



Mediterra 2014

Logistics and Agro-food Trade
A challenge for the Mediterranean

A CIHEAM Report

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Executive Summary

Presentation

Cosimo Lacirignola

CIHEAM Secretary General ad interim

The 2014 Edition of *Mediterra* is published in a context of changing international and Mediterranean situations. The world is increasingly multipolar but this does not result in the strengthening of multilateral governance. Yet, in order to address social, economic or environmental challenges of the world, where complexity and uncertainty are intertwined, multilateralism was never as necessary as it is today. At the same time, the globalisation of trade continues (despite the financial crisis) and the geo-economic flows are redefined with the rise of emerging countries and the resulting inevitable reclassification of the hierarchy of trading powers.

The competitiveness of countries, territories and companies is increasingly related to their capacity to anticipate, innovate and lead integrated policies because it has now become crucial to have an intersectoral understanding of issues. In this fast changing world, where one must be able to trade with as many partners as possible and therefore diversify external relations, logistics performance is increasingly strategic. The organisation of chains, the transport of goods and the contractualisation of trade are all essential steps to progress in economic development. The marketing of agricultural products should be improved both in terms of time but also in terms of safety. Increasing trade with higher quality products: the challenge is therefore huge for actors of the agro-food sector.

It is to better apprehend these dynamics that the CIHEAM decided, at the request of its thirteen member states, to dedicate the 14th Edition of the *Mediterra* Report to logistics and agro-food trade in the Mediterranean. With a multidisciplinary and transnational scientific expertise, this publication features original papers with both geographical and sectoral analyses. The different contributions are intended to prepare the ground for a broader discussion that should continue in the coming years on the logistical challenges that Mediterranean countries have to meet in order to improve their food security and develop their economies.

The CIHEAM produces knowledge and seeks to adapt this knowledge to the needs of Mediterranean countries thus facilitating its transformation into practical and innovative solutions for development. Logistics is certainly a major theme for the CIHEAM's actions including training, research and cooperation. Matching supply and demand, logistics is at the heart of trade and human exchanges. It is also the cornerstone of a more inclusive territorial development. This is undoubtedly the main message of this report. I would like to add two others.

A message that highlights the globalisation of agro-food trade in these Mediterranean countries. This reveals the fact that Euro-Mediterranean trade is only a flow among many others in the region. By saying this, we would also like to remind that the Mediterranean is still a great trade corridor through which pass large quantities of goods and where economic growth therefore circulates.

A message that confirms the usefulness of combining comprehensive approaches with local realities. If there are common issues and phenomena in the region, the disparities between Mediterranean countries and territories of the same state require discernment and adaptation. The differentiation of policies to elaborate and the modes of cooperation to promote become a strategic paradigm to support development in the Mediterranean. A development that can neither ignore international and regional growth, nor be built with answers that do not emerge at local level.

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A Mediterranean in transitions

The current situation of social and political upheavals in the Mediterranean Basin invites us to reflect upon the state of economies in its bordering countries and the potential leverage for a better development in the region. The employment problem, especially youth unemployment is among the core issues that have triggered popular uprisings across this region of chronic instability with protests whose magnitude varies from one country to another, whether in the northern, southern or eastern shore. The consequences have recently led to political regime changes or even tragic conflicts. The improvement of living conditions is also among the main demands of these populations facing a multidimensional insecurity that plunges them in a highly vulnerable situation on a daily basis. The access to food is a determining variable in this equation. The inflation of agricultural prices on international and local markets weighs on public budgets and household purchasing power.

Thus, the concern of seeing the continued slow deterioration of food security in most Mediterranean countries is not exaggerated even more so if one considers that global agricultural trade is shifting into an era of recurrent nervousness that the dependence of some countries in the region is increasing and that climatic disasters can affect the major exporting countries. However, regions are not equally affected by food insecurity and impoverishment. Indeed, the wealth gap is often significant between globalised cities mostly located on the coasts, thus open to the dynamics of the globalisation of economic exchange and rural inland areas where poor development predominates. The combination of social and spatial inequalities does not lead to social and political stability, quite the contrary. Therefore, the establishment of an inclusive growth ensuring social and territorial cohesion is an absolute priority for Mediterranean countries.

