Mediterranean Diet of Chefchaouen

Introduction to a UNESCO recognized highly nutritional gastronomic culture and food practice
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Along with the cities of Soria in Spain, Cilento in Italy and Coron in Greece, our city were recognized in 2010 as an Iconic Community within the Mediterranean Diet, as well as one of the intangible cultural heritages of UNESCO. Since 2013, other territories of the Mediterranean basin have also got this prestigious distinction such as the cities of Tavira in Portugal, Agros in Cyprus as well as the islands of Brac and Hvar in Croatia.

This recognition has helped our municipality to become aware of the richness of its intangible heritage; that is the distinctive way of life of Chefchaouen as well as all the knowledge, customs and habits that have lived on in the local culture over the centuries.

As a result, our municipality approved the Chefchaouen Mediterranean Diet Action plan in 2013; this plan is divided into four major areas of work: 1) Safeguarding & Developing the local heritage, 2) Reinforcing the capability of local stakeholders, 3) Awareness & Communication and 4) Governance.

Various partnership agreements have been signed ever since with local associations as well as regional, national and international organizations and thanks to them, we were able to put many activities into action in this field.

For example, we can name a few activities such as creation of Mediterranean Diet Museum with the support of APDN (about to complete) as well as recent rehabilitation of traditional community ovens in the old city. The arrangements suggested to craftsmen, identifying the Mediterranean Diet theme based tour or the local quality label creation process for “Chefchaouen - Mediterranean Diet”. This has been an initiative of great scale by way of its impact on the various sectors such as tourism, craft industry and agro-food industry as much as the quantity of stakeholders mobilized and the extent of its magnitude on the entire territory of Chefchaouen province.

This achievement was apparently bolstered with other added initiatives and together they have allowed us to address one part of this vast cultural intricacy, namely the Mediterranean Diet.

We have subsequently described here the aspects related to Chefchaouen’s food culture, its gastronomy and nutritional value. We were privileged to get this information thanks to our collaboration with the academics and the subject matter experts as well as FAMSI. Their support and involvement has helped to materialize this project as well as few other projects related to the topic which holds great importance for our community.

We therefore look forward to extending our efforts in safeguarding and revealing the virtues of our way of life, and hope that this article sparks some great interest to our readers.

Mohamed Sefiani
Mayor - Chefchaouen
The cooperation between FAMSI and Chefchaouen Town-hall has been cemented over the past decade by their shared efforts. They came up with an assistance program during this period, which was materialized via multiple projects on a variety of subjects such as municipal management's modernization, strategic planning, promotion of local economic development, citizens’ participation or promotion of transparency among others. These projects focus on training, negotiation processes, transfer of innovative methodologies, experience sharing, technical aid or even sophisticated equipment - designated officials (such as municipal technicians), stakeholders of various associations and weaker population groups could profit from these things.

The promotion of local economic development is without any doubt the one sector that stands out within the framework of cooperation with Chefchaouen over last four years. The local administration has designed “Local Economic Development” as the method to promote the actions that aim at improving the quality of life and social cohesion within the territory. These actions have resulted from a planning activity which was approved by the majority of people, and they help to integrate the environmental, economic and social prospects.

We are relying on Local Economic Development thus far within the framework of this cooperation. It is because neither economic growth nor its sustainable development is conceivable without environmental protection & diversity, development of endogenous resources, innovation and job creation. So, in spite of everything there is no development if we do not consider cultural diversity, heritage and local habits.

This is why we have been supporting the creation and operation of Chefchaouen Municipal Development Agency (AMDC) since 2012. It is an operative mechanism to help Chefchaouen Town-hall define the participatory strategies and local development plans for the improvement of local production system as per sustainable development, innovation and quality standards.

From this perspective, AMDC has defined the following scopes: Tourism, Craft industry, Agro-food industry as well as Creative & cultural industry. So, it’s not surprising that it’s in fact AMDC that operationally manages Mediterranean Diet Development Plan after Chefchaouen was recognized by UNESCO as an iconic community within the Mediterranean Diet. Discussing Mediterranean Diet is incomplete without discussing the intangible heritage that has been conceived as a cross-cultural intricacy and holistic life style where local manners, knowledge and traditions are very important.

The Municipal Tourism Strategy’s Support Program (financed by AACID FAMSI) for the communes of Chefchaouen, Tétouan, Tangier, Assilah, Larache and Kasar El Kebir is a fruit of the relation between Local Economic Development and Mediterranean Diet. The support to Chefchaouen city features among the scopes of this program, whether in terms of implementation of the initiatives of Chefchaouen Tourism Observatory, creation of “Chefchaouen - Mediterranean Diet” local quality label as well as promotion of Mediterranean Diet through this book.

This is why the book in your hands has given us the opportunity to work in collaboration with the experts of University of Granada (Spain), Abdelmalek Essaadi University of Tanger and Errachidia University (Morocco) and European Institute of Mediterranean Food (IEAMED) as well as the Town-hall of Tavira (Portugal). Our aim was to look deeper into certain food and gastronomy related aspects of this intangible heritage. Even though this heritage is common to the Mediterranean people but in Chefchaouen it has its own character.

Ignacio Caraballo  
Chairman - FAMSI
Chapter 1

COUNTRYSIDE, LOCAL PRODUCE & MEDITERRANEAN DIET IN CHEFCHAOUEN

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Introduction:

Despite the extensive media coverage Mediterranean diet got after UNESCO listed it among the Humanity’s Intangible Cultural Heritages in 2010\(^1\), this concept is still far from being considered as an innovation. It was in fact recognized as a special diet in the Sixties when few epidemiologic studies had shown its beneficial effects on health and specifically its contribution to better protect against certain pathologies such as cardiovascular diseases.\(^2\)

This recognition conversely gave new dimensions and light to the Mediterranean diet by regarding it not only as a healthy way to eat but as a way of life as well as a set of cultural traits as well. This new perception has revived this concept and helped to highlight the bonds between food as diet as well as bio-cultural landscape. As a result, it emphasizes the importance of agro biodiversity and traditional farming within the specifics of food systems and production systems. By integrating agricultural landscape and agro ecosystems, the Mediterranean diet has taken its complete meaning as a cultural heritage via its roots through various territories, people and crops.\(^3\)

Chefchaouen belongs to the ideal Mediterranean diet community. It features among the cities that are behind the recognition of Mediterranean diet by UNESCO. It is the county of a rural and mountainous region bordering Jebala and Ghomara villages. Leaning against large solid mountain masses, the city is integrated into the landscape where the outlying area is covered by orchards, crops or big forest areas. To believe the descriptions of 19th century travelers such as de Foucauld\(^4\) and Mouléras\(^5\), the formation of this landscape has changed little despite the urban expansion outside the boundaries of the historical medina. Chefchaouen is a good example of the city well integrated into its landscape and strongly connected to its territory and countryside.

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1 Mediterranean Diet was listed among the Humanity’s Intangible Cultural Heritages by UNESCO in November 2010 after these four countries: Spain, Greece, Italy and Morocco.
2 http://www.sevencountriesstudy.com/about-the-study/
3 Luigi Ponti et al. Preserving the Mediterranean diet through holistic strategies to conserve traditional farming systems 2016, In Bio-cultural Diversity in Europe, Environmental History. DOI 10.1007/978-3-319-26315-1_24
4 Charles de Foucauld, Reconnaissance au Maroc, 1888, Paris, Challamel
In this chapter, we are going to show the importance of the city’s connection with its countryside as well as its effect on sustainability of the food system associated with Mediterranean Diet. For this, we will describe various aspects of the local food system, especially the traditional farming, agro biodiversity and richness of the local produce.

RURAL DIMENSIONS OF CHEFCHAOUEN: THE IMPORTANCE OF DIET AND INTERESTS

Without going into the anthropological or urban considerations of urban and rural life’s definitions, we believe that rural life is an important characteristic of Chefchaouen and its hinterlands. In this case, we think that we should avoid the general “city life” concept based antagonism of rural vis-à-vis urban. We should quite the opposite merge them as interwoven open spaces. The demographic characteristics and population structures largely show the relevance of this assertion. Chefchaouen is in fact the county town of a province known for its strong rural character. The last population census (2014) data shows that rural population accounts for 87.5% of the total population here. It should be pointed that national rural population average is approximately 39.7% only. For example, the neighboring province (Tétouan) has only 27.7% rural population. Farming and breeding highlight the agro-pastoral character of this region and they are the major economic activities here. The mountainous nature and uneven relief in this area significantly reduces its “Utilized Agricultural Land” ratio. The farming practiced here is therefore traditional subsistence type farming and employs approximately 85% of the region’s working population.

