

Zarazi table olives in Beni Khedache (Tunisia): Highlighting an overlooked traditional product

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Abstract

Agricultural development in southern regions of Tunisia have often focused on a few very prominent products, such as dates and olive oil. Promoting traditional agricultural products in these regions could help foster a more resilient development trajectory. This study analyses the characteristics, development challenges and prospects of Zarazi table olives in Beni Khedache (Medenine Governorate). This product is characterised by well-defined traditional production and processing practices. However, use of these olives is limited to home consumption due to a lack of market outlets. Local inhabitants and development actors have paid little attention to this product, but workshops with these actors have helped shed light on its potential, alongside discussions on possible actions to promote the development of a Zarazi table olive value chain.

Keywords: Local development, Médenine, Table olive, Traditional food product.

1. Introduction

The identity of traditional food products reflects a specific combination of local natural (climate, soil, local plant varieties, etc.) and cultural resources (traditions, know-how and skills passed down through the generations) in a given territory. Specific links are thereby established between the products, local actors and the territory (Vandecandelaere *et al.*, 2009) – these links emerge from relationships between individuals and groups. Moreover, innovation systems in the territory are carried by these groups through a collective process of promotion of a local know-how and a specific territorial resource. This process can lead to local development and serve as

a driving force in strengthening the resilience of the local community (Chevalier and Lacquemant, 2016). The promotion of a local product, in a given territory, can differentiate it in the market thanks to its geographical origin. This will allow a better promotion of local resources and a better remuneration of local actors. Similarly, in addition to the outright economic benefits, this linkage can have other social and environmental benefits, such as boosting resilience to climate change, reducing outmigration, safeguarding landscapes and natural resources, as well as social and cultural heritage.

The alliance between natural cultural identity and heritage can enhance territorial dynamics and local development (Pecqueur, 2002; Ad-

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erghal *et al.*, 2020a). However, the notion of a traditional food product is only interesting if the actors are aware of this notion. The quality, reputation or other specific characteristics of the product must be linked to the geographical origin by virtue of the local natural resources (e.g. climate, soil specificities, elevation, etc.), as well as the know-how, practices or other knowledge deeply historically rooted in a given territory. Moreover, highlighting these food products provides opportunities for sustainable development, which may not always be achieved, as indicated by many cases in North Africa (Adhergal *et al.*, 2020b; Varacca, 2019).

Southeastern Tunisia is one of the disadvantaged areas of the country, yet it is characterized by very abundant local resources. The innovation and promotion of these resources, the multifunctionality of local agriculture and the organization of local actors could foster the development of this territory (Abichou *et al.*, 2009). In addition to physical features (landscapes, movable and immovable property, archaeological sites, etc.), this heritage also includes intangible elements (handicraft know-how, local traditions, territorial image, etc.). All of these heritage resources currently underpin major economic activities: tourism, as well as a range of handicrafts and products derived from the exploitation of specific local resources. These activities are now the main source of income for communities in a number of areas threatened by agricultural desertification and the collapse of old industries (Rallet, 2001).

This situation currently prevails particularly in the agricultural sector. In dryland areas of Southern Tunisia, such as Medenine Governorate, public development policies have mainly been implemented to alleviate problems related to the access and use of natural resources (water, soil and vegetation). These policies have mostly been focused on infrastructure, while promoting investment in agricultural irrigation projects, rangeland and forest development and management (Ounalli, 2014). The direct impacts of these interventions on income primarily concern increased productivity thanks to investments in irrigation, water and soil conservation and subsidies for tree plantations – mainly olive trees – and especially sheep

flock productivity. However, these interventions have had modest impacts on the socioeconomic empowerment of rural women and youth. The latter face specific challenges that hinder their socioeconomic development, including constraining sociocultural norms, limited local employment opportunities, and poor access to financing services (IFAD, 2019).

Moreover, for several decades in Southern Tunisia, there has been a focus on a few main crops, e.g. date palm in Kebili region and olive trees for oil production in Medenine Region. This focus is the joint result of farmers' choices and public policies (Mekki *et al.*, 2021). This can generate fragilities at the local level, as shown by the sharp drop in date revenues in 2020 due to the Covid crisis (staff of the Regional Office for Agricultural Development in Medenine). There is thus a need to support greater production diversity in these regions, based in particular on local know-how with regard to traditional production approaches.