The Mediterranean interface

As a real barometer of these trends that contribute to putting food and agricultural problems at the heart of contemporary strategic issues, the Mediterranean cannot do without trade. The millenary past of this region has written the main pages of its history through economic activities, trade of goods and human relations. Imperial powers such as Greece and Rome had already organised a commercial network in the region and even beyond, in particular, to ensure the food supply of this political hub. Trade flows and the logistics required for their implementation were therefore designed very early. While the countries bordering the Mediterranean collectively represent a total population of nearly 500 million inhabitants, the necessity for the movement of food products and the organisation of trade is continuously strengthened.

More than ever, trade therefore plays a crucial role. It highlights the interdependence between Mediterranean countries and establishes new connections with the rest of the planet. Economy is not only limited to trade. Nevertheless, the dynamics of trade between these countries but also those that each of them maintain with third countries can partly condition the attenuation of the above-described problems, at least if trade remains fair. Agricultural and agro-food commodities are at the heart of the globalisation of these economic exchanges in the Mediterranean. In this respect, transport and infrastructure are essential to orchestrate these trade flows at domestic, regional and international levels.

This Mediterra report 2014 therefore aims at exploring the state of trade in the agro-food field. The objective is to highlight trade flows and to understand their logic in the Mediterranean and beyond, i.e. between countries in the region and third countries. By observing trade exchanges, the profound changes taking place at economic level in the era of globalisation can be measured. In the Mediterranean, the flow of goods reveals that besides economic interests, some actors also have political ambitions. A geopolitical map can therefore be outlined. In this context of a Mediterranean in transition, where the challenge of food security is amplified, this report seeks to highlight the role of logistics. It is important to recall that the sector includes all activities related to the transport and storage of goods, from their production till their arrival at their point of sale. This edition of Mediterra will give an overview of roads, railways, ports and waterways as well as logistics platforms.

The development of logistics enables to improve the competitiveness of companies in markets, to increase trade by reducing transport costs, particularly imports. This may ultimately have a positive impact on economic growth. Logistics has therefore become a key element for the development of Mediterranean countries. Nonetheless, both the media and scientific publications rarely address the issue of logistics and its activity. In addition, this Mediterra report participates to the discussions and reflections that are still too timid on a sector that is yet so crucial.

In the agricultural and agro-food sector, taking an interest in logistics is all the more crucial as its optimisation leads to a better marketing of products. Improved logistics therefore contribute to opening up remote rural areas. In terms of environment, the optimisation of the conveying of agricultural and agro-food products can significantly help reduce losses and waste. In the Mediterranean Basin where the pressure on resources is one of the most worrying, all that can limit waste should be promoted. It is clear that waste is very often a result of inadequate infrastructure and connections. Beyond the important constraints related to limited land and water resources in the Mediterranean, the improvement of logistics should be in line with the energy revolution that global climate change requires to operate. All the countries must consider their energy mix according to both the economic and environmental prism, this latter being increasingly related to the first. Given the urgency, this Mediterra report 2014 will suggest some points aiming at promoting a less wasteful and cleaner logistics system.

Logistics cannot only be analysed through economic and environmental perspectives. The investments in some infrastructures also reveal certain geopolitical patterns. If China is interested in the Greek Port of Piraeus, it is probably not only for economic reasons! Considering that only the most holistic approach possible allows us to get a better insight of reality, this analysis grid will be therefore used from time to time. Given the economic importance of adequate logistics, this report will assess the state of routing systems, the bottlenecks they reveal and the areas for improvement that they offer. In this perspective, the emphasis is often put on the development of infrastructure as a real political and economic issue.