Rural life, i.e. the reference to rural areas and countryside is an important dimension to understand the influence of food production system on the food itself and the people’s consumption style. Food system includes all the activities contributing to the function of food in any given society. Malassis appreciates the evolution of this system through the history of Euro-Mediterranean region starting the pre-agricultural age, the agricultural age and then the agro-industrial age. This evolution shows the expansion of agro alimentary industry where the distance between producer and consumer is growing increasingly. Economic considerations are transforming the food system as it becomes increasingly complex, intensive and open, resulting in their loss of character and local specificities. So, we can easily understand the importance of rural life because the shorter the distribution system is, the closer the food will be to the territory.

With its country sides and surrounding territories, Chefchaouen is beautiful illustration of a persisting food system closer to the agricultural system where shorter distribution systems make it possible to maintain sustainability of the urban/rural connect promoting the consumption of local produce.

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COUNTRYSIDE, TRADITIONAL FARMING AND AGRO BIODIVERSITY

Mountainous landscape is the main characteristic of the country sides of Chefchaouen. These country sides are thus integrated into certain specific natural and socio-economic context which makes them belong to the agro-sylvo-pastoral type production system. This system is characterized by the use of arable lands, rangelands and forests at the same time. Farming and breeding constitute the sectors of subsistence marked by the use of traditional farming techniques and the practice of extensive breeding mainly goats and sheep.8

The agro ecosystems of these country sides are hence set apart by the coexistence of sylvo pastoral system and subsistence agricultural activity as they shape individual landscape units into traditional agro ecosystems of the mountain. They systems are living and evolutionary as well as they combine the communities closely to their territory and shape one single agricultural landscape. The main characteristics of these systems are: traditional subsistence farming, mixed-farming practices, prevalence of smaller landholding, cultivating the local varieties, preserving the minor crops, resorting to traditional know-how and conserving the agro biodiversity.

Traditional farming practice encourages the diversification of land use management. The landscape consists of the mosaic of cultivated (crops, fallows), natural (forests and bushes) and semi-natural (hedges, ways, drains and ditches) milieu. This type of landscape encourages conservation of biodiversity and specially the riches and diversity of local flora. Therefore, the diversity of food products offered for consumption goes beyond agricultural produce to the products of natural origins like aromatic plants as well as certain fruit and vegetables.

Agro biodiversity corresponds to agricultural biodiversity. It includes all animal and vegetable species that are part of agricultural production and comes under the food system. It is evaluated on two levels: i) specific, i.e. by the diversity of cultivated species, and II) varietal, i.e. by the diversity and richness of the varieties named for each cultivated species. The country sides of Chefchaouen show remarkable level of agro biodiversity with their agro traditional ecosystems. We notice in fact great diversification of crops and productions at species level. From quantity point of view, we find great diversity of crops with at least 6 cereals, 8 leguminous plants and 15 fruit trees in addition to the market farming. From quality point of view, we can talk of true safe havens for agro biodiversity considering the existence here of rare crops in cereals and leguminous plants as well as the impressive diversity of fruit trees. These crops are presently regarded as marginal elsewhere and maintaining them reinforces the individuality of the territory and its produce.9

As for winter cereals, the persistence of rare cereals like rye (chentil) and the small spelt or einkorn wheat (chqalia) must be noted in addition to the current crops like barley and wheat whereas for the spring cereals, this region on account of its sorghum (dra) cultivation

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is different from the remainder of Morocco where corn is the main spring cereal. We must remember that the spring cereals of Morocco were millet and sorghum historically before they were replaced by corn which was introduced after 16th century.

As for leguminous plants, the cultivation of broad beans and field beans has great importance in the diet and food security of the people. They have direct reference to a popular and basic dish in the local diet - the famous broad bean soup “bisara”. That does not decrease the importance of other leguminous plants like the lentils and chick-peas that are also savored a lot in the food. There is however another rare leguminous plant the cowpea “Loubiahamra”, which draws attention. It is much appreciated for its dietary value as well as taste and is generally cultivated with a spring cereal, often sorghum.

As for fruit trees, we notice not only the importance of typically Mediterranean species such as olive-tree, fig tree, almond tree and the vine but also other species such as plum tree, pear tree, quince tree, pomegranate, apricot tree, wild cherry tree... The varietal richness of fruit trees is very high, especially the fig tree which is a characteristic feature of Riffian agro ecosystems. For the latter, we can count an impressive number of local varieties or denominations. We can in fact count more than a score of local varieties or names in the country sides of Chefchaouen. We can name Ghouldane, Kouté, OnkHmam, El Messari, Lembdar, Ferzaoui, Chetoui... among the most appreciated varieties. The Kouté variety is particularly appreciated for drying. The significance and present predominance of the fig tree should not discount the importance of vine despite the deterioration of traditional vineyards. Vine cultivation is in fact very old in the area and the importance of vineyard in Jbala villages has been recognized throughout this region’s history; it is testified by several descriptions of the travelers who passed these areas at various times like Leon l’Africain11 in 16th century and Mouliéras in 19th century. Despite its severe deterioration under the devastations caused by certain epidemics, the varietal diversity remains significant. We can name Boukhanzir, Boukniare, Bezoul El Aouda, Edhibi, Chwiki, Maticha, Lechheb among the locally abundant varieties and of course the most famous Taferyalete.

The majority of crops proposed in this presentation are in fact very old crops based on local varieties. Generally, these crops are of secondary nature on national level but they are very significant on the contrary on regional level. The appearance of new ecological and dietary demand internationally has brought the importance of old crops as well as local varieties and produce back on the agenda.

There is another very important dimension of agro biodiversity; it is in fact the traditional know-how of the local people and it is part of the cultural heritage accumulated over the course of history. So, in these agro ecosystems maintaining the diversity is linked to maintaining some old practices like olive-tree grafting, fig tree pollination or drying of fruits.

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10 Younès Hnimsa, Aumeeruddy-Thomas et Mohammed Ater. Vernacular taxonomy, classification and varietal diversity of fig (Ficus carica L.) among Jbala cultivators in Northern Morocco. 2012, Human Ecology. DOI:10.1007/s10745-012-9471-x

LOCAL PRODUCE AND TERRITORY

The territory can be defined in general by a geographical space where a community distinguishes itself by a set of distinctive cultural traits in terms of knowledge and practices. The know-how shows typical features and gives certain recognition to the products originating from this area and the people who live there.

The local characteristics noted in the production system, agro ecosystem and agro biodiversity are so much noticeable that they show remarkable geographical individuality. The characteristics of this area with not only geographical but also human and cultural dimensions are quite visible in the country sides of Chefchaouen and plead for differentiating the territory. This territory culturally belongs to the territorys of Jbala\textsuperscript{12} village.

It is clear that this region has important dynamics around development of local produce with involvement of the elected officials, trade associations and NGOs to help and support the various actions around this subject. The city of Chefchaouen plays a leading role in the promotion of local produce through several initiatives like creating the market named “Souk beldi” by the municipality to encourage marketing of local produce. This dynamics echoes the national guidance on public agricultural policy as it is displayed by the Green Morocco Plan\textsuperscript{13}. Although the modernization of farming and its adaptation to world market are the general guidance and strategy adopted by this plan, it has not neglected the development of local produce by registering among these strategic options. The pillar II of the Plan Morocco Green in fact intends to assist traditional farming known as interdependent or small-scale farming by improving the incomes of small farmers in landlocked areas. The development of local produce appears therefore among the priority development actions and programs envisaged by this program.

The list of local produce is rich and diversified covering a broad section of the food system\textsuperscript{14}. It can largely meet the consumers’ expectations and requirements. The offering of local produce in fact provides the opportunity to cover various basic food types of the characteristic Mediterranean diet: cereals, leguminous plants, fresh and dry fruits, vegetables, olive oil, aromatic and medicinal plants, honey, meats and dairy products. To demonstrate this richness, we can take few examples from certain characteristic production types of the region. For this reason, traditional olive farming is a good example whether it is for table olives, olive oil or wild olive oil (wild form of olive-tree called Berri in this area)\textsuperscript{15}. Olive-tree is the main fruit-bearing cultivation with the olive-growing surface area accounting for 77\% of the arboreal surface area of the region. Although the dominant variety is Moroccan Pickled olive commonly called “Zeitoun”, there are other local varieties in the area such as Homrani,  

\textsuperscript{12} Mohammed Ater\&YounèsHmima. Agro-diversity of traditional agro ecosystems of Jbala village (Rif, Morocco) \& local products 2013, Mediterranean Options pp: 197-208.

\textsuperscript{13} Ministry of Agriculture and Maritime Fishing (MAPM), Green Morocco plan 2009, Rabat

\textsuperscript{14} Naïma El Habziz, Local Products of Chefchaouen region 2012, Mémorie de master IEGB. AbdelmalekEssaâdi University.