However, the potential value of these traditional products is often underestimated by farmers and public authorities. Paradoxically, the Medenine Governorate has a broad range of natural and human assets that could enhance the currently low socioeconomic growth in the region. The scant development of natural resources underlies the poor production performance of the Governorate and highlights its paradoxical situation. It would thus be of interest to adopt strategies based on the effective promotion of specific local resources in order to better diversify production and boost income through sustainable activities undertaken by the local community, while focusing on the development of local institutions that could improve the livelihoods of the poor population.

In the region of Beni Khedache in Medenine Governorate, local inhabitants traditionally produce table olives of the Zarazi variety. Here we conducted an analysis of the production and marketing of table olives in this territory. We aimed to demonstrate how this agricultural product deserves promotion, not only in view of its clearcut food and heritage value, but also and above all as a valuable territorial resource showcasing the local specificities of this region. Promotion and development of this product could be the focus of

a heritage development process and thereby lead to local sustainable socio-territorial development.

Within the framework of the MASSIRE project,¹ which is focused specifically on traditional food products, we sought to illustrate how promoting the specificity and potential of this local traditional product could constitute a first step towards collective reflection on the development of a specific value chain to promote the product. It would be interesting to set up a collective process to characterize and highlight the specificities of Zarazi table olives. This would enhance their visibility to the producers, and then to potential actors in the sector, i.e. processors and traders.

This value chain could help the population of Beni Khedache adapt to and cope with the current living conditions via technical innovation systems and enhanced use of a specific local resource. In other words: “How can innovation based on ancestral local know-how contribute to the development of the value chain and under what conditions could the qualification of a specific resource be a vector of development of a territory?”

2. Literature review

On the territory, region or country scale, agricultural and rural development actors and decision makers often seek opportunities to develop strategies to promote agricultural and food heritage based on the enhancement of typical products. In this strategic reflection phase carried out at the constituency scale (region or country), these agricultural and rural development actors and decision makers require tools to identify and inventory such products. Their potential in terms of economic value creation and of preservation and enhancement of cultural and environmental heritage must also be assessed in order to select pilot products and thereby generate support for the territorial dynamics (Barjolle *et al.*, 2012).

Pivot (1998) stressed that food quality is not only understood in the classical sense of the term, i.e. fitness for use, and thus the ability to satisfy users' needs. This includes elements that

are often linked to notions of location, local heritage, ecological and human requirements, regionalism, etc. In addition, the existence of regulatory protection for products (known to be of superior or specific quality) is now a means to offset the economic disadvantages of certain categories of producers or processors located in disadvantaged regions. This trend is also in line with the demand of modern consumers who are increasingly interested in discovering regional or exotic products with characteristics related to a specific territory.

Several authors have highlighted a link between food products and their geographical origins. They associate these origins with a geographical dimension (Barham, 2003) and with soil and climatic conditions (Letablier and Nicolas, 1994), but also with a human dimension, i.e. know-how and culture (Bérard and Marcenay, 2004). This combination of natural identity (physical characteristics of the territory) and cultural-heritage identity (tradition, know-how and reputation) could support the territorial dynamics according to Pecqueur (2002). Traditional agricultural products have gained recognition as key rural development factors, through their added value and economic diversification. Allaire and Sylvander (1997), Sylvander (1995), Ilbert *et al.* (2005) and Valceschini (2000) have described the specificities of a territory or a particular food product in terms of specific quality and know-how. Resources and skills must be identified so as to be able to develop strategies and tools for development. The establishment of geographical indications or other quality signs is one of the territorial development strategies that emerge from the promotion of local products.

In addition, Souidi and Bessaoud (2011) emphasizes the role of institutions and shows that beyond the transformations of rural areas and the improvement of living conditions for the population, a major change is taking place in terms of approaches and modes of intervention by public authorities.