The advancements in the logistics industry of the recent years have led to the development of trade over increasingly longer distances, including the trade of fresh products such as fruit and vegetables. The improvement of the cold chain, the container-ship revolution, the development of port capacity and motorway and rail networks as well as various major infrastructure projects have all contributed to the profound changes in trade across the region. Even if this progress is significant, there is still so much to be done in terms of logistics in order to obtain better performance. Obviously, given the situation, one cannot ignore the framework of cooperation between the Mediterranean shores. The achievements of this cooperation are strongly influenced by the countries themselves. Just as Montesquieu believed, history, particularly in the Mediterranean, has recursively evidenced how profitable trade could be for the region's development. In the Mediterranean area, which is far from being closed on itself, it seems that political stability also depends on the improvement of trade conditions. Trade should be more balanced (trade negotiations) and more flowing (infrastructure).

Agro-food issues from a geo-economic and logistical perspective

In this report, the authors have firstly chosen to introduce agro-trade dynamics in the Euro-Mediterranean region, from their history to their future prospects. However, since Mediterranean trade cannot be limited to the region, some chapters focus on trade dynamics with other regions. Sub-Saharan Africa, Asia, the countries of the Black Sea, the Americas are thus closely connected to a Mediterranean that is both a receptacle of the world and an important hub.

Thereafter, the reader is invited into the analysis of the trade of certain agricultural products that are particularly emblematic of the region such as olive oil, wine and grain. Beyond fields of grain, olive trees and vineyards, the Mediterranean is also lined with fields and greenhouses where fruit and vegetables are cultivated and whose trade is also interesting to analyse. The same is true for underwater resources whose fishery products abound Mediterranean diets. Besides, meat trade, which constitutes another important source of protein intake, will also be addressed.

The report then features the geography of agro-food logistics that is ultimately very little tackled in literature. This third part therefore proposes to assess the infrastructure of trade including ports, transportation corridors and the cold chain. Emerging issues as well technical and technological innovations will then be addressed.

Aiming to capture a broad and abundant reality, this report is the result of an interdisciplinary approach. All *Mediterra* reports address a subject from a multidirectional perspective and the present report has been written in line with this approach. Not only is this work interdisciplinary, but it is also multinational. Like the preceding reports, this *Mediterra 2014* is indeed based on the work of researchers and decision-makers coming from almost all Mediterranean countries. This is by no means a search for exoticism. This choice rather translates the CIHEAM's longstanding interest in contributing to the existence of a Mediterranean research space. This diversity of contributors also allows a multiscale analysis: even if priority is given to macro-spatial approaches at Mediterranean level, some articles analyse specific national situations.

This *Mediterra* report is a new contribution of the CIHEAM to the progressive reflection and the observatory mission that it has aimed at establishing over the years. In 2008, the *Mediterra* report was dedicated to the future of agriculture and food in the Mediterranean. Based on a broad grid, the diagnosis enabled to draw future scenarios for the Mediterranean. Four scenarios seemed to emerge: a basic trend scenario of "a Mediterranean without conviction"; a worse trend scenario of "a Mediterranean under tension; an improved underlying scenario of "a fragmented but reactive Mediterranean" with a weak inter-Mediterranean cooperation; and lastly "a confident Euro-Mediterranean" was the scenario to aim at. Six years later, we must admit that the last scenario was not the one that had the biggest breakthrough over the years. After the historic liabilities and political disputes that have hindered cooperation in the Mediterranean, the current political and economic crises seem to worsen the situation. However, at a time when multilateral cooperation and regional integration seem idle, it is important to look at the history that teaches us how coordinated efforts have allowed to overcome several crises. The CIHEAM has already stated that it is convinced that "forces should unite rather than lose momentum separately". Development paves the way for peace but it does not imply a zero-sum game. The logistics trade sector proves this quite clearly.

