

TUNISIA

Agrifood System Change and PARI Research on Innovations

INTRODUCTION

African countries, including Tunisia, committed to spend at least 10% of their national budgets on agriculture to drive sustainable agricultural growth and development under the Malabo Declaration in 2014. While government expenditure on agriculture in Tunisia has slightly increased, it is yet to reach this target. For the past decade, Tunisia only allocated about 8% of its annual budget to agriculture. The growth rate of the agriculture value added has, in general, been negative for the past 5 years (-0.03%, see Figure 1). As such, the need for initiatives to facilitate the transformation of sustainable food systems in Tunisia cannot be overemphasized. This brief revisits various current initiatives in Tunisia and draws lessons based on studies done under PARI to guide future strategies.

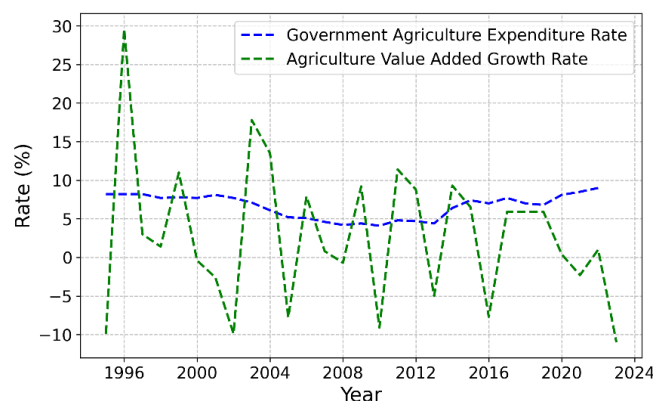


Figure 1: Trend of government agriculture expenditure and value added growth rate in Tunisia¹

PARI CONTRIBUTIONS

The PARI research in Tunisia relates to priorities as indicated by PARI Partners, and took note of initiatives of the Green Innovation Centers.

Innovations in value chains

Political commitment and engagement are crucial for the adoption of agricultural technologies in Tunisia (Zlaoui et al., 2018). Success stories include the widespread adoption of improved durum wheat varieties and the production of organic olive oil and rapeseed. These achievements have been driven by political efforts to prioritize these crops, such as reducing reliance on imported rapeseed to meet growing local demand. The private sector and agricultural engineers have also played significant roles in supporting these advancements. In contrast, technologies like meat product labeling and conservation agriculture have struggled to gain traction due to limited government support and insufficient financial resources. Despite its potential to restore ecosystem services and improve yields,

conservation agriculture has not achieved the anticipated success (Souissi et al., 2018).

In Tunisia, livestock is increasingly viewed as a coping strategy for climate change, yet the adoption of technologies to enhance productivity remains low (Bedhiaf-Romdhani et al., 2018; Dhraief et al., 2018). The sector benefits from the availability of barley and cactus for feed—barley-based systems are profitable and spineless cactus serves as valuable fodder during dry seasons. While the sector is steadily growing, it faces challenges such as high production costs, forage shortages, inadequate infrastructure and limited access to information (INRAT et al., 2017). Policies should prioritize improving farmers' knowledge of agricultural technologies to enhance livestock productivity, with a focus on actively engaging young people.

¹ Source: authors' illustration using data from <https://www.resakss.org/node/3>, accessed on 26 May 2025



In Tunisia's dairy value chain, value addition efforts have focused on improving fodder to enhance the quality of meat and milk (INRAT et al., 2017). To extend the shelf life and quality of milk, a cost-effective solar-based milk cooling system has been promoted among farmers (Salvatierra-Rojas et al., 2018). Developed by the University of Hohenheim, this system uses conventional milk cans and ice produced in a solar-powered freezer. The ice allows milk to stay fresh for six to sixteen hours, depending on the amount used. This innovation ensures year-round ice production, helping farmers maintain milk quality from the farm to collection centers or markets.

Tunisia, a leading olive oil producer and the largest olive grower in the southern Mediterranean, faces challenges like weak marketing, lack of origin certification, and limited processing facilities (Zlaoui et al., 2019). Tunisia's olive oil struggles to gain international recognition due to the absence of coordinated marketing efforts, a system for designating origin and low awareness of its quality in global markets. Additionally, the sector suffers from a shortage of processing units. Introducing certificates of origin and increasing investment in marketing and commercial activities could enhance Tunisia's competitiveness and strengthen its position in the global olive oil market.

Employment

Access to credit and loans is crucial to encouraging young Tunisians to invest in agriculture, creating employment opportunities in rural areas (Zlaoui et al., 2022). Low youth engagement in agriculture is driven by challenges such as limited access to land, credit and markets. Rural unemployment rates are higher than the national average, partly due to insufficient investment in innovations that could boost

productivity. To attract young people to agriculture and encourage them to remain in rural areas, targeted incentives are needed. These include improved access to credit and financing for entrepreneurs, better extension services, training and coaching programs and enhanced digital services to support agricultural activities.

KEY TAKE AWAYS FROM PARI RESEARCH IN TUNISIA

Political commitment: Tunisia's political prioritization has spurred advancements in durum wheat, organic olive oil and rapeseed production, reducing import reliance and increasing local demand, but support for conservation agriculture remains limited.

Livestock as climate strategy: Livestock supports climate resilience in Tunisia, but high costs and poor infrastructure limit productivity. Improved farmer training and youth engagement are essential.

Strengthening olive oil exports: Weak marketing, insufficient processing and lack of origin certification hinder Tunisia's olive oil sector. Investments in marketing and certifications can boost global competitiveness.

Solar milk cooling innovation: Solar-powered milk cooling extends milk freshness and reduces spoilage, enhancing quality from farm to market in Tunisia's dairy sector.

Youth in agriculture: To reduce rural unemployment, Tunisia must improve youth access to credit, training and digital tools, encouraging investment in agriculture.

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All studies are available at www.r4ai.org.

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