Bouchouk, Meslala, or Asemlal. It is quite an attribute in itself on national level where the olive’s varietal diversity is less. The majority of traditional olive-growing orchards consist of olive-trees grafted on wild olive. This practice is a traditional know-how well-rooted in the area and it shapes the olive-growing landscape of the region. In addition to the positive image among consumers\textsuperscript{16}, the oil produced exclusively from grafted olive-trees is distinct on account of certain taste characteristics. In terms of animal products, the region is known for production of young goat meat from extensive breeding as well as great diversity of dairy products (beldi butter, smen, leben and cheese). We can also talk about the traditional bee-keeping and production of special honeys because of the high number and diversity of forest species. The area is therefore characterized by production of original honeys, particularly the carob tree and strawberry tree honey; these two trees are emblematic of the region. The strawberry tree honey or “Matroune” sometimes called “Merrouna” locally is distinct by its slightly bitter taste.

The picking food plants are another illustration of the magnitude of agro biodiversity within food in Chefchaouen. Many picking plants are highly nutritive and can contribute to diverse and balanced diet. These plants are picked in the cultivated (weeds) fields or in natural formations (bushes and forests). They are consumed in various forms: fruit (strawberry, carob, acorn, sweet chestnut.), legume (selk\textsuperscript{17}, rejla\textsuperscript{18}, bekoule,…), salad (joumar\textsuperscript{19}) or condiment or aromatics (bay-leaf, thyme, mint,…). They have a significant socio-cultural interest in addition to the food related and economic interests. Among picking legumes, “Bekoule” is the most known example because it is omnipresent on the countryside product shelves in the markets and streets of the city. The composition of Bekoule varies as per the season and can be of only one species (mauve and lavatera are the most frequent) or a bunch of several species on the contrary.

**MEDITERRANEAN DIET IN CHEFCHAOUEN**

The Mediterranean diet has been described from the food related studies carried out in northern Mediterranean countries like Italy and Greece. These studies have showed higher consumption of fruit and vegetables as well as the significance of wine and olive oil. Thereafter, further studies have helped to identify the main components characterizing the traditional Mediterranean diet, that is to say high ratio of mono unsaturated/saturated fats, moderated alcohol consumption, high leguminous plant consumption, cereal and fruit products as well as vegetables, low consumption of meat and meat products as well as a moderate consumption of milk and dairy products.\textsuperscript{20}

\textsuperscript{16} TouriyaBelaiche, Abdelouafibrahimy, Françoise Leriche. Labeling process of Protected Designation of Origin “BniArouss Olive Oil” 2015, Alternatives rurales (3).
\textsuperscript{17} Selk in Arabic is Beta vulgaris or chard in French.
\textsuperscript{18} Rejla in Arabic is Portulacaoleracea or purslane in French.
\textsuperscript{19} It’s the core of Chamaeropshumilis or palmetto in French (doum in Arabic).
The prevalence of traditional farming and mixed-farming practice in the country sides of Chefchaouen ensure production of a great diversity of foodstuff that are well rooted in the territory and that fulfill the food requirements and habits of the consumers. Traditional aspect of farming forms strong bond with the regional history by conservation of the food related knowledge and traditions. Strong connections between the urban and the rural life and the interweaving of these two spaces in Chefchaouen explain the wide sharing of these consumption patterns. It is enough to walk in the lanes of the medina to realize to which point the countryside has broken into and is laid open in the city.

If we refer to the definition of Mediterranean diet and the main food categories which define it, we will realize that the food system created by farming and the consumption patterns are in perfect agreement. All other basic food categories of Mediterranean diet are in fact largely represented with the exception of alcohol. For example, we can take the importance of cereals, leguminous plants, vegetables, fruits and olive oil in the diet. The cereals are consumed daily (mainly corn and barley) and they are part of all the meals in various forms: various breads, couscous and soups. Vegetable oils and specially the olive oil are the main source of fat content whereas the leguminous plants belong to the culinary characteristics of the region. The vegetables and fruits are always present in the meals as they accompany the seasons by their diversity and give rhythm to gastronomical calendars.
CHAPTER 2.

THE GASTRONOMICAL CULTURE IN CHEFCHAOUEN:
A DISTINCTIVE FEATURE OF THE MEDITERRANEAN DIET

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I. Introduction
II. Chefchaouenese food habits and the Mediterranean Diet
III. Gastronomical culture of Chefchaouen
IV. Distinctive elements of Chefchaouenese gastronomical culture
V. Food in Chefchaouen and Mediterranean diet
VI. Conclusion

I. Introduction

In order to better position Chefchaouen gastronomical culture within Mediterranean Diet (DM), we must keep in mind the description stipulated by UNESCO in 2010 that “Mediterranean Diet is the entire know-how, knowledge, practices and traditions that go from the landscape to the table, including the cultivations, the harvest or crops, fishing, food conservation, food processing, food preparation and food consumption in particular.
Mediterranean Diet is characterized by a nutritional model that has remained consistent in time and space; its main ingredients are olive oil, cereals, fresh or dried fruit and vegetables, limited proportions of fish, dairy products and meat as well as several condiments and spices; all this accompanied by wine or infusions while respecting the beliefs of each community at all times. The word Mediterranean “diet” (from the Greek word diaita i.e. way of life) however covers much more than just the food. It fosters social contact and community meals as the keystone of social customs and festive events.

Adopting Chefchaouenese gastronomical culture, the Blue pearl, within Mediterranean Diet becomes obvious and legitimate after analyzing the elements of the above-mentioned description. This gastronomical culture is in fact the result of several civilizations mixing together – a feature which has marked the northern Moroccan region and southern Mediterranean region. Over the millennia, Chefchaouen has been the crossroads of Amazigh, Arabo-Moslem, Jew, Andalusian and Moorish civilizations ... civilizations that brewed its cultural heritage, introduced various practices as well as products and placed it in the likes of the distinctive cities in northern Morocco and southern Mediterranean region.
II. CHEFCHAOUENESE FOOD HABITS AND MEDITERRANEAN DIET

The Chefchaouenese people have developed certain food practices that depend on many factors: climate and agriculture, economic level, historical assets, culture and religion...

Chefchaouen is located in a province of primarily tree-dwelling activity with uneven and pastoral relief (goat and other breeding); it is known by the distinguishing practices and know-how as regards how to develop the products of its territory. It has among other things conditioned its gastronomical culture; this culture is also related to the attributes of several other factors: land appropriation modes and land use, vegetable type production and selection practices, crop rotation techniques, animal resource multiplication, management and use as well as the selection, coherence and seasoning of ingredients in addition to recipe enhancement, preparation and presentation methods ... This has constituted a distinctive Moroccan and Mediterranean gastronomical culture in Chefchaouen.

Chefchaouen has very little fishing activities on the Mediterranean coast whereas the population here is high.

Tourism is an important and promising activity. Tourist flow (domestic and international) keeps increasing from one year to another. It is boosted by the artisanal activity that involves mostly women based artisanal co-operatives.

The main characteristics of Chefchaouen’s traditional food practices can be described as follows:

1. Plants are the main food or the core meals;
2. Chefchaouenese people are non vegetarians; livestock products are consumed although moderately (principle of frugality);
3. The food habits are generally Mediterranean; they have an extraordinary richness and are marked by friendliness and sharing of meals;
4. Following seasonal cycles and respecting occasions (religious and other festivals) - each season has its characteristic food and dishes;
5. The main plants consumed by Chefchaouenese people are dry cereals, vegetables, pulses and fruits.

III. GASTRONOMICAL CULTURE OF CHEFCHAOUEN

1. Agricultural production practices

Generally, the province of Chefchaouen is characterized by a family based subsistence agriculture with very small-scale farms; the area of 90% farms would be lower than 5 ha and they would be partitioned a lot. The women are very involved in the partitioning work. It is mixed-farming primarily directed towards subsistence farming but family needs are seldom satisfied specially in terms of durum and common wheat.
The plots are arranged in terraces and are managed according to the principles of agro-ecology. Arboriculture is dominated by olive-tree, fig tree, pear tree, plum tree, quince tree, vine…; other types are planted in smaller areas. It is associated with market gardening (broad bean, potatoes, onion, tomato, sweet pepper…). Other natural essences are exploited such as fruit trees chestnut, carob or cane-apple bush.

The cultivations are muddy and irrigated; they occupy smaller areas. The irrigation is often traditional and rudimentary gravity-flow based with low efficiency irrigation channel.

Breeding plays leading economic and social role: sheep and goat breeding. It is prevalent and contributes to the production of meat and milk. The milk of local race ensures excellent production of renowned goat’s milk cheese.