The 28 Chapters of the Report

Chapter 1

A geohistory of agriculture trade: the long time span that enlightens the present

Pierre Blanc

(Bordeaux, Sciences Agro and Sciences Po Bordeaux, France)

The history of agricultural trade in the Mediterranean is closely linked to its political history. By combining them both, this article does not only aim to achieve a better understanding of the link between them but also to show that logistics and trade were very early conceived as determining factors of influence that States often exerted in power struggles. Trade and logistics were thus subjected to dominant relations and even to warlike reasoning for a long time. By analysing the long periods and the broad perimeters of geohistory this article reveals how agricultural trade unfolds today in a new and finally more favourable context for more than one reason.

Chapter 2

The development of Euro-Mediterranean agricultural trade and new prospects

Rym Ben Zid

(International consultant, Tunisia)

Trade between the southern countries of the Mediterranean and the EU, happens primarily in the framework of bilateral agreements, more or less developed and differentiated, according to their seniority and the degree of openness of the southern countries' economies. The trade in agricultural products between the EU and the southern countries of the Mediterranean consist in exchanging fruits, vegetables and cereals. This trade is largely favorable to the EU states, even if the deficit is less pronounced in the case of Morocco and Turkey, and that's because their cereals production is substantial, thanks to the natural resources of the two countries. Exchanges are determined by tariff and non tariff barriers established by the EU in order to prevent the massive entry of products competing with those of the EU (fruits and vegetables, and olive oil), and by the protection by the southern countries of the strategic cereal sector. The trade in agriculture products between southern Mediterranean countries and the EU would be more balanced if productive peasant farming develops in the South.

Chapter 3

Sub-Saharan Africa and the Arab World: disconnected agricultural regions

Mihoub Mezouaghi

(Agence Française de Développement, France)

The disconnect between the African and Arab agricultural economies, in the face of a structural crisis in agriculture, is reflected in limited bilateral trade flows concentrated on a small number of products. Increasingly, they are becoming dependent on the global market. Demographic growth, climate change, political instability and unbridled economic liberalisation are all aggravating factors in the agricultural deficit. The weakness of agricultural trade between Sub-Saharan Africa and the Arab world is largely the result of their economic structures, the failures of agricultural policies, trade systems which lack incentives and the poor quality of transport infrastructure. The logistics deficit considerably increases the marginalisation of these agricultural regions by generating additional production and transaction costs. Despite this, both the threat of food insecurity and the pressures of international competition have encouraged investment flows, potential drivers of better integration of agricultural regions. Against a background marked by sustained growth in the African continent and excess financial liquidity in the Arab world, new financial and productive dynamics are likely to increase agricultural trade, contribute to enhanced yields from agricultural land and foster the development and internationalisation of processing industries. Nevertheless, in the absence of an integrated, strategic approach to agricultural relations between the countries of Sub-Saharan Africa and the Arab countries, these dynamics owe rather more to the desire of States to reduce their food insecurity or that of enterprises to develop export niches. This approach will not be enough to offset the structural and institutional disconnect between these agricultural regions.

Chapter 4

Agro-trade dynamics of the Black Sea countries

Natalija Riabko

(International consultant, France)

In the past few years, the increase and volatility of agricultural prices have become a major threat to global food security, particularly for food importing-countries including southern and eastern Mediterranean countries that heavily depend on international markets. Nonetheless, as long as the flows of exports to these deficit areas are conducted under good conditions, exporting countries can properly develop their potential. The Black Sea countries (Russia, Ukraine, and Romania), and those in Central Asia (mainly Kazakhstan with part of its territory in Europe), in transition, already play an increasingly important role in global food markets and some of them, including the major cereal exporters like Kazakhstan, Russia and Ukraine, have the potential to contribute to greater food security. Trade in agricultural products between Black Sea countries, and countries of the MENA region, has thus upturned, but it concerns mainly Russia and Ukraine that seem the only ones capable of playing a role in strengthening ties with the Mediterranean.

