THE ORGANIZATION OF THE DATE SECTOR IN MOROCCO: A LEVER FOR VALORIZATION AND LOCAL DEVELOPMENT. THE CASE OF THE ZIZ VALLEY IN THE TAFILALET REGION OF MOROCCO

MOHAMED ZAHIDI[1]
AND JAMILA AYEGOU[2]

Abstract.

Territorial dynamics have been the subject of an increasing number of writings since the rediscovery of the territory by works on the economy of proximity, which have been analysed according to different approaches. In this context, the present work aims at analysing the socio-economic dynamics observed in an oasis territory historically known for its date palm agriculture, creating what is called a local agri-food system in the phoeniculture sector in the territory of Tafilalet in the Drâa-Tafilalet region in south-eastern Morocco. The objective of this article is to analyse the spatial organisation of local actors in the sector (in professional organisations and economic interest groups) according to a policy of aggregation, and its impact on the reinforcement of the territoriality of the system on the one hand, and the improvement of the performance of the system in terms of production, valorisation of local resources, quality and marketing on the other hand. Thus, we aim to show how this territoriality, concretised by the performances, allows to favour a local development of the region according to a sustainable perspective, which protects and valorises the local resources of the region. Our methodology is based on a mixed approach (qualitative and quantitative) through dozens of semi-structured interviews with local actors and through the distribution of a wide-ranging questionnaire.

Keywords: Territorialisation, territorial dynamics, local agri-food system, local sustainable development, fisheries sector.

JEL Codes: O13, O55

1. Introduction

The date palm is the symbol of pride and prosperity of the Saharan and pre-Saharan areas. It is found mainly along the valleys and is one of the oldest and most important fruit crops in the countries of the Mediterranean basin. This is due to the various roles it plays at social, economic, environmental and cultural levels. Date palm cultivation is the mainstay of the socio-economic system in the oasis territories, and it also occupies a prominent place in the economy of these territories, since almost all the inhabitants of the oases are involved in date palm cultivation and work in the production and marketing of dates.

---

[1]Mohamed ZAHIDI (Zahidi.mohamed90@gmail.com)
[2]Jamila AYEGOU (Jamila.ayegou@gmail.com)
Laboratory of Research in Management, Information and Governance (LARMIG), Hassan II University of Casablanca, Morocco. BP: 2634, Route des Chaux et ciments Beausite, 20254, Casablanca. Morocco

In fact, the geographical concentration of date production and processing activities in oasis areas (in Tafilalet, Morocco, in our case) leads us to study these productive territorial configurations, in the same logic as studies on districts and industrial dynamics (Alfred Marshal, 1920; Becattini, 1960 and 1970) which led to the rediscovery of the notion of territory from an economic perspective. The definition of this notion, unstable until today, is widely debated in the scientific community since it is based on the conjunction of the geographical proximity of the actors and the organised proximity that unites them.

However, the territory should not be perceived as a closed system because it interacts with external economic, political and personal factors that affect its dynamics (Bel, 2009). Thus, the institutionalist approach considers the territory as a specific form of economic dynamics based on interactions and collective memory, and as a proportion of space where a set of actors interact to build a development project (Colletis-Wahl et al., 2008), This work on agglomeration and proximity (in the broad sense) has led to the analysis of several types of territorial configurations, such as localized productive systems, clusters, innovative environments, etc, in the industrial sector, as well as localized agri-food systems (LAFS) in the agricultural sector.

It is acknowledged that territories are not static entities, they undergo changes in their demographic and socio-economic characteristics (Bel 2009) relating to production, coordination, distribution, consumption systems and socio-cultural determinants, etc. These developments, entitled 'territorial dynamics', can be positive (economic growth, employment, etc.) or negative (decline, unemployment, etc.); they aim to analyse changes by focusing on the evolution of relations between the various local actors (private and public or associative, or community), taking into account the modes of coordination built by the interactions of the actors (Bel Maiten, 2009).

In fact, for our study area (Tafilalet, in the Drâa-Tafilalet region of south-eastern Morocco), the date palm sector is the main pillar of the socio-economic system, as the number of date palms in this area is estimated at 1,960,000, with an average production of around 55,000 tonnes/year, which represents almost 40% of national production. This territory includes hundreds of private and public actors, around the same agricultural activity (production of dates) constitutes a localized agri-food system that has long participated in the local development of this region, and in the process of qualitative and quantitative development of the "date" resource at national and international level.

In this sense, our study is interested in the analysis of the territorial dynamics - as an articulation of individual and collective actions, of micro-social phenomena and of national frameworks, institutions and networks - observed at the level of the Tafilalet territory. The objective is to analyse how the organisation of the date palm sector or the grouping of date palm growers in professional organisations (economic interest groups) according to a policy of aggregation, within the framework of the local agri-food system of the Tafilalet date palm, allows the territoriality of this system to be strengthened in the Tafilalet region.

On the other hand, this organisation of the commodity chain makes it possible to improve the system's performance in terms of production, development of local resources, quality and marketing. Thus, we aim to show how this territoriality, concretised by the performances, could favour a local development of the region according to a sustainable perspective, which protects and valorises the local resources of the region.

For this, we will show, in a first axis, the approaches of the localized agri-food systems and their territorial anchoring. Then, we present the date sector on a global scale and on a national level (Morocco). Then, we present our working methodology. In the fourth part, we present the organisation of the actors of the date palm sector in Tafilalet in formal organised structures (economic interest group), and we present the performance of the local agrifood system of the Tafilalet date palm, and how it has triggered a territorial dynamic favouring the sustainable local development of the Draâ-Tafilalet region in Morocco.

2. Literature review.

In a context marked by the crisis of rural societies, the aggravation of societal and environmental problems and new food and health challenges facing the countries of the world, the notion of local agrifood system emerged 23 years ago thanks to the Centre for International Cooperation in Agronomic Research for Development (CIRAD), which defined local agrifood systems as: "production and service organisations (agricultural production units, agrifood, commercial and service enterprises, restaurants) associated by their characteristics and their functioning with a specific territory. The environment, the products, the people, their institutions, their know-how, their eating habits and their networks of relationships combine in a territory to produce a form of agri-food organisation on a given spatial scale' (CIRAD-SAR, 1996).

Several approaches underlie the local agrifood system, one of the major characteristics of which is its attachment to the territory.

2.1. The local agrifood system: a diversity of approaches

The emergence of the concept of the local agrifood system is the result of a confrontation between three streams of research. The first looked at the role of small businesses in the evolution of agriculture and agrifood chains in developing countries, mainly in sub-Saharan Africa and Latin America. The second stream analysed the rise of the territory as a productive organisation following the debates on industrial districts (ID) and localized productive systems. And the third stream of research was affirmed with the debates on the quality and signs of agri-food products. (J. Muchnik et al. 2007, Requier-Desjardins 2010).

Since its appearance, it should be noted that the notion of local agri-food system has experienced a remarkable diffusion in scientific circles. It has become an object of research and an approach in a number of social and biotechnical disciplines (Muchnik et al. 2007). However, this notion is considered - by a number of authors such as J-M Touzard, D. Sautier, J. Muchnik, D. Requier-Desjardins (2007), etc. - to be unstabilised. - For this reason, several works have tried to analyse the notion of local agri-food system

according to the approach of localized productive systems, that of territory and that of the food fact.