Development projects implemented at the local level have favored the emergence, admittedly tim-

¹ See massire.net.

id but real, of new forms of governance of local development. Even if local administrations remain strong, local associations have been created and rural communities have expressed their expectations and needs at local level. Collective organizations for the management of natural resources (soil, water, rangelands), of a social nature (village associations, women's or youth associations), or economic (service cooperatives) have been promoted and set up (Hamamouche *et al.*, 2022).

The promotion and development of fig cropping in Djebba Region in northwestern Tunisia is an example of such dynamics. According to Tounsi *et al.* (2020), multiple individual or collective local innovations define the specificity of figs produced in Jebba Region. The local agricultural production system has proved its efficiency and has become a major income source. Djebba figs benefit from a label and are marketed fresh, dried or processed into jam. These fruits are marketed locally, throughout the country and even abroad. The marketing of Jebba figs has fostered development, so local inhabitants have become more attached to their land and committed to its improvement and sustainability, e.g. passing farming know-how on to young people.

Through this article, our objective is to determine to what extent the processing activity of the Zarazi table olive can provide added value to this local resource. Another objective is to determine if this activity contributes to maintain local know-how and create added value for the benefit of local actors.

3. Methods

We have favored a prospective and spatialized approach based on interviews and qualitative surveys. Thus, an assessment of the current state of traditional table olive production in Beni Khedache was carried out in cooperation with local actors.

In a first step, surveys were conducted with 47 farmers and 15 small-scale processors. The study area was divided into 5 Homogeneous Territorial Units. These units were chosen according to the importance of production of table olives of the Zarrazi variety and the presence of housewives and women's agricultural associations who process artisanally table olives.

The survey with farmers was carried out partly on farms and partly at the head offices of several farmers' groups and unions, i.e. various agricultural development groups, a mutual society of an agricultural service and the Tunisian Agriculture and Fishing Union. The survey of small-scale processors involved 15 women interviewed at the offices of two women of agricultural development groups. The survey questionnaire was first intended to identify specific agricultural practices in the upstream part of the chain (producers of raw materials), processing techniques and conservation of the Zarazi table olive favored by women, marketing channels. Second, the questionnaire aimed to analyse the territorial and heritage anchoring of this activity (e.g., conservation and transmission of know-how, cultural value attached to the product).

In a second step, focus group meetings took place with actors involved in the production of table olive and with local development actors (leaders of support structures, traders, craft processors, consumers, etc.). During the two workshops that took place, actors were invited to present their specific views of the actual situation and the potential development of a Zarazi table olive value chain. All 15 small-scale processors and some farmers were present in addition to the heads of public structures involved in the olive table sector. Discussions took place as part of a formal partnership approach involving several public and private actors (public agencies, NGOs, consulting firms, research) in synergy, to design interventions and conduct them on the basis of the needs expressed and prioritized by the populations. To ensure success, it was deemed necessary to provide support (capacity building) to the beneficiary communities represented by the agricultural development groups and mutual companies.

Data were collected from March 2020 to June 2021.

4. Results

The Beni Khedache Delegation is located in the northwestern part of the Medenine Governorate (Figure 1). It is bounded by the Mareth Delegation (Gabes Governorate) to the north, by Ghom-