Chapter 5

Mediterranean agricultural and agro-food trade: caught between American and emerging Asian countries

Foued Cheriet and Jean-Louis Rastoin

(Montpellier SupAgro, France)

The countries bordering the Mediterranean constitute together a region with one of the greatest deficits in the world in terms of agricultural and agri-food products. This extreme dependence on the outside world has been aggravated in the last ten years, although with important structural changes: the northern (European Union) supremacy in food supply in the zone is threatened by the arrival of new suppliers from the West (Brazil and Mercosur) and from the East (China, Indonesia, India and Thailand). Flows of Foreign Direct Investment (FDI) look set to follow the same pattern as exports to the Mediterranean zone, with BRIC industrial establishments following in the wake of investments in trade and logistics, while at the same time a pattern of land grabbing is emerging. Of concern to Europe is that two out of three future scenarios see a continuation of these trends. However, a third scenario based on proximity and geopolitical solidarity could signal the rebirth of the Euro-Mediterranean arrangement, provided that profound reforms are made to practices in North-South and South-South regional cooperation.

Chapter 6

Transport infrastructure and logistics: the strategic levers of trade and competitiveness

Mustapha El Khayat

(Moroccan Association for logistics, Morocco)

The development of transport and the improvement of logistics performance are crucial issues for countries seeking to become more competitive on the international geo-economic scene. Facilitating trade and transport is this of growing importance for the Middle East and North Africa (MENA) countries which not only need fast, reliable and frequent services to transport their exports and imports, but which must also comply with new and stricter safety requirements. The Euro-Maghreb logistics chains that are being developed could attract powerful groups, mainly American and Asian ones, provided that they reap benefits from future revenues generated by these agro-food logistics chains. If the network is not taken under control by Euro-Maghreb interests, the Western Mediterranean will become subject to non-Mediterranean global firms. Faced with the possibility of such a scenario, there is an urgent need for a solution that allows public and private stakeholders in order to develop a Mediterranean agro-food logistics network.

Chapter 7

The geo-economies of the agro-food trade between the Arab Mediterranean countries and the Gulf

Matthieu Brun

(Institute for sustainable development and International Relations, Iddri, France)

Previously considered as a plague affecting solely poor countries, the global nature of food insecurity was revealed when the Gulf countries, accustomed to obtaining their supplies from the international market, found themselves, with the exception of Saudi Arabia, faced with this unprecedented threat. The Gulf States may not be recognized as facing food insecurity in its commonly accepted definition at the international level; however, they are vulnerable to it, at least in terms of physical availability. These countries have among the highest GDP per capita in the world, yet their national strategy takes into account the decline in oil revenues. Furthermore, the food issue has become a larger concern as the import bill for agricultural products continues to grow, rising from 14 to 35 billion dollars between 2000 and 2010. National constraints and social changes place an additional burden on this food equation that is increasingly eluding policy makers in the region. The challenge that the Gulf countries are facing is thus closely linked to the issue of how resources both natural and financial, are used and to the infrastructures that are available to economic stakeholders in order to secure food supply in this region.

Chapter 8

Trade and logistics: the case of the grains sector

Sébastien Abis,

(CIHEAM-Geneneral Secretariat)

François Luguenot and Pierre Rayé

(InVivo Union, France)

Exploring the road taken by cereals in the Mediterranean is a passionate adventure. It is in fact, traveling through time and observing the economic dynamics in a region with a millenary past where grains were always one of the driving forces of societies 'history, of powers and trade. It is also traveling complex roads where a multitude of actors, professions and infrastructures are combined to form a cereal sector whose strategic dimension lays on determinants all at once, demographic, geographic, agronomic, dietary, logistic and financial. It is finally, examining the geopolitical consequences of the acceleration of agricultural globalization, and of financialisation of markets of vital raw materials. The aim of this contribution is to highlight the acuity of the logical problematic that faces more and more the cereal sector in a global context of high tensions on agricultural markets, and that of an increase in food needs.