For the first type of work, he tried to analyse the links between the local agri-food system and the local production system as: "a set characterised by the proximity of production units in the broad sense of the term (industrial companies, service companies, research and training centres, interfaces, etc.) which maintain relations of varying degrees of intensity between them... The relationships between the units are diverse and take different forms: formal, informal, material, market and non-market. These relationships may concern material, service, labour, technology or knowledge flows. (Courlet 2002).

Similarly, this concept is equated with the notion of a cluster as: "a geographic concentration of interconnected firms, specialized suppliers, service providers, firms in related industries and associated institutions (universities, standards agencies and institutions) in particular fields that compete but cooperate" (Porter 1998).

This work is interested in the relationships between these different notions, their points of similarity and difference, by trying to answer the question "is the local agri-food system a simple extension of the notion of local productive system in the agricultural or agri-food domain? (Requier-Desjardins 2010).

This explains the analysis of the agri-food sector according to the cluster approach in the Anglo-Saxon works wine cluster in California (Porter 1998) and local agri-food production system in comparative multi-sector research (DATAR 2001; Courlet 2002). Similarly, Sabel (2002) has supported the idea that the agri-food sector can be organised in the form of a cluster.

Hence, the local agri-food system model has points in common with other types of territorial configurations such as: the differentiation of actors and the complexification of functions, notably through the production of a certain number of territorialized public goods (Requier-Desjardins 2010); the highlighting of economic foundations combining Marshallese externalities and agglomeration economy, with the construction of specific assets; and, the reference of the different models to innovation and the territorialization of know-how (Muchnik et al. 2007)

2.2. The local agri-food system: a strong reference to the territory compared to other localized productive systems.

The confrontation between the local agrifood system and other models (local productive system, cluster, districts, etc.) has led to the emergence of a certain specificity: firstly, geographical concentration, because in local productive systems, spaces are restricted whereas in local agrifood systems, activities can cover non-continuous spaces, which reinforces the role of the territorial delimitation of activities (Muchnik et al. 2007). Secondly, the environmental orientation or the consideration of sustainable development objectives by the 'local agrifood system' model and finally, the strong territorial qualification of agrifood products (Requier-Desjardins 2010).

However, the specificity that interests us here is the strong reference of local agri-food systems to the notion of territory compared to other models, notwithstanding the fact that the debate on the economy of proximity, which has absorbed the issue of local productive systems, has led to an increasingly assertive caution with regard to the reference to territory (Requier-Desjardins 2010).

Indeed, the analysis of the territoriality of local agri-food systems reflects the study of the different processes and links of this model with the territory. The notion of territory, despite its complexity and multidisciplinarity, can be considered as 'a socially constructed, culturally marked and institutionally regulated space' (Lopez and Muchnik 1997). Thus, the territory is not only a modality of contextualisation of territorial configurations and activities, but it is part of the local agri-food system.

Therefore, the links of local agri-food systems with the territory, which concretise the territorialisation of this model, can be of a physical and functional nature, reinforced when agriculture and agri-food processing are coupled locally and lead to products with specific characteristics. They can also be of a strong cognitive nature linked to the body of knowledge shared and distributed locally between the different actors, and to the skills of a local workforce.

Similarly, these links can be in the form of localized interpersonal and historical networks on which agri-food practices are embedded and whose structures and mechanisms of socialization and control contribute to strengthening the links to the territory. These links are also materialised by a set of formal institutions (economic or political, etc.) that establish, stabilise and guarantee the relations of interdependence between the actors of the local agri-food system. Such an institutional sphere is therefore an essential dimension for identifying a local agrifood system (Muchnik et al. 2007).

All of these physical, cognitive, historical, interpersonal and institutional links constitute the 'territorial anchorage' of local agrifood systems. However, the degree of this anchoring remains directly conditioned by the level of local coordination between these activities (Muchnik et al. 2007).

Another important dimension that reflects the territoriality of local agri-food systems is the economic and symbolic coupling of agri-food products and local services according to the basket of goods model of Mollard (2001) or the development of agritourism projects according to Touzard and Vandecandelaere (2005) (Muchnik et al. 2007).

With the amplification of social and environmental problems, the model of localized agri-food systems, given its specificities and autonomy, appears to be the most appropriate model to respond to the global challenges of sustainable development and food security, since it favours the maintenance of biodiversity through the protection and patrimonialization of living species and natural resources, as well as through the search for quality in agri-food products. This reinforces the territorial qualification of products, the geographical index and the territorial identity.

3. Methodology

In order to analyse and dissect the local socio-economic dynamics of an oasis territory in south-eastern Morocco, called Tafilalet and historically known for its date palm agriculture, we adopt an approach that combines the qualitative and the quantitative, based essentially on a field survey of the different local actors of this agricultural production system through direct semi-directive interviews, telephone interviews and a questionnaire administered to the actors. A quantitative analysis of the data collected on the basis of the questionnaire was also carried out using SPSS software.

The productive system identified takes the form of a localized agri-food system, for which we give it the title of local agri-food system of the date palm of Tafilalet. In fact, our objective in this article is to analyse this local system, by presenting, on the one hand, the mode of territorial organisation adopted by local actors, which is in fact the aggregation of small producers in economic interest groups.

On the other hand, we present the levers or pillars of territorialization of this agri-food system that have favoured its embedding in the territory of Tafilalet for a long time. Finally, we show how the mode of organization adopted by the actors of the agri-food system (aggregation) improves and develops the performances of the system on the productive, quantitative, qualitative and commercial levels. Thus, it is to present how this local dynamic allows to favour the valorization of the "date" resource at the level of the territory of Tafilalet in Morocco.

Indeed, our approach to exploring the field and collecting data is based on two parts; the first consists of a documentary study of the various documents produced by the local actors in the system, essentially the institutional actors. The second consists of semi-structured interviews with actors in the agri-food system of various kinds (cooperatives, economic interest groups, private companies in the sector, public institutions, associations, consumers, etc.).

Due to the exceptional circumstances resulting from the COVID-19 pandemic, we did not have the opportunity to contact directly all the local actors of the Tafilalet phoeniculture sector in our sample, so we supported our semi-structured face-to-face interviews with the actors (private, public and community) with telephone interviews, and with the dissemination of an online questionnaire with open and closed questions, as well as multiple choice questions.

The duration of the semi-structured interviews varied between 25 and 45 minutes, and they covered two sets of questions. Firstly, questions relating to the structure of the system, the actors, the mode of organisation of the system, the levers of territorialisation of the system, etc. Secondly, questions on the achievements and performance of the agri-food system in terms of production, development of the date resource, quality and marketing, as well as on the environmental or sustainable concerns of the system.

Data entry and processing of the data collected through the questionnaire and direct interviews was done using Google Forms, Excel and SPSS, presented in the form of tables and graphs. The study was conducted in the framework of the great valley of Ziz, covering a large perimeter of date production in North Africa (Morocco) and housing several cities in the region Drâa-Tafilalet such as; Errachidia, Aoufous, Arfoud, Jorf, Rissani, etc. The study was spread over a period of 7 months, from 25/12/2020 to 14/07/2021 by interviewing a sample of 187 actors.