2. Gastronomical practices

Chefchaouenese community has often demonstrated knowledgeable resource management capacity; this is reflected through the close relationship between people and their land, from landscape to the table. We notice the great expression of individual and collective Chefchaouenese identity here in the diversity of local dishes through tables furnished with earthen utensils (Products of potter-women with traditional age-old know-how).

Chefchaouenese people are known by their friendliness and sharing. Family and/or community meals are often held in the open air and in a symbolic manner that reminds us of the festivities, moussems, religious occasions and festivals… It is not strange to see them associating these practices with wearing beautiful traditional dresses and painting houses.

This shows us the distinctive importance of Chefchaouenese gastronomy within Mediterranean Diet as a fabulous lifestyle marked by the climate and Mediterranean space; it shows in the festive aspect of meals and creates the occasion of friendliness and hospitality, mutual recognition and intergenerational passing down, neighbourhood and intercultural dialogue. We rediscover the immense impression of Chefchaouenese sensitivities here in conserving their identity and an essential part of their collective immaterial cultural inheritance.

IV. FOOD IN CHEFCHAOUEN AND MEDITERRANEAN DIET

The food in Chefchaouen is primarily vegetable based (vegetables, and fruits) with just a small share of animal origin calories; the cereals form the base and are supplemented by leguminous plants as main source of proteins. This product diversity allows Chefchaouenese people to prepare various dishes and meals.

1. Meal

Chefchaouenese people, particularly the rural people, have inherited the habit of looking for an occasion to eat. One can count more than five meals during the day: in addition to the three main meals (breakfast, lunch and dinner) with timings closer to the prayer timings, one can enjoy with rural people by tasting the olive oil Bissara early in the morning and another tasting after the Asser prayer.
This habit of meal schedules is influenced by ancestral agricultural activities of the rural people; it starts very early, sometimes just after the El Fajre prayer.

As is the case with agricultural production, the women in Chefchaouen are highly involved in scheduling and preparation of the meals.

2. Products, dishes and recipes

Chefchaouenese people, in particular the women, are equipped with renowned ancestral know-how as to how to enhance agricultural produces in the kitchen. The number of culinary recipes and dishes are many; they are continuously diversifying to meet the need of the avid local gastronomy patrons. These recipes are developed as much by the restaurants as guesthouses for the pleasure of visitors.

Chefchaouenese recipes are characterized by the presence of ingredients such as olive oil, honey, sweet savoury mixes, spices... However, certain dishes or culinary recipes remain very distinctive of the Chefchaouenese local cuisine and merit a certified branding of its own. We can quote the following examples:

a. Cakes and Cereal products

The Chefchaouenese women have the habit of taking time to prepare and preserve cakes and other cereal based products; they are consumed and offered in family or on festive occasions (marriage feasts, religious festivals, Ramadan...). We can name Baghrir, Rghai', Mlaoui, Harcha, Chebbakia, Sfouf (Sellou) and other cakes that remind the Andalusian traditions (Ghriba and Cornes de gazelles).

In Chefchaouen it’s also consumes the «Zimbo», a mixture of barley flour and fresh figs.

b. Dry fruits

Fig tree is emblematic of the area as it is very important for nourishment. Dry figs are consumed alone or with various meals and sometimes accompanied with “L’Ben” or “Harrira” at lunch during Ramadan.

c. Hot drinks

Mint tea or tea based on other aromatic plants of the Chefchaouen Mountain are some of the hot drinks most commonly offered either while the families welcome visitors or in restaurants and guesthouses.
d. Syrups

The surroundings of Chefchaouen are known for producing *samite/Samet*, also known as *arrope* which, according to one name used in Moslem Andalusia, means “sweetened juice”. *Samet* is a local variety of cooked grape juice (Taferyalte) which indicates of the wine season gone by.

*Samet* is used in traditional medicine. But, its everyday usage at present is especially of culinary nature where it is used to sweeten certain gastronomical recipes (thalya).

e. Tajine/Tagura

Chefchaouen is known for earthen Tagine containing distinctive dishes like: Tajine of kid goats with figs, prunes or corn; Tajine of calf-meat with vegetables, Tajine of beldi chicken with lemon and/or olives; Tajine of anchovies with charmoula. The last tajine reminds us of the contribution of maritime fishing into the local food in spite of the distance of Chefchaouen from the sea.

We can distinguish the various tastes of tagines here that range from sweetened, salted and sour.

These dishes are offered in an earthen utensil called Tagra /Tagura.

f. Bissara/Assida

Chefchaouenese people prepare Bissara; it is a delicious dry salted mash of crushed broad bean, seasoned with olive oil and sometimes spiced with chili pepper. It is a very rich and powerful dish for breakfast and midday meal.

Another kind of soup known as Aassida: it is more or less consistent type of white soup containing semolina, milk and olive oil. It is a breakfast and evening dish.

g. Table olives

The table of Chefchaouenese people very often has various recipes with salted or unsalted olives with almost all the meals.

h. Goat's milk cheese

The small scale goat breeding allows the women in the surroundings of Chefchaouen to prepare fresh cheese, which is famous and is appreciated by all Moroccans. It has become the rural brand of the region. This cheese is consumed with almost all the meals, i.e. either alone or mostly in salads.
V. DISTINCTIVE GASTRONOMICAL ELEMENTS OF CHEFCHAOUEN

Since Chefchaouen was founded in 1471 by Ali Ben Rachid, its jfala inhabitants, who are the descendants of Amazigh and Arabo-Moslems, took in the Moorish and Sephardic Jews coming from Andalusia at the time of Reconquest; as a result it has created a very distinctive Mediterranean culture in the north of Morocco with the passing of years.

Based on the enhancement of rich mountainous biodiversity, the gastronomy in Chefchaouen tries to ensure food safety by adopting a two step approach:

First step is the continuity of the strong bond between the local territory and “sustainable food safety”. This can allow Mediterranean type healthy food on one hand, and on the other hand, local territory production based on the coherence of agriculture and breeding with the ecosystem; it helps to ensure sustainable management of the natural and biological resources and to benefit from the diversity which has proved how it adapts to climate change.

Second step is the contribution to the market of dishes and recipes with strong distinctive specificity winning new patrons and markets. The value additions created in return in the bordering rural areas also make it possible to maintain durability-managed productive framework of agro-ecologic systems and their practices.

The gastronomy is therefore characterized by certain quality in which there is the specific point of distinctive character which is conferred on the recipes/dishes while being based on the ancestral techniques and practical of production and transformation of the agricultural produce. It is these characteristics that generally correspond to the reputation and certain value of the Chefchaouenese gastronomy.

VI. CONCLUSION

Mediterranean food habits of Chefchaouenese people are clearly distinct from other areas of Morocco. They are outcome of the gastronomical culture relating to the particular ways of life; these ways depend on the many factors in particular the climate and agriculture of the mountainous geographical area, of course the economic level and finally the factors like history, culture and religious characteristics of the people.

In fact, several factors have significantly influenced the food practices in Chefchaouen and therefore its gastronomical culture. The dishes that are usually prepared are simple dishes with the very tasty and nutritive produces of the land and water. Natural, simple and succulent tastes from the products prepared as per an ancestral know-how, inherited the traditions of the countryside as well as the civilizations living in the area: Amazigh, Moorish, Jews, Arabo-Moslems…

The gastronomy of Chefchaouen is characterized by the importance of the women’s contribution during the production and processing of the agricultural produce; it draws its distinctiveness within the Mediterranean diet from this historical mixing of cultures, which makes it even more pleasing to the eyes and taste of Chefchaouenese inhabitants and its visitors.
It is important to note the need for branding of Chefchaouenese gastronomical culture here within the Mediterranean Diet.

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Chapter 3.

NUTRITIVE MEDITERRANEAN FOOD FROM CHEFCHAOUEN: SCIENTIFIC STUDIES ON ITS BENEFITS.

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Summary: Moroccan Mediterranean diet is one of the most diverse and beneficial diets in the Mediterranean basin. The components of this diet have several benefits in preventing and treating many diseases. Moreover, Morocco is one of the areas that have the strongest bonds with Mediterranean diet. And so, the government has the responsibility to preserve and promote it.

Key words: Chefchaouen, Mediterranean diet, health.

I. Introduction

The Mediterranean diet is characterized by high cereal consumption, vegetables and fruits, little less regular consumption of meat and fish as well as use of olive oil as the main cooking fat. However, Mediterranean diet is not just a nutritional model; it also embodies a way of life in relation with the geographical environment, climate, personal interactions, physical activity and the culture. Today it is considered today that all these factors influence the benefits that are credited to the Mediterranean diet and that it can become a reference for other geographical regions.