Chapter 9

Trade and logistics: the fruits and vegetables industry

Giulio Malorgio

(University of Bologna, Italy)

Antonio Felice

(GreenMed Journal, Italy)

The international fruits and vegetables market was among the first markets of the agro-food sector to wholeheartedly embrace globalization, and the trade of fresh fruits and vegetables is knowing a spectacular growth since the end of the twentieth century. The fruits and vegetables sector is characterized by two distinctive features: the strong seasonal nature of production schedules and the great fragility of rapidly perishable crops which therefore require well managed trade flows, from the place of production to the place of consumption. This chapter presents an analysis of the dynamics of the trade in fruits and vegetables in the Mediterranean, by type of product and destination, with a focus on the developments taking place in the EU, Morocco and Egypt which have known and increase in their exports of fruits and vegetables, a diversification of these trade flows, and an improvement in their logistics systems to adapt their productive potential to the modern requirements of exports.

Chapter 10

Seafood in the Mediterranean countries

Bernardo Basurco

(CIHEAM-MAI Saragossa, Spain)

José Estors Carballo and Audun Lem

(Food and Agricultural Organisation of the United Nations FAO)

After cereals, fish and fishery products are one of the most valuable sources of protein and essential micronutrients for a balanced nutrition and good health. Moreover, they also continue to be among the food commodities most traded worldwide. Compared with other agro-food products, fish and fishery products are highly perishable and are very heterogenic for they not only come from various animal groups (mollusks, crustaceans, fish) but also from different geographical and production origins (e.g. artisanal fisheries, deep sea fisheries, freshwater aquaculture, marine aquaculture, etc.). Most traded seafood commodities are preserved and processed products and just as with other agro-food products they must go through the distribution channels in order to reach the end-user or consumer. Initially this article will analyse the main characteristics of seafood markets in Mediterranean countries, providing detailed data about demand and supply as well as seafood trade. The second part will inform about main characteristics of the seafood distribution channels and different transportation methods. And finally, through the description of the Moroccan and Spanish fishery processing sector will provide an insight into the trends and constraints of the industry.

Chapter 11

Trade and logistics: the case of the olive oil sector

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(Technical University of Crete, Greece)

George Baourakis and Georgios Manthoulis

(CIHEAM-MAI Chania)

Boubaker Thabet

(National Agricultural Institute, Tunisia)

Olive oil is a Mediterranean product with a very long history but a history that has recently become economically controversial. The controversy has resulted primarily from the increased competition originating in the vegetable oils and fats sector, the prices of which have always been lower, thus constantly discouraging the consumption of olive oil. Olive oil has also suffered from the limited information that the scientific community has produced about its health and nutritional values to enhance its importance in the eyes of the ultimate consumer, particularly the educated one. While olive oil production is confined to the Mediterranean region, the world consumption is expanding as non-traditionally consuming countries now import growing amounts of olive oil, especially China and the USA. The increased costs of production, together with the limited market power of olive oil producers to obtain better product prices, has resulted in an increased cost/price squeeze that has jeopardized growth in the sector. Packaging and labeling are also important factors which affect consumers' preferences. Better logistics coordination for the transportation of olives, olive oil, and by-products is achieved through utilization of information technology (IT) and reducing transport distances as much as possible. The improvement in trade and logistics will increase the exported quantity, especially in emerging markets. Finally, suggestions are provided to help the stakeholders (producers, distributors, consumers, politicians etc.) improve the supply chain efficiency of this valuable good.

Chapter 12

Trade and logistics: the case of the livestock and ruminants meat chain

Nils Beaumond

(International Consultant, France)

Philippe Chotteau

(Agro-economist, France)

The international trade of meat ruminants and livestock in the CIHEAM member states represents considerable volumes and amounts. The area is broadly in increasing deficit essentially due to an increasing demand at the south and east of the Mediterranean. The Ovine species is less concerned by this trade than the Bovine one, and its trade has stagnated over the decade. Exchanges were particularly intensified in livestock, animals to fatten or to slaughter, but also in meat. The choice and the combination of imported products depend on many factors. The pedoclimatic conditions and the availability in animal food play for sure a role. But the agricultural policy decisions, the relations between the milk and meat sectors, the dynamism of engaged operators in these sectors, and the quality of distribution circuits, the sanitary rules, and their way of evolution according to sanitary conditions in providing countries, are often decisive. In addition, the preference of consumers for local origins is often affirmed. Let it be livestock or meat, exchanges obey by logistical constraints taking into account the inherent risks for the animal health and/ or public health, and are in general controlled by strict sanitary legislation. This is coupled by more and more criteria related to the animal well being.