Finally, we present how the local agri-food system of the date palm of Tafilalet integrates environmental and sustainability issues in its strategy, and how it directly participates in the establishment of a responsible territorial development, preserving the territorial resources of the agricultural sector and promoting socio-economic activities at the level of Tafilalet, via a local sustainable and green dynamic.

4. The phoeniculture sector: from the global to the national level

4.1. The date industry: an international overview

- **The world production of dates**

The world production of dates, all combined, now exceeds the threshold of 8 684 512 tons per year, has more than doubled since the 1980s, and with a remarkable evolution compared to the years 1999 and 2003 when it was 5 million and 6.75 million tons successively (source FAO, 2018).

This places the date as the 5th most produced fruit in arid and semi-arid regions, after citrus, mango, banana and pineapple. It ranks high among dried fruits, ahead of grapes, figs and prunes. It is produced in more than 30 countries, but almost all the world's date production comes from the Mediterranean basin, the most important being Egypt, Iran, Saudi Arabia, the Arab Emirates, Iraq, Pakistan and Algeria.

World date production has been growing steadily and significantly. Since 1950, it has doubled every twenty years, reaching more than 8 million tonnes per year, double that of the 1990s. However, there have been phases of slowdown, as in the early 1980s and early 2000s, following production declines in major producing countries involved in regional conflicts. But overall, growth remains strong at +22% since 2000 and +131% since 1990.

Date palm cultivation, considered to be one of the oldest, is still very regional and 96% of it is concentrated in northern Africa and the Middle East. It is also widespread in Asia (China, India) and on the American continent (USA, Mexico, Costa Rica, Peru). However, these productions remain anecdotal compared to those of the major producing countries which, since the 1980s, are Saudi Arabia, Iran, Iraq, Egypt, Pakistan, the United Arab Emirates, Algeria and Sudan.

Until 2000, Iraq dominated world production with volumes close to one million tonnes. However, the war caused its production to plummet until 2007 (430,000 tonnes). It has since recovered, but the country has not regained its leading position.

Indeed, with 1.3 million tonnes in 2011, Egypt has become the world's leading producer of dates, followed by Saudi Arabia (1.1 million), Iran (1 million), the United Arab Emirates (900,000 t), Algeria (690,000 t) and Iraq (619,000 t). Together, these countries produce almost three quarters of the world's volumes. It is worth noting the growing share of China, which has succeeded in multiplying its production by ten since the 1990s, to position itself as 12th in the world classification.

Production in the United States (California, Arizona) continues to grow, but the 30,000 tonnes reached in 2011 are not very significant. The following figure shows the date producing countries and their geographical location.

Figure 1, in the Annex, includes a map with distribution of World production.

On average, more than 5 million tonnes of dates are harvested worldwide each year. In the following table we present a comparison of world date production between 2005 and 2018, as well as the shares of each country:

Table 1: date producing countries in 2003 and 2018

World date production in 2003		
Country	**Production in tonnes**	**Share in %**
Egypt	1 115 000	16,52%
Iran	875 000	12,96%
Saudi Arabia	830 000	12,30%
UAE	760 000	11,26%
Pakistan	650 000	9,63%
Algeria	420 000	6,22%
Sudan	330 000	4,89%
Oman	239 000	3,54%
Libya	140 000	2,07%
China	120 000	1,78%
Other countries	1 271 000	18,8%
Total	6 750 000	100,00%

Source: Data from FAOSTAT (FAO), 2018.

World date production in 2018		
Country	**Production in tonnes**	**Share in %**
Egypt	1 562 171	17,99 %
Saudi Arabia	1 302 859	15,00 %
Iran	1 204 158	13,87 %
Algeria	1 094 700	12,61 %
Iraq	614 584	7,08 %
Pakistan	471 670	5,43 %
Sudan	440 871	5,08 %
Oman	368 808	4,25 %
UAE	345 119	3,97 %
Tunisia	241 333	2,78 %
Libya	176 229	2,03 %
China	158 294	1,82 %
Morocco	111 701	1,28 %
Kuwait	96 656	1,11 %
Other countries	433 721	3,88 %
Total	8 684 512	100 %

Egypt is the largest producer, but since dates travel little - 90% of production is consumed in its country of origin, particularly as cattle feed - Europe is mainly supplied by North Africa (mainly Tunisia and Algeria).

41% of the dates produced in 2005 in the world (2,074,000 tonnes) came from the Mediterranean Basin, including a significant share from Egypt, the leading producer country with 23%. Algeria, with 10% of production, is in 4th place worldwide, ahead of Iran (20%) and Saudi Arabia (19%).

- **The date sector: a growing world export market**

The date is a staple product mainly consumed in Muslim countries, especially during the Ramadan period. As a result, the share of local consumption remains very high. It is estimated that only 10% of world production is exported. Thus, Egypt consumes almost all of its own production, since it exports only 1% of its volumes. Similarly, Saudi Arabia exports only 7% of its production. The main world exporters are the United Arab Emirates, Pakistan, Iraq, Iran and Tunisia.

With 227,000 tonnes imported in 2010, the United Arab Emirates is the main importer of dates. Their role in the world date trade has become unavoidable: 4th producer, 1st exporter and 1st importer! Indeed, while local consumption is certainly sustained, the Emirates now play the role of a trade platform between the various countries of the Middle East and the rest of the world. The dates imported by boat, which mainly come from neighbouring countries (Iraq, Iran, Saudi Arabia, Oman, India) are then re-exported to the whole world (Japan, the Netherlands, Australia, Syria among others). Modern infrastructure as well as a central location and a certain political stability in a rather unstable region give this country the role of a hub.

The second largest importer is India, with 193,467 t imported in 2010, followed by the European Union (71,497 t) and Morocco (51,500 t).

In terms of export and import of dates, the world market is very dynamic via the import and export flows triggered by the producing countries on the one hand such as Tunisia, Saudi Arabia and the United Arab Emirates, and on the other hand by the importing or transit countries such as India, France, Morocco, etc.

Table 2: World date exports and imports in value

Exports in thousand dollars			Imports in thousand dollars		
Country	**Export in tonnes**	**Share in %**	**Country**	**Export in tonnes**	**Share in %**
Tunisia	280 129	16,5 %	India	183 169	19 %
Saudi Arabia	201 393	12 %	Morocco	78 519	8,3 %
UAE	197 553	11,6 %	France	72 090	7,6 %
Israel	160 726	9,5 %	Malaysia	47 208	5 %
Iran	138 814	8 %	UK	38 532	4,1 %
Pakistan	112 731	6,6 %	Indonesia	37 495	4,0 %
Iraq	95 562	5,6 %	United States	35 688	3,8 %
Algeria	91 030	5,3 %	Germany	31 872	3,4 %
United States	66 141	3,9 %	Canada	30 165	3,2 %
Egypt	49 729	2,9 %	Russia	29 527	3,1 %
Other countries	304 995	18 %	Other countries	362 134	38 %
Total	1 698 803	100 %	Total	946 399	100 %

Source: Data from FAOSTAT (FAO), 2018.