This way of life primarily extends over the entire Mediterranean region. It is largely present in the north of Morocco and Andalusia because these two regions were united 6 million years ago, which facilitated the divergence and relations between the vegetable and animal world. The communities settled on both sides of the Strait of Gibraltar during Neolithic age, also cooked the same nourishment: domestic cereals (Triticum dicoccum, T. monococcum, T. dicoccum, T. durum, T. aestivum, T. durum, Hordeum vulgare, H. vulgare var. Nudum), lentils (Lens culinaris, Pisum sativum, Vicia faba), palm hearts (Chamaerops humilis), wild olives (Olea europaea), etc.

Some recent studies have even suggested that genetic exchanges may have existed among these people. Later on, from 8th century to 15th century, these two regions shared the same the
religion and culture. This fact is crucial in order to understand the striking similarity in their 
food style. These factors may have been decisive for historically establishing what today we 
call the Mediterranean diet today in this region.

Chefchaouenese community lives in the mountainous region of Moroccan Riff. It is an ideal 
region for agriculture and breeding, what makes this region one of the regions that have 
strongest bonds with what we call the Mediterranean diet.

The title of this chapter starts with the words “Nutritive Food”, since if it’s the nutrition that 
is finally responsible for dietary benefits, the food is needed to conduct them. It is especially 
important the way of cultivating/breeding, growing, selecting and preparing them, since all 
these actions will influence the benefits of a balanced diet.

A great food diversity is found in northern Morocco. The cuisine here uses ingredients 
similar to Andalusia but prepared in a different way, which is the characteristic feature of the 
Chefchaouenese Mediterranean diet. Moroccan dishes primarily use fresh vegetables, lentils, 
fresh cheese, milk, olives, lamb, honey, green tea, cakes, jams, oranges, dried figs, dry dates, 
fruits, bread (public ovens, faranes), spices, etc. However, European food, is characterized 
by a higher quantity of endocrine disruptors. It is a fact that the degree of pollution is lower 
in the agricultural areas of northern Morocco than the European agricultural / breeding 
areas and that the traditional artisanal methods are ideal in the culinary techniques used. 
The lower use of plant health products, growth hormones, environmental contaminants 
and antibiotics helps reduce the negative impact on degenerative pathologies, cancers and 
metabolic diseases.

Bissara, harira, zaalouk, couscous, lamb barbecue, tajine, kefta, tagra (Chaentajine) and 
salads are among the most known distinctive Moroccan dishes. One of the characteristics in 
these dishes is the large variety of food items used for their preparation ensuring that their 
contribution of essential macronutrients and micronutrients is guaranteed. Moreover, these 
dishes in general have a true value addition insofar as the culinary techniques used are less 
thermally aggressive processes. All this has a positive impact on nutrition since the molecular 
alteration of nutrients is minimized and hence they preserve their maximum beneficial effects. 
It is also common to cook without water, which provides better nutritional quality. Let us 
also note that another characteristic of the northern Moroccan region’s cuisine consists in 
using fruits without peeling them and using vegetables preserving the green leaves. This helps 
increase the micronutrient contents 6 to 8 times more than contents of fruit pulp.

Once these premises established, we can analyze the physiological base and benefits of the 
nutrients present in this food and these unique dishes.

One of the key elements among Mediterranean dietary benefits is the consumption of virgin 
olive oil as the primary fat source. In fact, it is the only food item within the Mediterranean 
diet whose production area coincides with the consumption area inherent to this diet. Many 
researchers view virgin olive oil as a functional food⁸, moreover, it has been the subject 
of many studies and its benefits have been shown in various scientific publications. The
characteristic of this fat source is natural olive juice and it preserves almost all these bioactive components intact. Olive oil primarily contains oleic acid as well as other minor components present in the unsaponifiable fraction with many health related qualities as well.

Oleic acid within Moroccan olive varieties reach up to 82% of total lipids. This fatty acid is set in our cellular membranes after its ingestion where it promotes a series of beneficial effects thereafter\textsuperscript{5,7,8}:

1. It increases the fluidity and stability of the membranes by increasing their functionality, as much on plasma membrane where it allows better operation of the receptors and conveyors as on mitochondria where it improves energy production. This mechanism is due to the fact that oleic acid has one single binary connection - just in the middle of the molecule between carbons 9 and 10, creating a bend in its distal portion, thereby increasing the entropy and fluidity of these membranes. It is a rather stable fatty acid as well vis-à-vis oxidation processes and brings stability to the membranes (of which it forms part).

2. Effects on digestive system: oleic acid delays the emptying of stomach, inhibits gastric secretion, improves the function of pancreas, stimulates vesicular contraction, increases cholesterol secretion, stimulates the secretion of biliary salts, increases the absorption of minerals and slows down the absorption of cholesterol.

3. Effects on cardiovascular system: oleic acid increases HDL cholesterol (good cholesterol) and does neither modify nor decrease LDL cholesterol (bad cholesterol); hence it helps maintain normal blood cholesterol level. High stability of oleic acid also contributes in balancing LDL particles againts oxidation by transforming them into less atherogenic lipoproteins. Oleic acid also has beneficial effects on blood pressure.

4. Effects on oxidative stress, cancer and ageing: as previously explained, oleic acid decreases the vulnerability of membranes to lipid peroxidation and therefore all negative processes of the oxidative stress improve in the long run; it is beneficial in preventing non-transmissible metabolic diseases such as cardiovascular diseases, certain types of cancers and ageing related diseases. This mechanism is due to the fact that, in vivo, 8 molecules of linoleic acid, 16 molecules of linoleic acid and 32 molecules of arachidonic acid have already undergone oxidation for each peroxidized oleic acid\textsuperscript{8,14}.

Furthermore, in addition to oleic acid, virgin olive oil contains other bioactive components present in its unsaponifiable fraction, which account for 1.5% of the oil content. They are responsible for typical organoleptic characteristics of the olive oil, its stability, as well as for part of the benefits and attributed to the olive oil. Tyrosol, hydroxytyrosol and their derivatives make up for more than 70% of phenolic contents of the olive oil. Phenols are the most studied compounds up to now. They, and recently triterpenic acids, are attributed with anti-diabetic, anti-atherogenic and antiinflammatory properties\textsuperscript{5}. It is interesting to note that these components have positive action when they are part of the oil, whereas
they are not as effective when they are consumed in the form of food supplements, showing that the oil’s food matrix has a modulatory effects on their properties.

The European Agency for Food Safety (European Food Safety Authority, EFSA) approved the nutritional declaration in 2011, stipulating that daily consumption of at least 5 mg of hydroxytyrosol and its derivatives (like oleuropein and tyrosol) in 20 grams of virgin olive oil contributed to protection of blood lipids from oxidation. This agency also established that oleic acid consumption as unsaturated fatty acid helps balance cholesterol levels in blood. This quantity of oil provides the benefits mentioned without leading to extra weight.

It is common to use a large variety of food items for each recipe in the classic dishes of Chefchaouenese community: dry cereals, fruits, vegetables, fruits, meat, tea and spices. They guarantee balanced contribution full of macronutrients and bioactive compounds. Although the bioactive compounds are not considered as nutrients, minor components do indeed contribute to good health by reducing the risk of diseases.

The majority of carbohydrates in Moroccan Mediterranean diet come from cereal based derivatives: couscous and bread (khobz). Couscous is prepared with corn semolina but there are several other types of breads (with barley or corn, corn semolina) as per semolina or the flour used. One of the nutritional characteristics of this food is the quality of flour used; it generally has lower glycemic index than the other flours used in various Mediterranean regions.

The consumption of fruit and vegetables is a key element of Mediterranean diet. This food is rich in carbohydrates and fibers, as well as it contains antioxidants and bioactive compounds acting in synergy to provide us their benefits. For this reason, certain nutritionists have conferred the “functional food” status on fruits and vegetables. The bioactive compounds of this food are diverse and they have wide range of chemical compounds with various structures. Among them, phenolic compounds are the most abundant antioxidants that are present in this diet. Antioxidants generally have the capacity to delay or prevent some of the diseases associated with oxidative stress and ageing, such as atherosclerosis, diabetes, hypertension as well as neurodegenerative diseases such as Alzheimer and Parkinson.

Concretely, orange is used a lot in Moroccan cuisine and it contains hesperidin like other citric fruits; this compound has the capacity to improve lipid metabolism and endothelial function. It was also shown that polyphenol rich diets, such as the Mediterranean diet, could provide the nutritional strategy to improve the health of patients with metabolic syndrome.

Finally, a big number of phenolic compounds, more precisely flavonoid, are anti proliferative agents that can slow down the development of tumor cells of certain types of cancers by interfering the proteins of cellular cycle as well as inducing apoptosis.