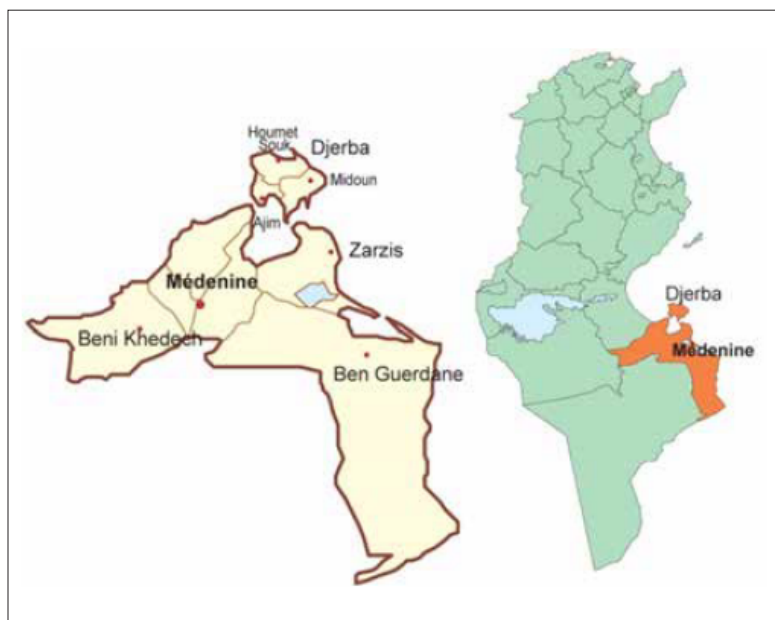


Figure 1 - Location of the Beni Khedache Delegation (from the Office for the Development of the South, 2018).

rassen and Bir Lahmar Delegations (Tataouine Governorate) to the south, by the Medenine North Delegation to the east, and by the Great Eastern Erg (Kebili Governorate) to the west.

4.1 Characterization of traditional local olive products and assessment of the value chain

4.1.1. Olive farming practices

The vegetation landscape in the Beni Khedache Delegation includes steppes, tree crops (especially olive and fig trees, see Table 1) and cereals. Olive tree cultivation in the Beni Khedache area is mainly rainfed and many farmers used *tabias* (traditional ditches) to conserve rainwater. Moreover, 44 producers out of the 47 surveyed used supplementary irrigation. They fetched water from tankers or small reservoirs located on their farms. These small reservoirs (locally referred to as *majeul* or *fesigua*) are traditional underground tanks for rainwater stor-

age. Approximately 45% of the surveyed farmers manually dug holes for planting new olive trees, 36% used mechanical methods, and 19% used both methods (manual and mechanical). Only 6 farmers among the 47 applied manure, generally from their livestock (sheep and goats), to enrich the soil. Soil tillage, planting, irrigation and manuring were done manually. In Beni Khedache, olive harvesting generally took place from October to December depending on the extent of production. Harvesting was done mainly by family members and was mostly manual (96% of surveyed farmers).

All surveyed olive growers cultivated the Zarazi olive variety and were hampered by various limiting factors at this level, i.e. essentially the poor soil conditions and the unavailability of water, which was lacking in rainfed olive groves. Producers highlighted the problems associated with olive production, such as labor required for soil work, irrigation, harvesting and pruning.

Table 1 - Tree production in Beni Khedache Delegation in 2019.

Tree type	Olive	Almond	Apple	Grape	Fig	Other trees
Production (T)	600	100	30	175	945	80

Source: CRDA of Medenine, 2020.



Figure 2 - Traditional Zarazi table olives.

4.1.2. Traditional Zarazi table olive processing

All surveyed farmers stated that part of their production was processed in their households in a traditional manner. The practices had been inherited from mother to daughter between generations and reflected unique ancestral know-how specific to the Beni Khedache area.

Our interview of 15 women who processed Zarazi olives for table use enabled us to identify the product processing stages. At a glance, this is a simple yet laborious process, and the entire table olive processing task can take a month. The operations are: a) sorting and washing the olives; b) draining them for a whole day; c) salting the olives (depending on consumer preferences, salt may not be used) and putting the product in containers; d) mixing the product and placing the containers in reed baskets, sandstone containers or jute bags; e) placing a weight on the top of the olives (e.g. a large stone) in order to press water from the olives; the operations are as follows: f) remove all water if the bottom of the container is not perforated; g) 25 days later, when the juice is no longer dripping from the container, spread the olives out on a plastic tablecloth in the sun for a day or two and remove the low-quality olives; h) wash with clear water and sun dry for 2-3 days; i) put the table olives in glass jars and spraying with olive oil; and j) marinate for two days and taste. Note that, on average, 1 kg of fresh olives produces 0.6 kg of table olives.

4.1.3. Lack of marketing channels

Our survey results confirmed the lack of permanent marketing channels for traditionally processed table olives in Beni Khedache. All interviewed olive growers allocated part of their production (less than 10%) for household consumption. The interviewed actors were also initially

relatively unaware of the potential profits that this product could generate and sometimes doubted that it would have any marketing potential.