Tunisia is the leading exporter of dates (by value). The leading importer is France (by value). Algeria exports only 2% of its date production, i.e. 12,000 tonnes out of 600,000, and ranks 28th in the list of date exporting countries, yet it is the world's second largest producer after Iraq.

Algeria and Tunisia are known for their exports of deglet nour, produced mainly in the regions of Biskra (Tolga) and Tozeur. Morocco has long produced medjhoul (this term means "unknown" or "anonymous" in Arabic). But in the 19th century an epidemic destroyed more than ten million date palms. A few plants were nevertheless saved and resettled in southern California; in the 1970s, the Jewish Agency imported some of them to plant in the Arabah Valley. As a result, the European market is now supplied with American and Israeli medjhoul dates.

- **The European Union: a market with reduced growth and seasonal consumption.**

European imports today represent only 10% of the world date trade. However, they have grown strongly in recent years, from around 50,000 t to 72,000 t in the space of a decade, i.e. a growth of 44%.

With 28,355 t imported in 2012, France is the main date importing country in Europe and acts as a hub. It is estimated that 40% of the volumes imported into France are re-exported to the rest of Europe. Indeed, the close historical links developed between North African suppliers and French importers-exporters explain this situation. France thus

obtains 90% of its supplies from Mediterranean countries (Tunisia, Algeria) which benefit from zero customs duty following trade agreements with the EU.

The United Kingdom is the second largest importer in Europe, particularly during the Christmas and New Year period, followed by Italy, Spain, the Netherlands and Belgium.

European imports today represent only 10% of the world date trade. However, they have grown strongly in recent years, from around 50,000 t to 72,000 t in the space of a decade, i.e. a growth of 44%.

With 28,355 t imported in 2012, France is the main date importing country in Europe and acts as a hub. It is estimated that 40% of the volumes imported into France are re-exported to the rest of Europe. Indeed, the close historical links developed between North African suppliers and French importers-exporters explain this situation. France thus obtains 90% of its supplies from Mediterranean countries (Tunisia, Algeria) which benefit from zero customs duty following trade agreements with the EU.

The United Kingdom is the second largest importer in Europe, particularly during the Christmas and New Year period, followed by Italy, Spain, the Netherlands and Belgium.

4.2. The date sector on a national scale - Morocco

- **Overview of the sector**

In Morocco, date production is located in the south of the Atlas Mountains. Two focal areas stand out for their economic importance, namely the Ziz valley-Tafilalet plain in the province of Errachidia and the Draa valley in the province of Ouarzazate.

The number of Moroccan date palms is estimated at 6.9 million, this represents 4.8% of the world's phoeniculture heritage, 45% of which are productive. The area covered by this crop is estimated at 59,640 ha with an average annual production of 117,000 tonnes. It should be noted that 25% of dates produced are of good quality, 35% of average quality and 40% of low quality.

The date palm occupies the 5th rank with 5% of the total area of national fruit trees after the olive tree, fruit rosaceous, citrus and vine. From the point of view of production, the date palm ranks 7th with 2% of the volume of national fruit production. The date palm occupies the 6th rank with 8% of the global value of the national fruit growing production which amounts to 9,435 million dirhams.

The average yield of the palm tree oscillates around 20 to 25 kg/ft. It varies from one region to another according to environmental conditions and water availability. It is much lower than the yields achieved in neighbouring countries and even the potential yields that could be technically achieved with the same plant material in our palm groves.

In 2019, the sector recorded a turnover of 1.87 billion Dhs, an added value of 1.31 billion dirhams and contributes to the creation of 3.06 million working days per year. The sector contributes to the stability of the rural population in the oases, as it contributes to the income of the oasis farms to the tune of 65%.

In terms of date varieties at the national level, professionals list dozens of varieties. However, at the level of date palm planting, operators tend towards known or good quality varieties such as: Mejhoul, Boufeggous, Bouslikhe, and Najda. Dozens of other date truths are classified under the heading of Khalt. The following figure presents the

existing varieties in the oasis areas of Morocco, as well as their proportion; Mejhoul (16%), Boufeggous (15%), Bouslikhe (14%), Najda (15%), and khalt (40%).

Figure 2: Structure of palm groves in the area by variety

Source: our survey data

- **Production and commercialization**

At the level of production, Morocco maintains its position as the 12th largest producer of dates and strengthens its position with a projected record production of 143,000 T for the 2019-2020 campaign, up 41.3% compared to the 2018-2019 campaign.

Moreover, a real rise in these indicators is expected for 2022 with the entry into production of all planted palm trees.

Figure 3: Evolution of date production (KT)

Source: MAPM, 2020

The area planted in date palm extension between 2010-2014 is nearly 2500 ha. In order to achieve the objectives of the contract program CP of the phoeniculture sector (17,000 ha to be planted in extension between 2010 and 2020), the area remaining to be planted in extension between 2015 and 2020 is 14,500 ha. On the basis of a density of 100 vitroplants/Ha, the average annual need for vitroplants is 242,000, i.e. 1.45 million vitroplants for the period 2015-2020. It should be noted that these extension zones will be planted exclusively with in vitro plants instead of rejects in order to avoid the transmission of existing diseases from the old palm groves to the extension zones, in particular the Bayoud disease.

- **Production by variety, commercialization, valorization and transformation.**

In view of the in vitro plant production programme and the planned imports of Mejhoul, the variety mix is likely to change significantly in the coming years. Thus, the weight of "other varieties" currently constituting 90% of production will decrease in favour of noble varieties such as Mejhoul, Nejda and Boufegous which will eventually constitute more than 50% of production. These varieties have a significant potential on the local market but especially for export

The world import market for Mejhoul is estimated at 35kT in 2013, dominated at nearly 35% by the export of Israeli "Mejhoul" dates. Based on a growth rate of 3%, the market

should reach 43kT in 2020 and 55kT in 2028. Additional Moroccan Mejhoul production in 2020 would be marginal. However, in the long term (2028) 70kt of Mejhoul will enter the market both locally and for export. Currently, the world date export market is divided, in terms of varieties, into three markets: 1)A market for the Deglet Nour variety monopolized at 90% by Tunisia and Algeria. 2) A market for common varieties supplied mainly by Iran, Pakistan, Saudi Arabia, the United Arab Emirates and Iraq. 3) A market for the Mejhoul variety supplied mainly by Israel and California

Production actuelle des dattes en tonnes: Equivalent production à conditionner en T/an (44% de la production selon CP). Equivalent production à frigorifier en T/an (65% de la production à conditionner). Cycle de rotation des dattes dans les entrepôts frigorifiques Estimation de la capacité frigorifique nécessaire en T. Entreposage frigorifique existants (T/an). Capacité additionnelle nécessaire en T. Nombre d'unité d'entreposage frigorifique additionnelle à installer

Table 3: Refrigeration capacity and number of additional date units required by Region

	Souss Massa	**Guelmim Smara**	**Draa-Tafilalet**	**oriental**	
Current date production in tonnes	45 000	14 000	45 000	3 000	107 000
Equivalent production to be conditioned in T/year (44% of the production according to CP)	19800	6160	19800	1320	47080
Equivalent production to be refrigerated in T/year (65% of the production to be conditioned)	12870	4004	12870	858	30602
Rotation cycle of dates in cold stores	1,5	1,5	1,5	1,5	
Estimate of the necessary refrigerated capacity in T	8580	2669	8580	572	20401
Existing cold storage (T/year)	2100	620	1440	100	4260
Additional capacity needed in T	6480	2049	7140	427	16141
Number of additional cold storage units to be installed	16	5	18	1	40

Source: MAPM, 2018

The phoeniculture sector is organised under the Moroccan Interprofessional Federation of Dates "FIMADATTES". It includes four colleges: production college, packaging College, transformation college and marketing and commercialization college.

