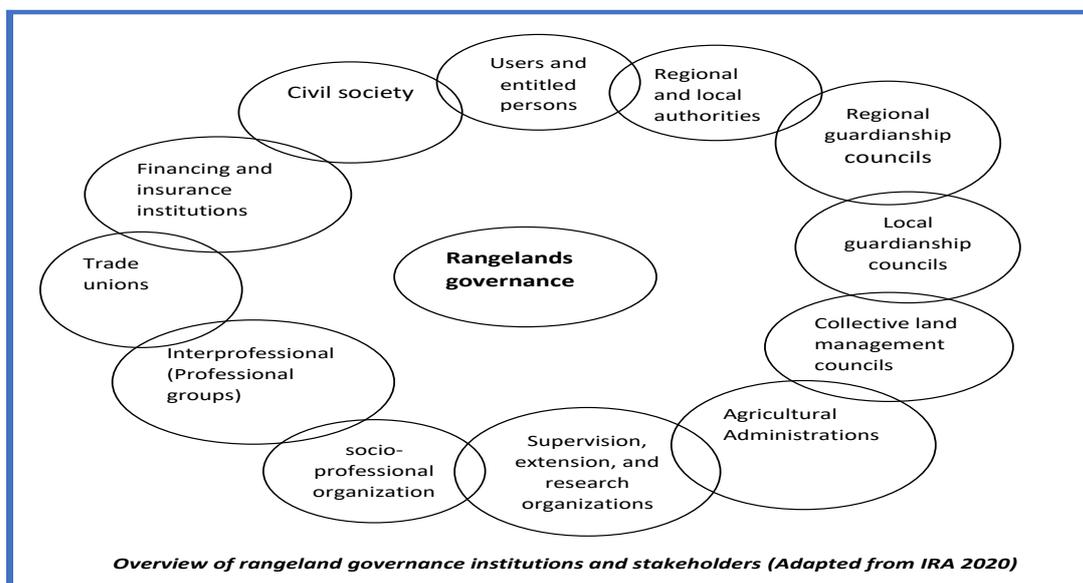
With independence in 1956, the national State initiated a process of "Tunisification" of laws and regulations specific to forests and collective rangelands status through the promulgation of numerous legal texts, including the law on the forest regime in 1959, the Forest Code in 1966, the law establishing the system of collective land in 1964 and the law on agricultural and pastoral development in 1963. This legal framework was subsequently reinforced by the promulgation of the Forest Code in 1988 which defined, for the first time, rangelands as "*uncultivated land covered with spontaneous or introduced vegetation, herbaceous or ligneous to serve as food for the livestock*".

Following the Revolution in 2011, the situation of collective lands was the subject of a debate which emphasized the need to change the status of these lands to contribute to the development of the regions concerned which are often considered disadvantaged. This debate led to the promulgation of law n° 2016-69 of August 10, 2016, modifying and supplementing that of 1964, fixing the system of collective land.

However, it is important to note that the rangelands have never benefited from their own legislation (Marse, 2017). Provisions made in relation to rangelands are often included mainly in forestry legislation and in laws relating to collective lands or livestock. Individualization and, the priority given to reforestation and forest protection.

The absence of a specific legal framework for rangelands and pastoralism is considered to be a vector for the degradation of pastoral areas and a brake on the several constraints have hampered the development of a body of legislation specific to rangelands and pastoralism, including the disappearance of nomadism, the end of customary law, the fragmentation of land ownership and its development of pastoral activity, particularly in areas where it constitutes a way of life and a source of income for a significant part of the population. Currently, a draft law on rangelands and pastoralism is being prepared by the DGF with the support of ICARDA and GIZ. It aims to put in place a framework that legally establishes pastoralism to make it a legally well-developed sector, but the validation and promulgation of this bill are pending.

Pastoralism also suffers from the absence of a well-identified institutional organization at the national level with its ramifications at the regional level. The diversity of the institutional landscape does not facilitate the understanding of the mode of governance of pastoral territories for rights



holders and users of the rangelands and does not promote the empowerment of pastoral populations in terms of management of the developments undertaken and of the rangelands in general. As a result, the administration continues to play a leading role on the developed routes, including to guarantee compliance by users with the terms of operation of the facilities put in place.

Climate change and Pastoralism

In addition to the problems related to the inappropriate use of collective rangelands, there is also climate change, the impacts of which make pastoral ecosystems more vulnerable and contribute to their degradation in the unfortunate absence of any adaptation strategy. In this regard, the studies carried out in 2013 by the IRA in partnership with the GIZ show that the reduction in pastoral production and carbon sequestration, under the effect of climate change, would be around 26% by 2050 for the rangelands of the governorate of Médenine.