Daily consumption of dry fruit (almonds, nut, peanuts and pistachios) and dried fruit (dry dates, prunes, grapes, fresh grape and figs) is another characteristic part of Chefchaouenese Mediterranean diet. In general, they are high energy food due to their fat content, and sugar content in case of dried fruits. This fat is of very good quality. There are many polyunsaturated fatty acids, with a high content in ω 3 fatty acids. They are a good source
of carbohydrates, in particular fiber. In addition, they also have high content of vitamins, antioxidants like Vitamin E and minerals such as calcium and iron. Thanks to this composition, fruits have preventive role against cardiovascular diseases, hyperlipidemia, loss of bone density and fiber deficiency related digestive disorders. We recently saw that in comparison with the consumption of low fat diet the consumption of dry fruit and olive oil without calorie restriction and within the framework of Mediterranean diet is associated with weight loss and decreased abdominal obesity, compared with a low-fat diet.\(^7\)

Although a recent entry, Arab tea is the most consumed drink in Maghreb countries and predominantly in Morocco. It is a gunpowder type infusion containing green tea leaves mixed with mint leaves and lots of sugar. This tea is consumed all day and it has digestive, invigorating and diuretic qualities in addition to contributing to hydration. Because of the enormous quantity of bioactive components present in tea, many studies have described its antioxidant, antiinflammatory, antitumor and protective properties against various toxic agents. All these benefits could also contribute to the healthy benefits attributed to the Mediterranean diet consumed in Chefchaouen.

The high spice consumption in Morocco is explained historically by the hot climate and dryness of the land making it very difficult to conserve the food and dishes prepared. The most used are: cini (cinnamon and some variants such as karfa which is cinnamomum lauri), kamoun (cumin), skingbir (ginger), bsar (pepper will negra), felfahlouwa (pepper), nafaa or habbthalawa (anise seeds), jinjelan (sesame seeds), kasbour (coriander), zaafranebelid (saffron) and mint. Almost all these spices mentioned here contain non-nutritional components with anti-helminthic, disinfectant and antibacterial properties that prevent food contamination. Some of them have shown beneficial properties, such as cinnamon that may reduce blood glucose\(^3\). But, the most important components of Moroccan cuisine present in these spices are without any doubt curcuma and capsaicin. These molecules have many qualities against chronic diseases. They are largely used as analgesics for diseases such as psoriasis, neuralgic or rheumatoid arthritis as well as for its antioxidant and antiinflammatory properties. However, the anticarcinogenic properties have the highest value in the context of Moroccan Mediterranean diet. It seems that these molecules induce oxidative stress on the mitochondria of cancerous cells, consequently leading to their death by apoptosis\(^10\).

In summary, Mediterranean diet is one of the most diverse and beneficial diets in the Mediterranean basin. Besides, this country is one of the regions that have strongest bonds with this diet. It’s a fact that the government must preserve and promote.
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MEDITERRANEAN FOOD AS A SUSTAINABLE FOOD SYSTEM. DIFFERENCES AND SIMILARITIES BETWEEN THE TERRITORIES OF ANDALUSIA AND CHEFCHAOUEN.

Manuel Martínez Peinado¹ y Pablo Ávila Zaragoza²

I. Introduction
With the aim of contributing to the constructive spirit of collaboration which the “universe” of food or the Mediterranean diet has to offer, this chapter aims at taking some ideas further that foster thinking and highlight the characteristics that make it a Sustainable Food System.

Mediterranean diet: The perennial food system
Conferring the title of Humanity’s Intangible Cultural Heritage on Mediterranean diet in 2010 shows and consolidates the true dimensions of Mediterranean Diet concept in its full magnitude and complexity.

If the Mediterranean diet concept is relatively recent, it’s because Dr. Keys created it in the Sixties but its real origin goes back three thousand years of history. It is surprising to note that a food form so much steeped in time remains still one of the most appreciated foods by the whole international community today, if not the most appreciated food.

After combined efforts by several countries of the Mediterranean basin, UNESCO concluded recently in 2011 that the Mediterranean Diet should be included on the list of Humanity’s Intangible Cultural Heritages. This event not only establishes one observation but above all, this event makes it possible to illustrate the true dimensions of Mediterranean spirit well beyond the strictly food related or nutritional aspects. Including Mediterranean diet in the list of Humanity’s Heritages supposes that it is commonly accepted that this concept goes beyond its nutritional benefit as splendid and fundamental as they are; we could say exactly the same thing about the amplitude of its traditional recipe book or products embracing the various characteristics that make it up and nurture it.

The examples of this statement are the litany of the thousand-year-old techniques employed in its agricultural practices and land management, the trading mechanisms that grow throughout the history constantly in the sea that gave it its name, the visual art that it creates around itself,
the traditions, festivals, ceremonies, linguistic, cultural and religious expressions through the long path on which it nourished and built itself until taking its current but certainly not the final form. All these material and immaterial components are what make our Mediterranean Diet a complete life style, which we must urgently preserve and revitalize for the future it has to offer us.

Therefore in addition to being passed on throughout hundreds of generations, the socio-cultural component in itself does not ensure the durability of the knowledge equipped with great protection, which requires despite everything all the means within our reach for adequate correction of its underlying bases. As Food System, Mediterranean diet is a living system that continues to be modified and to evolve today. It is necessary and irremediable at the same time but the drastic changes faced at unprecedented scale as the consequences of globalization can delay the model irremediably as a result until converting it into something so different that it becomes unrecognizable and even less worthy. C’est pour cette raison qu’il est particulièrement intéressant d’étudier ce modèle à la lumière des nombreuses perspectives qui offrent une base solide à sauvegarder au-delà de toutes les caractéristiques habituellement modifiables et donc également moins pertinentes par rapport à leur conservation.

For this reason it is particularly interesting to study this model in the light of the many prospects offering the solid base to be preserved beyond all the characteristics that are by and large modifiable and they are therefore less relevant for preservation as well.

To illustrate on this premise, it suffices to comment on the fact that new products are indeed incorporated in the Mediterranean Diet. Although this phenomenon is much slower but for as much it hasn’t had the least negative impact on the model throughout the history. It is not here that the precaution is necessary but it is rather appropriate to focus on the more decisive factors as shown below:

The characteristics of production units, i.e. family agriculture concentrated in small farms combining different species, contribute to the people’s fixation in rural milieu. The capacity to exploit the existing resources in rural milieu allows the people to find the basic means of subsistence necessary for their survival. This is what generates the symbiosis growing their roots into the land and drives the durability of rural populations.

The related productive systems ensure the high quality and nutrition value of their products by revitalizing the traditional production modes that are respectful of temporality by reasoned use of the land, suitable farming density and traditional species.

Preserving the nature and integrating the production systems into the countryside are among the many qualities of this food system as it takes care of the integration and the balance of adjoining ecosystems.

Beyond production, the distribution system is characterized by proximity and trading in the traditional markets at the village centers of the area; in addition to the proximity between producers and consumers it ensures freshness and facilitates right conservation of the products. The knowledge, the “appropriation” of production system and the product in itself allow this information to pass on from the producer to the consumer.
As per the FAO Director’s communication on World Food Day in 2013, “the people’s health depends on healthy food systems”.

1. Good nutrition depends on healthy diets.
2. Healthy diets require healthy food system; good education linked with other factors.
3. Healthy food systems are possible thanks to adequate policies, incentives & good governance.

Any food system gathers all the elements; environment, people, contributions, process, infrastructures, institutions, etc, activities related to: food production, processing, distribution, preparation and consumption and the results of these activities, as much on socio-economic as environmental level. (Ericksen & Associates, 2010; Ingram, 2011; IPCC, 2014)

Les systèmes alimentaires sains sont possibles grâce à des politiques adéquates, des incitations et une bonne gouvernance.

Un système alimentaire rassemble tous les éléments ; l’environnement, les personnes, les contributions, processus, infrastructures, institutions, etc., les activités liées à : la production, transformation, distribution, préparation, et consommation d’aliments, et les résultats de ces activités, autant au niveau socio-économique qu’environnemental. (Ericksen et associés, 2010 ; Ingram, 2011 ; IPCC, 2014)

As per the first argument, the Mediterranean Diet follows a format characterized precisely by splendid nutritional balance. This makes it one of the healthiest diets as shown by many studies and one such study worth mentioning is the “predimed” study. This multi-centric test was recently carried out in Spain with the conclusion that Mediterranean diet containing extra virgin olive oil or dried fruits reduced the risk of serious cardiovascular events for the individuals with high cardiovascular risk; it became thus the first study to show the virtues of certain food items combined as a “diet”, and not the items considered separately.

With the characteristics mentioned and the corresponding environment, we can safely conclude that it fulfills all the criteria necessary to be considered as a “Healthy Food System”.