5. Results and discussion

5.1. Strengthening the organisation and development of the date sector.

In this section, we present the results of our field survey regarding the organization of the date sector in the territory of Tafilalet. In a first step we present this organization has been strengthened since 2012 by the creation of a set of economic interest groups and agricultural cooperatives. Secondly, we present how this organisation of the sector has allowed for a remarkable development of the sector.

5.1.1. Strengthening the professional organisation of the sector.

Improving the livelihoods of small-scale producers involves not only improving the practices of producers and the quality of products, but also professional organisation within the framework of cooperatives for the production, development and marketing of local products. Given the importance of professional organisation as a necessary step for the valorisation of local production (local products, dates in our case), conditioned by a large offer and a dimension of commercial activity.

Moreover, the organisation of small producers into cooperatives makes it easier for the state to provide incentives (aid and subsidies), and to develop, market and market the products in order to improve their positioning on the market. This organisation also makes it possible to reduce the production cost of products and to improve competitiveness. Hence the actions of the regional office of agricultural development of Tafilalet which have been focused on the establishment of the organizational platform likely to meet the development objectives outlined in the strategy of the Green Morocco Plan and the Contract Program signed between the Ministry of Agriculture and the interprofession FIMAdattes in 2010.

The strengthening of the professional organisation has been focused on the creation of economic interest groups (EIG).These are professional organizations of second degree, grouping together agricultural cooperatives working in the field of date development. These economic interest groups (EIGs) were created in recent years to ensure better management of cold storage units and facilitate entry to supermarkets. This is to improve the marketing of the product "dates" and its derivatives and consequently the promotion of the economy of the sector. These groups are responsible for the management of the refrigeration unit; packaging and storage premises. The table below relates the situation of the GIE created in this direction.

Table 4: Economic interest groups created in the territory of Tafilalet. Sector Dates

Name of EIG	Number cooperatives	Number members	Palm grove
Tomour Wahate Aoufous	17	450	Aoufous
Difaf Ziz d'Erfoud	31	550	Erfoud
Oasis- Jorf	31	360	Jorf
Mergouna de Rissani	16	506	Rissani
Oued Ziz pour le Développement	14	131	M'Daghra
Gheris Ferkla Amagha-Tinjdad	11	165	Ferkla, Ghriss, Tinjdad
ALNIF TAFROUTE MAAIDER	10	180	Alnif sidi ali
Toumour Oued Bouanane	14	238	Bouanane
Toumour Wahate Guir	6	162	Boudnib
Total	**150**	**2742**	

Source: ANDZOA, 2019

The table above shows that the MSEs created within the framework of the cold storage programme for dates in the Tafilalt plain are nine (09) units. These second-order organisations (GIE) include more than 150 agricultural cooperatives and at least 2742 date producers. The spatial coverage of each grouping varies from 1000 to 5000 Ha.

5.1.2. Role of the EIGs in the development of the sector

Within the framework of our study, we questioned the actors of our sample (producers and farmers) on the variables or elements that attract date producers to join and organise themselves in professional associations and organisations (notably cooperatives) and at

the level of the Tafilalet territory. In addition to this, we questioned them on the factors that drive their organisation in economic interest groups. The responses of the actors focus on four main factors, which are their membership in EIGs. These include: training, advice, installation of storage or refrigeration units, and marketing. The following table presents these results.

Table 5: descriptive statistics on the factors that lead actors to organise themselves in EIGs

	Mean	Standard deviation [a]	Analysis N[a]	N Missing
Formation	4,13	1,083	187	6
Advice	3,85	1,076	187	5
Storage facility (Fridges)	3,78	1,122	187	3
Commercialization	3,76	1,188	187	1
a. For each variable, missing values are replaced by the mean of the variable.				

Source: SPSS data analysis

The results of the table show that the local actors in Tafilalet in the phoeniculture sector are looking for four fundamental elements in their action of organising themselves in MSEs. Firstly, they seek training or apprenticeship, so by joining an MSE date producers seek to benefit from training, knowledge sharing and the pooling of knowledge and techniques. Secondly, they aim to benefit from advice and support for their projects in order to overcome any problems that may arise.

Thirdly, date producers are looking for spaces or large refrigeration units where they can store their production in good conditions (temperature, hygiene, security, etc.). Lastly, membership of professional organisations or MSEs enables them to market their stored production under better conditions and at advantageous prices.

In order to give more meaning to the results obtained, we used principal component analysis (PCA) for the data collected on the basis of our questionnaire and semi-structured interviews. This was done in order to reduce the different variables explaining the membership of an economic interest grouping to a few main components. The results obtained are reported in table 6.

The table shows the eigenvalues, which are related to a very simple concept: the quality of the projection when going from N dimensions (N being the number of variables, here 4) to a smaller number of dimensions. In our case, we see that the first eigenvalue is 3.305 and represents 82% of the variability. This means that if we represent the data on two axes, then 93.428% of the total variability will be preserved. Each eigenvalue has a corresponding factor.

Table 6: Principal component analysis of the survey data

Component	Initial eigenvalues			Sums extracted from the square of the loadings			Rotation sums of loadings squared		
	Total	% de la variance	% cumulative	Total	% de la variance	% cumulative	Total	% de la variance	% cumulative

1	3,305	82,624	82,624	3,305	82,624	82,624	**1,938**	**48,453**	**48,453**
2	,432	10,804	93,428	,432	10,804	93,428	**1,799**	44,976	**93,428**
3	,213	5,313	98,741						
4	,050	1,259	100,000						
Extraction method: Principal component analysis.									

Source: SPSS data analysis

Each factor is in fact a linear combination of the starting variables. The factors have the particularity of not being correlated with each other, and they are therefore not all equal to zero. We can therefore continue the analysis while presenting the KMO index which can be qualified as average (0.81). It tells us that the items are moderately correlated with each other. Then, the result of Bartlett's sphericity test is significant ($p < 0.0005$), and the correlations are not all equal to zero. We can therefore continue the analysis and present in the following the two components after PCA analysis and the correlations of each variable with them.

Table 7: Rotation of the component matrix [a]

	Component	
	CP1	CP2
Storage facility (Frigos)	**,899**	,373
Advice	**,853**	,420
Formation	,342	**,920**
Advice	,534	**,798**
Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalisation.		
a. Convergence of the rotation in 3 iterations.		

Source: SPSS data analysis

From this table, it can be seen that the variables (storage and marketing facilities) are strongly correlated with the first component (C1), and therefore this axis can be called "storage and marketing facility". While the variables (training and advice) are strongly correlated with the second component (C2), and therefore it can be called "capacity building".