Most farmers used their Zarazi olive production – which would be suitable for producing table olives – for olive oil production due to the lack of table olive marketing outlets. Indeed, there are no units for canning or processing table olives in the region, intermediaries do not offer to buy these olives from producers, and local inhabitants have difficulty selling their production. Zarazi table olives are mixed with other olive varieties (e.g. *chemleli*, *zalmati*, *jemri*) for oil production and generally sent to oil mills in the region. However, our survey and discussions with farmers highlighted the existence of a so-called informal processing sector where olives were processed traditionally by housewives in their households. This activity was marginal and did not generate income, as the production was essentially for self-consumption.

However, since 2010, women members of agricultural development groups occasionally took advantage of fairs and exhibitions in the region to sell their products at profitable prices (7-8 dinars/kg, i.e. around € 2.4/kg). These prices were much higher than what could be obtained from olive production (1 dinar/kg of fresh olives sold to an olive oil mill and packing unit, or 1.5 dinar/kg of fresh olives when farmers pressed the olives at home and sold them to an olive oil packing unit).

4.1.4 A specific product

The Zarazi table olive production and processing assessment enabled us to highlight the intangible characteristics of a specific resource of the area. This production is based on traditional farming and processing techniques specific to the Beni Khedache region. Unfortunately,

the natural and cultural potential of this resource is insufficiently developed, i.e. the quantity of hand-processed table olives is very low compared to the quantity of olives produced, while the quantity processed is entirely allocated for family consumption—yet this product may be sold at very profitable prices when the opportunity arises. Would it not be of interest to focus on enhancing the visibility of the product to local actors involved directly (operators in the production-processing chain) or indirectly (support structures and services, traders, etc.) in the value chain? This would shed light on the market potential of the product and, if necessary, the required investments. Workshops in the form of focus groups were thus held with the actors involved in the value chain.

4.2. Consultation of actors involved in Zarazi table olive production

4.2.1. Olive production: a high potential... yet insufficiently developed

In the workshops, the 47 olive growers interviewed emphasized the obstacles to the development of the Zarazi table olive value chain. The first problem concerned the low productivity, due mainly to biological factors specific to the variety grown (Zarazi) and also to the unavailability of control services from the authorities and extension services for the installation of crops such as treatment, irrigation, harvesting..., especially on rainfed crop farms with the lowest production levels and the least technical supervision. Moreover, the instability and irregularity in the olive quality was due to the fact that Zarazi table olives are highly susceptible to diseases and pests, and also due to the poor disease management. The lack of supplemental irrigation sources for Beni Khedache olive groves is another limiting factor for the potential creation of new plantations (to boost production), especially considering that 81% of respondents expressed an interest in planting Zarazi olive trees on a larger area if a sufficient water source was available.

Accompanying measures were proposed by olive growers to promote and develop the production of Zarazi table olives. This would essentially involve supervising farmers with respect

to good agricultural practices, developing an adequate intensification strategy, while taking into account the available water resources, and finally ensuring farmers' commitment to improving the production quality through optimized crop protection campaigns and boosting awareness on good harvesting practices.

4.2.2. Small-scale processing: a key function in the value chain

Interviewed small-scale processors (15 women) mentioned the following constraints to the development of a Zarazi table olive value chain. The first one was heterogeneity in the product characteristics, e.g. some processors added salt while others did not. The drying period also differed substantially. Finally, women mentioned the absence of collection centers and processing units specifically devoted to Zarazi table olives in the region.

These processors suggested that, in the short term, a core group of women should be formed and trained to promote this activity and encourage other rural women in the region to take a greater interest in the development of Zarazi table olives as a supplementary source of income. These women would have to be well supervised and supported to enable them to invest in this field with minimal risk. In the medium term, efforts could be focused on boosting incentives for the creation of processing units and training women on practicing this activity, while ensuring continuous control by the competent bodies with regard to the application of pre-specified quality standards and hygiene measures.