More recently, a study has shown that all regions of Tunisia should experience a significant increase in the occurrence of hazards affecting pastoral activities, such as the high number of days of heat waves accompanied by water stress and leading to drop in fodder yields, or even spatially and temporally irregular rainfall affecting the development of vegetation (MA, 2021). According to the same study, the projections of the fodder production of rangelands show a general downward trend in the future, with a reduction of around 40%. These losses become strong and worrying especially in the governorates of the south which are those which contribute to a major part of the available national pastoral and to a lesser degree in the other governorates of the country. Similarly, by 2100, the areas suitable for pastoral plants would decrease by an average of 19%.

International and regional cooperation in support of Pastoralism

The development of the pastoral sector in Tunisia has benefited from the technical and financial

support of regional and international partners. These are mainly the EU, the World Bank, the African Development Bank (ADB), IFAD, and the FAO as well as bilateral cooperation agencies with, among others, the French Development Agency (AFD), or the German GIZ. The two following projects are presented by way of illustration

The Agropastoral Development Project and Associated Sectors in the Governorate of Médenine (PRODEFIL) co-financed by IFAD and the European Union, over the period 2014-2023, has the overall objective of improving the living conditions of the vulnerable rural population. and create new employment opportunities through strengthening the resilience of agropastoral production systems. The project targeted smallholder farmers as well as youth and women for the creation of small income-generating projects and microenterprises.

Funded by the Italian Agency for Cooperation and Development, the project "Fight against poverty through the promotion of the livestock sector in the Governorate of Tataouine" (2016-2022) is an initiative promoting local development, economic and social development of the Governorate of Tataouine, with the objective of combating poverty by improving sources of income in the agro-food sector. The project has a dual objective: to improve the living conditions and reduce the unemployment rate of the rural population in the Governorate of Tataouine and to increase the productivity of livestock sectors and improve the quality of red meat production.

4. CONCLUSIONS AND RECOMMENDATIONS

In Tunisia, small-scale agriculture and pastoralism provide an important function in terms of food security, biodiversity, and resource conservation. They also contribute to rural employment and income, to space planning and the conservation of local knowledge. Pastoralism and small-scale agriculture are strongly interdependent. Pastoralism is largely practiced by small farms whose livestock ensures a regulating function of climate and market vagaries.

In addition to conflict over already degraded resources, pastoralism and small-scale farming face the risk associated with climate change. However, although public policy has always shown the need to take their specifications into account, the measures implemented do not seem to achieve the anticipated objectives. Based on these conclusions the following recommendations are proposed.

To promote small-scale farming:

- Standardize the definition of small farms, make it legally explicit. Such an initiative should make it possible to better understand the situation of small farms and improve the statistics specific to this category.
 - Elaborate, within the framework of a participatory process, a vision for small-scale agriculture from which a strategy, strategic orientations, objectives and programs and operational measures will have to be declined. This process should be carried out in coordination with economic development policies, which will allow a better allocation of resources for the support of small-scale agriculture.
 - Create a specific institutional mechanism to small-scale agriculture. Such an orientation would send a strong signal of the State's commitment to the development of small-scale agriculture.
 - Improve the access of smallholder agriculture to credit and incentives through the relaxation of the guarantees, the adoption of favorable credit conditions, the direct targeting of this category of farmers by subsidies and the simplification of funding procedures.
 - Give priority to small farms in public markets (school canteens, public collective restaurants, etc.). A certain percentage of the supply of these communities could be allocated to small farmers.
 - Develop short circuits and reduce intermediaries between producers and consumers, resulting in better remuneration for farmers with the marketing of better-quality local products.
- Empower women by improving their access to land. Women's access rights to land and natural resources must be improved and strengthened. Similarly, the grouping of women in cooperatives must be promoted by the establishment of significant incentives and positive discrimination in their favor.

To promote pastoralism

- Give greater priority to pastoral territories in development policies and integrate the pastoral development component into a territorial planning process negotiated with all stakeholders and adopt new approaches to territorial and pastoral planning involving professional organizations and sectors
- Rethink the pastoral improvement policy by considering the multifunctionality of rangelands and the imperative to reduce the pressure on pastoral resources through the integration of pastoral spaces into a more diversified regional economy offering employment alternatives and off-farm sources of income.
- Strengthen the training of pastoralists and support scientific research to promote innovation and provide adequate solutions, particularly in the face of climate change.
- Carry out a reform of land legislation to ensure the multifunctionality of rangelands and guarantee the sustainability of the pastoral ecosystem, review the institutional framework by granting responsibility for the development of collective and private rangelands to a single public institution and put in place new forms of governance that give greater priority to the contractual aspect and directly involve local authorities.
- Create greater visibility and social acceptance for women and provide them with training in drought management and adaptation. It is also about maximizing the ability of women to share their expertise and ideas on rangeland
- management and to voice their concerns in policy dialogues.

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