Thus, in terms of results, we can say that there are two main elements that attract producers or actors in the date sector to organise themselves in professional organisations or MSEs. On the one hand, there is the 'technical support' concretised by the installation of storage units, refrigeration units and the marketing of the actors' production. On the other hand, there is capacity building or cognitive support for actors in the sector, through training, advice and support for producers to acquire new techniques and knowledge.

5.2. The local agri-food system of the date palm in Tafilalet: a new dynamic at the service sustainable development.

Through all the above-mentioned indicators, we note a strong socio-economic dynamic of the Tafilalet phoeniculture SYAL in the Draâ-Tafilalet region. This dynamic can be

exposed based on four major dimensions or levers which are: the production of dates, their valuation, their quality and their marketing.

5.2.1. The evolution of date production and vitro-plants

In terms of production there are two components, the production of dates and the production of vitro-plants. Regarding the first component, we note a remarkable progress compared to the years 2002-2008 when the total production of dates in Morocco was between 25000 and 60000 tons, against 101000 tons in 2016/2017 at the level of the region of Draâ-Tafilalet. Figure 1 shows the important evolution in terms of production of dates in the region over the past years:

Figure 4: Evolution of date production in the DTR in tons

Source: RCDT[1]-2018, terroir products report

Despite the decline noted in 2013-2014, date production has grown almost continuously between 2010 and 2017. This is an indicator of a new dynamic created in the region.

Regarding the second component of production of vitro-plants, it has also experienced a significant increase in recent years through the efforts of various institutions, namely: the RCAR-E[2], NOFS-E[3], NADOAZ[4], ROAD-TF[5], ACop[6] and Research Laboratories. This development has been materialized by the availability of 450000 vitro-plants to investors over the period of 2010-2017 according to the Moroccan ministry of agriculture data in 2018. The development of the production of vitro-plants positively impacted the planting of palm trees in the region of Draâ-Tafilalet (RDT), going from 250000 feet of date palm planted in 2010/2011 to 1300000 feet in 2016/2017. This result is due, it seems, the national plan for the development of date palm which aims to expand the palm grove from 48000 ha in 2010 to 65000 ha by 2020, with the planting of 3 million seedlings, by restoring and densifying the existing palm grove and creating 17000 ha of new modern plantations. The following figure shows the evolution of palm planting in the RDT.

Figure 5: Evolution of date palm plantation in the RDT in thousands

[1] Régional council of Drâa-Tafilalet
[2] The regional center for agricultural research of Errachidia
[3] National Office for Food Safety
[4] National Agency for the Development of Oasis and Argan Zones
[5] Regional Office for Agricultural Development of Drâa-Tafilalet
[6] Agricultural cooperatives.

Source: RCDT-2018 terroir products report

We can clearly see the more than fivefold increase in date palm planting from 250 thousand palms in 2010 to 1 million 300 thousand in 2017.

5.2.2. The development of a process of valorization of dates and its derivatives

After the establishment of the pillars of the LAFS- DPT including cooperatives and processing MSEs, we see the transition from an era of marketing in raw to another valuation of dates. Thus, through the MSEs and agricultural cooperatives, the processes of recovery of dates are developed and became more innovative, including the processes of processing dates into by-products such as paste, syrup, jam, toast, etc., and with the introduction and use of dates and their waste in the production of several innovative food products, aesthetic and decorative. This recovery is reassured by 24 units of which 18 are economic interest groups (EIG)[7], with a storage capacity of 3920 tons (amount stored until May 2017: 1838 tons). Thus, the 67 date processing units were able to process 560 tons of dates in 2016/2017. Figures 4 and 5 show the evolution of these units in terms of storage and processing of dates in recent years.

Figure 6. Date storage in tons: From 231 in OCT-16 to 1838 in MAY-17

Source: RCDT Terroir Products Report, 2018.

Figure 7. Date processing in tons: From 40 in 2010-2011 to 560 in 2016-2017

[7] Economic interest groups

Source: RCDT Terroir Products Report, 2018.

Such developments noted through the two figures 6 and 7 clearly show the dynamics of the sector through the process of valorization of dates.

5.2.3. Improving the quality of LAFS date palm products in Tafilalet: towards certification

Table 8 shows the certification in 2010 and 2012 of two varieties of dates in the study area (Majhoul and Boufeggous). This certification is a logical continuation of the efforts invested by the various actors in the system, including research and innovation actors. Thus, several competitions are made at the national level between producers of dates and their derivatives to develop the quality of products of the system, as those made annually at the level of the international exhibition of dates in Erfoud.

Table 8. Certified varieties of dates

Products Labelled, DSQQ,Year, Certification	**Applicant group And Geographical delimitation**	**Main characteristics of the product**
Majhoul dates from Tafilalet, PGI, 2010, NORMACERT	Association Oasis Tafilalet for the Valorization of the products of Terroir and the promotion of the organic agriculture.The geographical area includes: •27 communes spread over 4 circles in the province of Errachidia •3 communes under the circle of Alnif and the province of Tinghir.	•Variety: Majhoul. •Brown color, lighter in the upper part.•Shape: elongated for mature dates, tapered in the upper third with lateral protrusions. •Dimensions: ✓ Length: 2.5 - 6.5 cm. ✓ Width: 1.5 - 4 cm. ✓ Weight: 15 - 30 g. - Total sugar content: 75.80 g/100g dry matter. - Water content: 20 - 30%.
Boufeggous dates , PGI, 2012, NORMACERT	National Federation of Associations of Producers of dates "". The geographical area covered by the geographical indication "Boufeggous dates" includes 86 Communes at the level of different Moroccan oases. It is divided into four main areas: Ouarzazate (43%), Tafilalet (37%), Tata (16%) and Figuig (4%).	-Variety: Boufeggous. -Shape: Oval. -Color: yellow at the stage Blah and dark brown at the stage wall. -Consistency: soft. -Little fibrous, thick and slightly caramelized. -Weight of 100 dates: 1.200 g to 2.000 g. -Sugar content: 65 to 75 grams/100g of dry matter.

Note: Year: year of recognition of DSQQ. Organization: Certification and control organization.
Source: our elaboration following data from Harrak H. and Boujnah M. (2012).

In terms of quality, before 2010 no variety of dates, at the level of the region, was known by its quality and its specificities at national or international level. But since the year 2010, a significant improvement in the quality of dates and derivatives at the level of the territory is noted. This is mainly due to research organizations and standardization (NOFS-E, RCAR-E and research laboratories), and all local actors of LAFS- DPT.

This quality is reflected at the local, national and international level by the instruments of certification and geographical indication of several varieties of dates in the region. The organization NORMACERT has certified in 2010, the dates "Majhoul" and in 2012, the dates "Boufeggous".

Table 9: Photos of certified dates

Variety	Photo
Majhoul dates from Tafilalet	
Boufeggous dates	

Source: Website of NOFS, 2020

Similarly, five varieties of dates have a geographical indication, namely: Majhoul, Boufggous, Jihl, Outqdim and Nejda. We specify in the following figures, the specifics of this process of certification and recognition of dates Tafilalet. Having today a good international quality, they contribute to the identification and territorial qualification of this oasis area of Morocco.