Chapter13

Trade and logistics: the case of the wine industry

Roberto Capone, Maroun El-Moujabber, and Gianluigi Cardone,
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Felice Adinolfi and Jorgelina Di Pasquale
(University of Bologna, Italy)

Daniel El Chami
(Cranfield University, United-Kingdom)

There are today about 4.2 million hectares of vineyards in the Mediterranean (including the Balkans). This represents 53% of the world production (7.7 million hectares) and over half the world wine production. The Mediterranean region also provides one third of world production of fresh and dried grapes. Globalisation has increased the competition between wine producers around the world creating a dichotomy between the old wine countries where production methods and the geography of the vineyard are well-established and relatively immutable, and where tradition and terroir are of utmost importance, and the new producer countries, where experimentation and the development of winemaking techniques are the basis for the expansion of viticulture that explores new places. Local cultures of consumption will shape production strategies and the global orientation and investment of the sector.

Chapter 14

Ports and logistics: an overview of policies and strategies

Dimitrios V.Iyridis and Eirini Stamatopoulou
(National Technical University of Athens, Greece,)

Mediterranean ports have been closely associated with the maritime trade for centuries. Over centuries, southern European and North African ports remained the center of maritime activities. Serving both the commercial and the tourism industry, Mediterranean ports are likely to remain very active in the future. Mediterranean Ports and related infrastructure have developed a logistics network that provides a connection, not only between EU countries but also between Europe and Asia. The huge volume of goods to Europe passing through the Mediterranean ports demonstrates their importance. Finally, the trade of agriculture products in EU and other countries is a major activity in which the Mediterranean ports play a key role. This chapter addresses ports and logistics including port facilities and their development, and present a number of improvements that should help Mediterranean ports to develop their activities and thus to gain a larger share of the volume of good transported.

Chapter15

A geography of rail, road and air transport

Marco Spinedi

(Mode Consulting, Italy)

Eleonara Morganti

(French Institute of Science and Technology for Transport, Development and Networks, France)

In the trade flows between continental Europe and the Mediterranean countries, the exchange of commodities and finished products have been growing in the last years, despite the inadequacy of transport infrastructure. The integration of all processes in the entire region depends largely on the improvement of land transport infrastructures networks, the modernization of ports and airports, the construction of logistics platforms and freight centres and the development of transportation and logistics.

Chapter 16

The cold chain, a crucial link to trade and food

Gérard Cavalier

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Soumia El Hadji

(Veterinary Doctor, Morocco)

İbrahim Sani Özdenir

(Food Institute, Tübitak MRC, Turkey)

The cold chain is an essential element of food products trade in the world. With maximal high temperatures, the Mediterranean countries do not escape the need of a good quality cold chain in order to develop their trade with the EU, and to satisfy the expectations of their populations in terms of sanitary security and evolution of the modalities and habits of consummation. The current situation doesn't allow in many countries, to respond to this demand. The construction of a good quality logistic of cold requires important investments in terms of equipments and services, but also regulations, normalization and controls that will allow for the necessary framework of this cold logistic. These investments will drive on the short term important savings giving the fact of loses reductions and the increase of the offer, and the amelioration of the production competitiveness. The Mediterranean, cradle of the natural cold chain more than 2000 of years ago, can reasonably nourish the ambition o becoming again "global paradise" of the artificial cold chain.