Food Systems not only consider production but all stages of the food chain as well - from the producer to the consumer. It includes: collection, storage, transport, processing, sale, consumption and its impact on the consumer. It takes into account technical, logistic, socio-economic, environmental, and obviously governance related aspects. It is linked to policies, strategies, planning and managements that are applied from sustainability point of view to each sector related to agro-alimentary industry by various authorities by means of the standards in force.

Mediterranean Diet has reached this dimension as Intangible Cultural Heritage. As Health Diet, it combines the aspects related to the mankind’s health with the socio-economic, environmental and historic-cultural aspects under the holistic prism; these aspects impact all the sectors - production, processing, logistics, sales and obviously the competent authorities.
Traditional agriculture versus globalized agriculture, towards a model of coexistence

Over the recent decades, the production models of Andalusia and Europe were subjected to the European Union’s policies and negotiations. The demands for increasingly globalized market model comprising more complex and unequal elements of competitiveness have caused the production to specialize and intensify.

The Director General - FAO Jacques Diouf stated that only 3% of some quarter million species available for agriculture were used since the 20th century already causing 90% reduction in the agro-alimentary diversity.

This shift towards intensive agriculture at the cost of traditional agriculture has had a number of consequences, such as: the displacement of rural populations towards bigger urban centers resulting in abandonment of arable lands, loss of traditional occupational knowledge and disappearance of traditional trade systems such as local markets. Distancing of the product with respect to the consumer and loss of the product’s natural component or its seasonal aspect! This is among the most harmful aspects of the European Union’s Common Agricultural Policy, which has intensified and specialized production to face the demands of global market. Intensifying, and responding to this type of market is must because we live in a globalized world; nevertheless, it should not presume any counter-imposition with respect to traditional production models.

The Common Agricultural Policy’s latest reform for horizon 2013-2020 is directed in this direction. Its main objectives are: to guarantee viable food production, to manage the natural resources sustainably and to adopt necessary measures to face climate change in compliance with the objectives set in Agenda 2010 as well as to achieve well-balanced regional development aiming at diversification of agricultural activity and viability of rural areas².

After many years of agricultural development, the coexistence model of both agro-alimentary systems is being set up now in Andalusia as well as the rest of Europe. On the one hand, the specialized and intensive system to resist and counter the pressure of globalized market and on the other hand the return to traditional and diversified model to contribute to local development.

This positioning can be interpreted as a paradox or simply the result to the deficiencies of the former common agrarian policy, which must be modified and adapted like any other system after having tested what works and what doesn’t.

Logically Morocco is moving towards the path of competitive agriculture and agro-alimentary system in the global market. Nevertheless, the very first idea of this chapter, which comprises of an all traditional production and trading system, which fulfills the Mediterranean Diet criteria perfectly in all its dimensions and therefore, is the perfect candidate under the Sustainable Food System. It is an important asset and loosing it is so not recommended.

The agriculture is an important sector for economic and social development in Morocco. This sector contributes 15% to the national GDP, and generates 40% of employment with
it’s practically million and half of farmers. Thanks to combined efforts of the Ministry of Agriculture & Sea Fishing as well as the professionals of the sector, the Agricultural GDP Growth is constantly increasing since 2000. Since the year 2009, it has stayed above the 100 billion dirham mark compared to the pre-2008 yearly average of 75 billion dirham.

All this is the outcome of “Plan Morocco Vert” (PMV)³ or the Green Morocco Plan. It was launched in 2008 by His Majesty King Mohammed VI with the objective to make the agricultural sector the preferred lever of Morocco’s socio-economic development, the one which generates employment, fights against poverty and protects the environment with particular emphasis on guaranteeing food safety and developing value addition as well as limiting the impact of climate changes and preserving natural resources.

The objective of PMV is to promote export of agricultural produce and highlight the products of Moroccan soil.

L’objectif est que le PMV promouve les exportations des produits agricoles et valorise les produits du terroir marocain.

The objective of ‘Pillar I’ is to consolidate as well as develop efficient and market-tailored agriculture while supporting private investments and the newcomers of equitable integration at the same time. This pillar concerns 700 and 900 projects and represents 110 to 150 billion dirham of investments over 10 years.

These two pillars constitute the path of development of the two systems of production, intensive and traditional. It is the ideal moment to adopt the measures necessary to preserve these systems and structure a sustainable agro-alimentary system based on the globally recognized as well as healthy and sustainable food system which is the Mediterranean Diet model. Morocco can easily be considered a good example of this model.
Chapter 5.

CULTURE & DIET, AFFINITIES & DIFFERENTIATION

Jorge Queiroz

_Tavira Municipality (Portugal). Technical Coordinator of the Transnational Nomination of the Mediterranean Diet to the Intangible Cultural Heritage of the Humanity of UNESCO. National Commission of Accompaniment_

Cultural model of the Portuguese diet and its relationship with the Mediterranean world, mainly with Morocco

There is no doubt that the table with all its associated behaviours, is one of the central elements of Mediterranean cultures which embraces countries and peoples of southern Europe, northern Africa and the Middle East, but also influences other regions.

The concept of «Mediterranean culture» is broader than geography or a sea.

It is characterized by certain food standard and a particular sociability, intense conviviality in public spaces, usually centred on neighbourly relations, cooperation in community tasks and cyclical festivities in which foods are usually present. In Portugal celebrations of land fertility and the renewal of nature, floral Spring festivals, sowing of crops and harvest, poofs of the new olive oil or «tibornas» or new wine with roasted chestnuts, called «magustos» are still widely spread.

Many of these festivities have been in existence from paganism and were later Christianized.

From a scientific point of view the Mediterranean diet is interdisciplinary, integrating an historical and sociological long term view, as well as environmental and agricultural research and medico-nutritional aspects.

It is not possible to understand the eating habits of the different communities without understanding the social values underlying them. Human beings choose the products that they eat from different values; symbolic and culturally transmitted, hence resulting valuations and interdictions, practices considered conducive to good spiritual and physical health, and others which need to be avoid.

Food is a central element of life, incorporating cultures and identities.
When discussing the «cultural model of the Portuguese diet» we are examining the set of spiritual values and social and dietary behaviours shared by communities of a particular territory, with such examples as the case of the votive thanks to good harvests and fishery, the roles of men and women in obtaining, producing and preparing food, the forms of conviviality at the table, the artistic expressions and oral traditions, among many others.

The Portuguese «traditional» diet is the result of three key factors: the climate, biodiversity and geomorphology of the territory, the ancient influences of Mediterranean civilizations and cultures and the system of trading and exchange of products that led to the travel and colonial expansion undertaken since the late Middle Ages. From the Americas came in the sixteenth century the tomato, pepper, corn and potatoes, which have adapted to the climate and soil of Portugal, and are paramount to Portuguese cuisine today.

From a Geo-climatic point of view Portugal presents contrasting realities. The Portuguese mainland, receives influences coming from the Atlantic Ocean low pressures but also the periodic and regular arrival of the «Suão,» a wind from the Saharan regions which raises the temperatures especially in the hinterland.

Portugal and Morocco share a close physical proximity; few hundred kilometres separate the two countries, but also an intense historical relationship, commercial transactions and social influences which are visible on dietary aspects still little studied.

Fishing was until now a prominent activity in the relationships between the two peoples. On ships we can find mixed crews and in some places, fishing communities with people of both nationalities.

The modes of obtaining, procuring, preserving and preparing food were influenced by the «people of the sea», as seen in examples like salt production, transmission and sharing of agricultural techniques and fishery. The buckets, from the Arabic «al-qádús» used to catch octopuses and also the «almadravas» have been part of the maritime landscape ranging from the eastern Algarve to Sicily for centuries. The tuna catch is practiced in areas close to the Strait of Gibraltar, taking advantage of the massive movement of shoals.

In the «Chronicle of the Moorish Al Rasis» (887-955 AD), a sailor who lived during the Umayyad caliphate of Abderraman III, eighth Emir of Cordoba refers the fertility of the soil and the mild climate, suggesting the south of Gharb as «one of the best places in the world to live.»

Among the many contributions of the Mediterranean civilizations and in particular with regard to the Arab-Berber presence in the Peninsula, are the harvest of water and hydraulic engineering related to the need of productive sustainability, highlighting the awareness of the limits of agricultural income that determined practices agricultural.

Horticulture and fruit growing, the transhumance of cattle, the expansion of the olive groves and cork oak and holm oak, vine growing and artisanal fishing in the rivers, the lakes and the
sea, are a constant in the Portuguese space, since Roman antiquity with mixed rain fed and irrigation systems, with large production areas next to the large cities, which defined legal systems, property and land organization.

It is possible to find influences of various dietary models in the Portuguese territory, more evident from the Middle Ages, the Roman worlds, Arab-Muslim and Visigoth Christian, which show the interdependency between forestry and agro-pastoral economies, family farming subsistence and extensive cereal agriculture and livestock growth.