Table 10. Geographical indication of some varieties of dates in the DTR and their production

Geographical indication	**"Tmar Majhoul Tafilalet"**	**"Tmar Boufggous"**	**"ELJIHL"**	**« Outq dim »**	**« Tmar Nejda »**
Area	Tafilalet	All oases of Morocco	Draâ	Toudg ha	Draâ
Production of the region /t	8000	18000	17500	70	1200

Source : RCDT Terroir Products Report, 2020.

Admittedly, the quantities produced of dates with geographical indication do not meet internal and external needs, but this productivity has increased significantly in recent years, making forecasts optimistic for the future.

5.2.4. The progression of local and national consumption despite the complexity of the marketing circuit

The main outlet of the production of dates in Morocco is the very dynamic local and national consumption that has almost progressed in recent years to reach the level of 15

kg / year for the inhabitants of the production area and 3.27 kg / year for the rest of the national space. These figures show that the commercialization is done mainly at the national level and more particularly at the level of the territories of production. This is due to the insufficient local production which does not cover the increasing demand (close to 180.000 tons/year). It is therefore imports that allow to complete the local supply (close to 40000 tons), while Morocco's exports of dates did not exceed the level of 37669 tons in 2017 (MAMFRDWF[8], Report on strategic guidelines for the phoeniculture sector, 2017). This finding has allowed the development of modern distribution channels and the birth of a market of local urban consumers for signaled and terroir products, while this market is complex and displays differences in prices and margins, depending on a set of factors particularly the type of varieties and quality of dates or their derivatives. It is the dates of high and medium market value that are easily marketed. Figure 8 shows the complexity of marketing channels for this luxury fruit.

Figure 8 in the Annex shows the complexity of marketing channels for dates, from BDC report. According to the Belgian Development Cooperation report, we can note that:

- Two dominant marketing circuits coexist, namely short circuits and long circuits. The long circuit is characterized by several intermediaries, each taking a significant margin on the product. However, the direct sale to the consumer, whether at the local or

However, direct sales to the consumer, whether at the local level or during the organization of fairs and exhibitions, is the circuit preferred by traders, but the quantities involved are small.

- The collectors / wholesalers are the main buyer of dates produced in the oasis area. On the contrary, the units of valorization are practically absent at this stage of the marketing circuit. The sale to medium and large surfaces is almost nonexistent.

All these circuits, despite their complexity, shows the strong dynamics of the LAFS of the date palm in Tafilalet and shows how the local consumer market is developing more and more to attract more actors related to the date palm sector. This is another lever that shows the territoriality of this LAFS.

6. Conclusion

In conclusion, we have tried to show how the organization of the 'date' sector or the grouping of date palm growers in professional organizations (economic interest groups) according to a policy of aggregation, within the framework of the local agri-food system of the Tafilalet date palm, makes it possible to reinforce the territoriality or territorial embedding of this system in the Tafilalet region. On the other hand, this organization of the commodity chain makes it possible to improve the system's performance in terms of production, enhancement of local resources, quality and marketing, as we have already presented. Finally, this article clearly shows the sustainable orientation of the localized agri-food system of the date palm in Tafilalet. The latter is directly involved in the protection and development of the region's local resources, and constitutes a major source of income for the region.

In the first part, we presented a review of the literature on the different approaches to localized agrifood systems as a model for territorial development in the agricultural

[8] The Ministry of Agriculture, Maritime Fisheries, Rural Development, Water and Forests

sector. On the other hand, we explained the strong territorial embedding or attachment of localized agri-food systems in relation to other localized production systems, given the natural specificities and agricultural resources on which they are based.

Next, we presented the local agrifood system of the date palm in Tafilalet, exposing its structure and its different actors reflecting the links built between this territorial configuration and the territory of Tafilalet, throughout the history of this territory. Thus, we analyzed the different factors that push local actors to organize themselves in MSEs and agricultural cooperatives, and we presented the performance of the system in terms of production, valorization of local resources, quality and certification of the system's products and, lastly, the marketing of the system's production.

In terms of results, we were able to identify, through a qualitative methodology and a constructivist paradigm, the different levers of territorialization of the Tafilalet agri-food system, while expressing the strong embedding of the system in the territory of Tafilalet for decades, but especially since 2008 (year of launch of the Green Morocco Plan). Thus, we have exposed the four tangible facets of this territorialization, which express the performances achieved by the different actors, in terms of production of dates and vitro plants, quality and certification of the system's products, valorization of the production, and marketing of this production at the local and territorial level. These achievements clearly express the strong local socio-economic dynamics created in the territory of Tafilalet (Province of Errachidia).

Finally, we have shown how the agri-food system of Tafilalet keeps a central place to environmental issues, regarding the protection and conservation of local resources, the protection of the environment, and the promotion of a responsible and green ecosystem. Thus, we have highlighted the sustainable orientation of the system, and the extent to which it participates in the protection and promotion of local resources in Tafilalet in the Drâa-Tafilalet region, from a sustainability and responsible investment perspective.

However, despite the territorialization of this agri-food system and its important economic, social and environmental achievements, there are still gaps in the coordination of actors, especially institutional, given their variety and the interference of their areas of intervention, in the awareness of farmers to organize themselves more and more in organized structures such as MSEs and agricultural cooperatives. Because despite the performances, but the rate of membership in the MSE remains very low compared to the rate of membership in these cooperatives. This is in order to benefit from the services of the MSEs, in order to improve the quality and output of the system.

In this sense, we ask questions that seem relevant to us, and that can be the subject of future research in this field, essentially concerning the mechanisms of coordination or governance within localized agri-food systems, the contributions and limits of the policy of aggregation of the actors of the system or how to ensure the involvement of all the different actors of the system, also concerning the land issues of the productive system. Thus, a specific public policy is needed to accelerate the implementation of a territorialized food system that effectively meets the requirements of sustainable territorial development.

References

Agence Nationale de Développement des Zones Oasiennes et de l'Arganier –ANDZOA. (2019). Rapport d'activité.

Bel M. (2009). « Compétences et dynamiques territoriales : quelles interactions ? », *Géographie, économie, société* 11 (3), p. 213-232.

CIRAD-SAR. (1996). Systèmes agroalimentaires localisés : organisations, innovations et développement local [orientations et perspectives issues de la consultation du CIRAD] Stratégies de recherche dans le domaine de la socio-économie de l'alimentation et des industries agroalimentaires, CIRAD-SAR, p. 121.

Colletis-Wahl K., Peyrache-Gadeau V., Serrate B. (2008). « Introduction générale : Les dynamiques territoriales : quelles nouveautés ? ». Revue d'Économie Régionale & Urbaine juin (2), pp 147-157.

Conseil Régional de la région de Drâa-Tafilalet- CRDT- (2018). ''Rapport des activités productives de la région de Draâ-Tafilalet'', Errachidia.

Courlet C. (2002). « Les systèmes productifs localisés. Bilan de la littérature ». Cahier d'Economie et Sociologie Rurales 58-59, pp. 81-103.

Datar (2001). « Réseaux d'entreprise et territoire. Regards sur les systèmes productifs locaux ». Paris, DATAR/La documentation française, p. 181.