4.2.3. Marketing of traditional table olives: the deficiency of the value chain

The actors involved in Zarazi table olive production and processing unanimously agreed that marketing is the weak link in the value chain. The quantity of olives produced was not very high (only 10% of fresh table olives were processed) and the product was not sufficiently known beyond the Beni Khedache region (which is also devoid of specialized outlets where consumers could procure traditional Zarazi table olives), where the small quantities produced are sometimes marketed in the occasional fairs that take place in the area. Participants learnt about

and discussed the market potential of these table olives based on the positive experience of a few producers who sell their Zarazi olives at fairs.

“Installing collection centers near the producing areas could contribute to the organization of the sector, thereby making the supply channel of the processing units more clearcut”, said an olive grower at the workshop. These centers could be set up in the form of cooperatives bringing together different producers, or of private collection centers linked to processing units and having olive production contracts with farmers. The creation of these centers could boost the upstream part of the value chain (providing farmers with guarantees regarding the sale of their olives), as well as the downstream part by providing processing units thereby facilitating increased traditional olive production. Creating short marketing chains, with sales to a few retailers specializing in ‘local’ products, was also suggested by some actors.

5. Discussion and conclusion

Actors in the Beni Khedache region of Tunisia previously considered that Zarazi table olives were an unimportant product with little development potential. This product was generally ‘invisible’ to both economic actors (farmers, oil mills) and development agencies. The workshops helped connect the dots for participants, thereby shedding light on the potential of this product – Zarazi olive selling prices at fairs, local specificities of the whole production, and processing operations. The specificity and potential of Zarazi olive oil could be highlighted to local actors as a first step towards a collective reflection on the development of a specific value chain. This role of research and local development initiatives to place the spotlight on traditional food products has gained ground in recent years (Borelli *et al.*, 2020). This new approach showcases traditional farming and processing practices that were formerly unheeded or sidelined. For instance, Boulay *et al.* (2021) reported that farmers in Tanzania produced a specific type of groundnut and used it for home consumption. The latter crop had many agronomic and nutritional advantages, but farmers did not pay much

attention to this crop due to the lack of market outlets. The present analysis of Zarazi table olives revealed many similarities to that situation. This new approach also highlighted the development potential and constraints that must be overcome to develop traditional food products (Mabhaudhi *et al.*, 2019). Moreover, the approach indicated the importance of dialogue between actors to initiate collective initiatives for promoting traditional food products (Adhikari *et al.*, 2018). This promising approach was applied in the present study in Tunisia where – apart from a few iconic products such as Jebba figs (Elloumi, 2020) – there are many traditional products whose value is still under-rated by both farmers and development actors. There could be thus some support to these actors (training, subsidies, partnerships...) so that they develop the production and marketing of traditional products, leading in that way to economic impacts on rural communities (capitalization, consumption...).

Beni Khedache Zarazi table olives would deserve greater attention and support from all actors in the region. A comparison of the findings of the assessment of the existing Zarazi table olive value chain and the viewpoints of the operators of this chain allowed us to identify problems hampering the development of this product, while documenting the solutions proposed by these actors involved in its production, processing and marketing. The major constraint to the development of traditional Beni Khedache Zarazi table olives is mainly the difficulty in finding market outlets for the product. This – combined with the financial and climatic constraints facing producers in Beni Khedache – has prevented them from developing and marketing this product.

Participants to the workshop agreed on two main directions of actions that can help define a territorial strategy of development. Firstly, they put forward that development actors are key to organise the governance of the value chain and to help create units organizing the various actors (producers’ cooperatives, table olive collection centers, small-scale processing units, etc.), in that way leading to the promotion of the value chain. Secondly, participants highlighted that the specialization of each actor in a well-defined aspect of the value chain would be an excellent

starting point for the proper functioning of the chain. In the future, the definition of various scenarios for the functioning and profitability of the Zarazi table olive value chain will bring much useful information to help actors of this territory finetune the organisation of this value chain. The case of Zarazi table olive underlines the promising role of traditional products, as a motivation for actors of a territory to meet around a product whose quality relates to its origin, and learn to work together towards its promotion.

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