In the southern European cultures work animals; such as oxen, horses and mules, were only eaten in times of famine, not part of the «normal diet ». The consumption of meat was always, both for religious and health reasons, a controversial and cultural identity factor theme.

The «Mediterranean diet» found in Portugal for many centuries is, from the point of view of food consumption, a peasants cuisine mainly carried out by women, showing great knowledge and understanding of domestic economy and the full use of the technical resources available. It was always a cuisine for the inter-generational extended family, with many mouths around the table that has stimulated the ingenuity and the economy.

The genesis of the «Mediterranean diet» is the survival of the poorest people, especially the rural workers without land who knew the demands of power, the climate moods and the seasons, the astral cycles which determined the agricultural cycles, who spent huge physical effort daily, to cultivate, process and sow under the stigma of food shortage and hunger, and the need for saving and storing for harder times.

The Mediterranean diet, both in Portugal and other countries, while resulting from the heritage of the popular diet and culture was based on the wisdom/knowledge of grandparents and mothers in the home economics principle of «do much with little.»

The healthy diet based on the consumption of fresh vegetables, locally produced according with the time of year, that the researchers from Ancel Keys international team of human physiology found in the middle of the twentieth century in Crete, southern Italy and in the former Yugoslavia is no more than the scientific evidence of a historical, balanced and healthy model, in harmony with the climate, biogenetic and social conditions.

In the last decades of the twentieth century the History and Sociology, of Food/Diet, and the Nutrition and Public Health had a strong development, with more interdisciplinary research, including the problems of environmental sustainability and demography, food processing and the «diseases of civilization» caused by the change in lifestyles.

On the other hand there has been a growing interest in the history of food in antiquity and the medieval period, also based on the need for broad knowledge, in line with «the long history» approach combined with the advances of an interpretive archaeology of social, mentalities and everyday life.
In this context the recent studies on the Al Andalus, a political and social reality that lasted from the 8th to the 15th century integrating the south of Portugal, have revived interest in a more complete knowledge of the history of the Peninsular peoples.

The on-going research carried out in Portugal on the Mediterranean diet registers an higher interest from academic and socio-professional groups, medical and nutritional quarters, but also from cultural and touristic, sectors consequence of the impulse led from the recognition and registration of the Mediterranean diet by UNESCO, promoted by 7 states and their representative communities, in the list of Intangible Cultural heritage which have included Portugal / Tavira and Morocco / Chefchaouen.

The Portuguese diet and the Muslim influence

«The knowledge of spices is the basis for cooking, they allow us to differentiate the delicacies, give them flavor, highlight their taste”.

Anonyme, Al Andalus

When different cultures are in contact they influence and are influenced by each other. Which Muslim heritages persist in Portuguese diet and which ones relate to the presence of the Portuguese in Morocco?

We know from the peninsular and Arab historical sources that the origin of the events of AD 711, were the struggles within Visigoth monarchy based in Toledo and the alliance of a party with the Arab political and military power established in Ceuta area.

Obviously there were many previous contacts between the Iberian and North African populations.

Most of the Tarik Army who crossed the Strait, consisted mainly of people from Berber tribes who when in the following decades settled in peninsular territories brought their families and with them the domestic practices and productive organization common to them, in particular the usage of water, vegetable gardens, building systems and house maintenance, pottery and cooking processes and techniques.

A greater coexistence between the communities may have been due to the lack of prestige of the Visigoth rule. On the other hand, with the exception of religious services/cults, customs would not be very different because in them was inscribed the influence of the Mediterranean classical antiquity widespread both into southern Europe, North Africa and Middle East by the Romans, Greeks, Egyptians, Syrians, Ottomans and others which still persist today in many of the collective behaviour.

We know that the origin of the most important Portuguese cities precedes the rise of
Portuguese nationality and that our urbanism is deeply marked by the Greco-Roman and Muslim heritage.

The Algarve, a name of Arab origin, had known in ancient times settlements of Phoenicians and Greeks who were traders of cereals, fruits, olive oil and wine. In Tavira many evidence from those time has been found, such as a section of the Phoenician wall (century VIII. - BC), «votive wells» and various materials have been exhumed, including traces of the inhabitants diet.

A document from the 12th century proves that the practice of salt production in the estuarine area near Tavira, already existed in the Muslim period. Salting and sun drying were in antiquity the main food preservation processes allowing the transport of products for trade developed by communities of Carthage, Cadiz and more distant parts of the Mediterranean.

The civilizational presence of Roma strengthen the Mediterranean production and trade model, increasing the circulation of oil, wine and other products much appreciated such as the «garum», brought new legal realities in the organization of territories and roads.

It is evident in the Algarve, from the analysis of osteological material, collected in tanks, silos and rubbish piles, the presence in the local diet of certain fish and shellfish, poultry, some mammals like sheep, rabbit and wild boar since antiquity.

Another key element in studies on diet is oral tradition and linguistic analysis, in particular designations for food products.

Portuguese, used today by 290 million people on five continents, originated from the Latin brought by the Romans, the dominant language in a particular historical moment in the Mediterranean world. But Portuguese has, according to recent linguistic studies, more than 18 000 «Arabisms» and at least 4 000 words primitive or derived from the Arabic that are part of the everyday language. Some of these words refers to food products such as lettuce, clams, tuna, meatball, plum, olive, tea, etc..

Regarding the eating habits of southern Portugal the meal is prepared in or near the house, the bread especially baked from wheat in the «fire house» or household oven -the «Tanur»-or purchased from the «furn» Baker. There is a wide variety of breads and some have similar flattened shapes as those consumed in North Africa.

The use of bread with a meal and table olive consumption habits are common.

Meals are served in large containers that hold food for many diners.

Examples of popular Portuguese cuisine are vegetables soups, “ açordas”- bread soups, fish or lamb stews, poultry soups...

Due to the extension of the Atlantic shore, with the two archipelagos of Madeira and Azores, there is plenty of fish in large variety and quality and Portugal is the third world consumer of fish per capita.
Two essential aspects should be noted in regard to this issue. The first is that the different social classes did not have the same diet with regard to the quantity; diversity and origin of the products, the oldest recipe books consulted relate mainly practices of aristocratic and wealthy social groups. The second aspect is that the “celebration food“ was the exception - abundance - and not representative of the everyday diet and frugality.

In the History and Sociology of Food comparative studies between populations, social groups, historical periods, food preparation techniques, cyclical festivities are still incipient, as well as on the origins and practices of culinary traditions.

The cookbook is one of the most important sources of comparative research.

There is undoubtedly a Mediterranean-Muslim heritage in Portuguese cuisine. Examples of this cultural proximity are «cyclical» meals warm for winter and cool in summer, the consumption of «stews» and vegetables, aromatic herbs, dried fruit, almonds, cashews, walnuts, figs, prunes and dates, spices, desserts and teas.

Moroccan and also Portuguese food are known for their striking flavours and aromas that stimulate the commensal/diner.

Something that characterizes the Portuguese diet along with the high consumption of fish, are the vegetable soups that like Moroccan soups are always rich in flavours and ingredients. Moroccan soup use lentils, chickpea and other vegetables, in the same way many vegetables are widely used by the Portuguese and Moroccan cuisine, cooked or in salads.

Some authors found similarities between the «harisa» and «migas» of Portuguese bread, also between «tarid» a broth of bread and seasoned vegetables with olive oil and the Portuguese, «ensopados»- stews always very watery and well seasoned with bread, pieces of meat or fish.

In coastal areas the fish is plentiful, usually served boiled, baked or fried. Molluscs such as octopus, cuttlefish and squid, as well as seafood and shellfish can be found on tables throughout the Portuguese territory as main or side dishes.

The dishes are always prepared with condiments and herbs, such as coriander, garlic, onions, thyme, marjoram, but can also use black pepper, cinnamon, turmeric, ginger, sesame, caraway and other species of Eastern origin.

The «tagines», very popular Moroccan stew dishes prepared in clay containers, have their counterpart in several Portuguese stews with vegetables and meats.

The meat can be cooked steam or roasted, served in «satay».

Couscous, cooked semolina steamed accompanied by vegetables, meat or fish began to be consumed in Portugal in recent decades.
The Moroccan influence in the desserts of southern Portugal is irrefutable, the strong almond presence in the «marzipan,» the use of carob and fig, caramelised, eggs and honey, spices and nuts like walnuts used in the baking of pies and small cakes.

Honey is a widely used product in cookies, crepes and biscuits with almonds or coconut, for example.

Today we can widely find in the world the influence of Portuguese and Arabic food culture. The presence of the Mediterranean diet helps maintain quality standards, an important contribution to the preservation of cultural heritage, biodiversity and sustainable agriculture, public health with economic benefits evident to the States, regional productions and cultural tourism.
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