Fournier S. et al, (2018) « L'innovation, condition de la pérennité des systèmes agroalimentaires localisés ». Éditions Quæ, pp. 95- 108.

Harrak H. et Boujnah M. (2012). « Valorisation technologique des dattes au Maroc ». INRA Edition. 160 p.

Lopez E., Muchnik J. (1997). Petites entreprises et grands enjeux : le développement agroalimentaire local. L'Harmattan, Paris, 2 Tomes, p. 716.

Le Ministère de l'Agriculture de la Pêche Maritime du Développement Rural et des Eaux et Forêts –MAPMDREF- (2017). Rapport sur les directives stratégiques pour la filière phoénicicole.

Mollard A. (2001). « Qualité et développement territorial : une grille d'analyse théorique à partir de la rente ». Economie rurale 263 (1), pp. 16–34.

Muchnik J., Requier-Desjardins D., Sautier D., Touzard J.-M. (2007). « Les systèmes agroalimentaires localisés (SYAL) : introduction ». Economies et sociétés, n°29, p. 1465-1484.

ODCO, 2016. Revue Marocaine des Coopératives (Remacoop). N6, Rabat, 120 p.

Porter M.E. (1998) « Clusters and the new economic of competition », Harvard Business Review N° 76, pp. 77-90.

Requier-Desjardins, D. (2010). « L'évolution du débat sur les SYAL : le regard d'un économiste ». Revue d'Economie Régionale Urbaine N° 4, pp. 651-68.

Sabel C. (2002) « Diversity, Not Specialization : The Ties That Bind the (New) Industrial District ». In Quadrio Curzio A. et Fortis M. (ed.), « Complexity and Industrial Clusters », Physica, New York, pp. 107-122.

Touzard, J. M., et Fournier, S. (2014). « La complexité des systèmes alimentaires : un atout pour la sécurité alimentaire ? ». [VertigO] La revue électronique en sciences de l'environnement, 14(1), pp. 1-16.

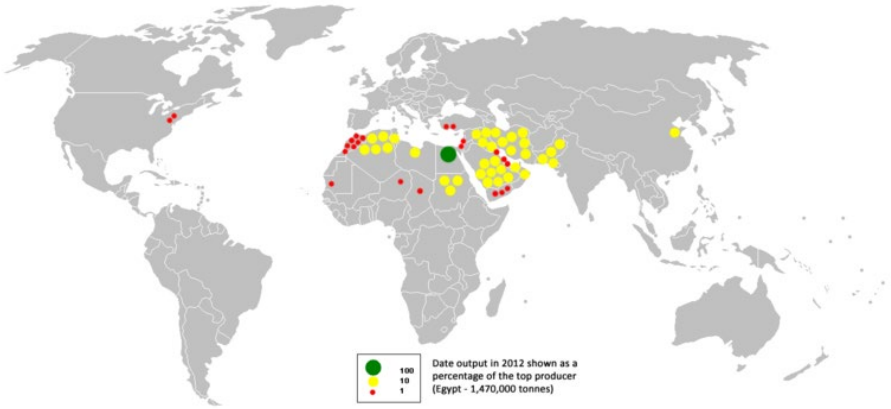
Touzard J.M., Vandecandelaere E. (2005). Création de ressources territoriales et construction de la qualité. Les routes des vins. In Torre A. et Fillippi M., (Dir.) Proximités et changements socio-économiques dans les mondes ruraux, INRA Editions, Paris, pp. 59-72.

Webographie
Presentation of the Office Régional de Mise en Valeur Agricole de Tafilalet. http://www.ormvatafilalet.ma
Presentation of the National Office of Sanitary and Food Safety. http://www.onssa.gov.ma
Presentation of the National Agricultural Advisory Board. www.onca.gov.ma
The main missions of the Agricultural Development Agency. http://www.ada.gov.ma/page/missions
The main actors of the Tafilalet Phoenician System. http://www.foodfrommorocco.ma/fr/acteurs-nationaux/andzoa
the programme contracts of the Filière Du Palmier Dattier de l'ANDZOA. andzoa.ma › contrats programmes › filière du palmier dattier
Presentation of the National Institute of Agronomic Research and its missions http://w3w.inra.org.ma/errachidia/def.asp?codelangue=23&info=1212
geographical location of date producing countries in the world .
https://fr.wikipedia.org/wiki/Datte

food and agriculture data. FAOSTAT (FAO), 2018.
https://www.fao.org/faostat/fr/#home

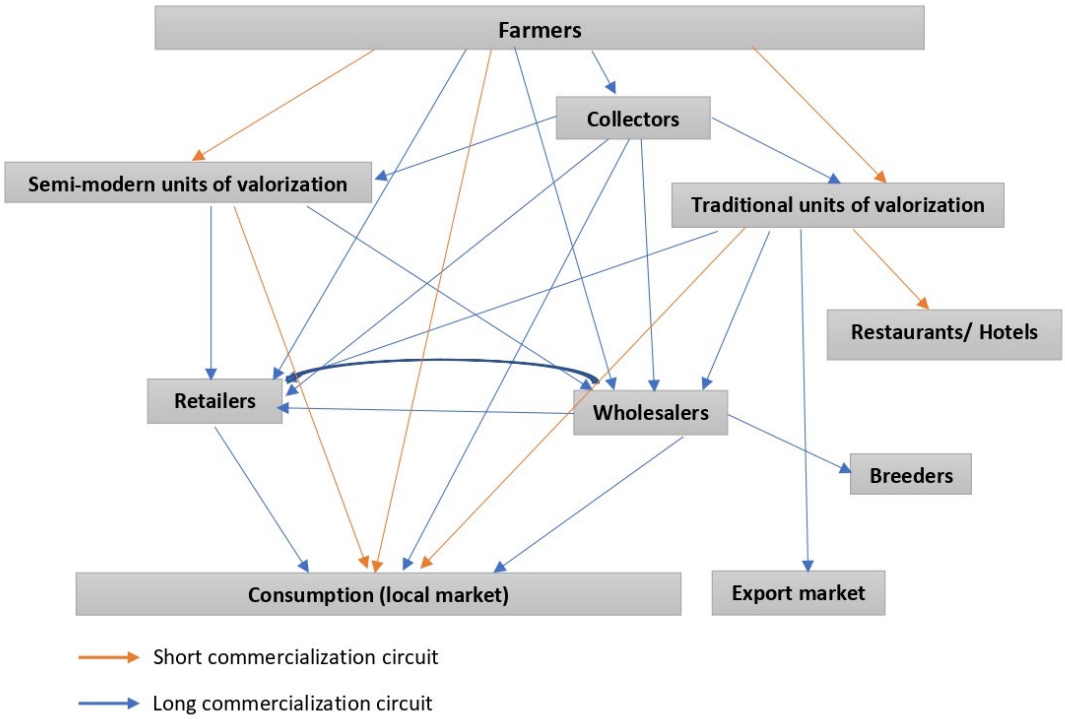
Annex

Figure 1: Location of date producers worldwide



Source: https://fr.wikipedia.org/wiki/Datte

Figure 8. The complexity of marketing channels for dates



Source: Belgian Development Cooperation Report, 2012