Chapter 17

Infrastructure, logistics and agro-food dynamics in Turkey

Selma Tozanli
(CIHEAM-MAI Montpellier)

The structural adjustment policies of the 1980s, have led to the opening of the Turkish economy to the world market. After the new financial crisis of the beginning of the 2000s, the external and international liberalization was accelerated. Endowed with a varied agricultural and productive wealth, the country is almost self-sufficient to feed a total population of 75 million and to export part of its national agricultural production. This article analyzes the evolution of commercial and of other agreements that Turkey establishes with its Mediterranean and other partners as well as how this development affects the growth and extent of its transport and logistics sector.

Chapter 18

Infrastructure and agro-food logistics in Albania

Tokli Thomaj
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Arjana Misha
(Ministry of Agriculture, Food and Consumer Protection, Albania)

Since the 1990s, Albania knows important economic and political changes. Concerning the agricultural and agro-food products, the Albanian trade regime has been implemented in full compliance with the Stabilization and Association Agreement between Albania and the EU, Albania's commitments to the World Trade organization (WTO) and the Central European Free Trade Agreement CEFTA. As a result, Albania has already developed and implemented a very liberal regime with regards to the trade of food and agricultural products. These changes have had an impact on the development of infrastructure and logistics that this article examines as well as their role in Albania's economic development.

Chapter 19

Transport, logistics and agro-food development in Algeria

Mohammed Naili
(EL Watan, Algeria)

The agro-food sector in Algeria is confronted to many constraints at the level of supplies and distribution, and the enormous delays that the logistics sector has accumulated over decades. A big importer of food products, Algeria is considered as the most expensive and less attractive destination in the Mediterranean Basin, in the absence of fluidity at the ports level. Within the country, the transports sector knows a weak modernization. The .railway transport of merchandises is little used while the road transport is badly structured. These factors impact hence negatively the agro-food circuits of distribution. Since a few years, the public powers have been engaging in a large upgrading of logistical infrastructures for which they mobilized important budgets thanks to the strengthening pf financial resources coming mainly from oil exports. Large-scale distribution is being implemented slowly in the country.

Chapter 20

Malta: a logistical hub

David Raphaël Busuttil
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The following article, divided into three parts, examines Malta's evolution as a logistical and commercial hub at the centre of the Mediterranean, giving particular emphasis to agro-alimentary trade. In Malta's geographic, demographic and historical context, a quick overview of its development is given to explain the evolution of the islands' particular existing infrastructure, its trade routes and the agro-food products passing through. The three key elements of its infrastructure are then analysed: the transshipment terminal, the airport and the Grand Harbour terminals, through which the bulk of Malta's trade is conducted, each reflecting the type of food transiting there. The last part examines the existing risks to Malta's model and micro and macro-economic changes that potentially could affect Malta in the short to medium term.

Chapter 21

Infrastructure and agro-food logistics in Egypt

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Egypt benefits from a strategic location between Africa, Asia and Europe, and is surrounded by the Mediterranean Sea in the north and by the Red sea in the south. Furthermore, the presence of the Suez Canal allows the country to be a hub for international trade. Despite the fact that several efforts were done to improve the logistics in the country, still a lot is required. The agricultural lands and water resources in Egypt are limited, creating a growing risk of food insecurity for the population. One of the first priorities of the agricultural strategy in Egypt is to increase the competitiveness of the agricultural products in local and foreign markets. This article deals with the constraints to horticultural competitiveness and discusses efforts and principles of increasing competitiveness of products in international markets. Attention was paid to the role of agro industries and the value adding processes. The article also includes a brief projection of the role of small farmers in Egyptian exports and one example of a success story related to the establishment of a mechanism of collecting small farmers' products for exports that helped the stability of the rural community in upper Egypt.

Chapter 22

Trade, logistics and agro-food strategies in Portugal

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Portugal is a small country, but one which possesses a remarkable geographical diversity. The variety of different climates, relief and physiognomy of the landscape are reflected in the land occupation and the agri-food economy. The agriculture and forestry sector is regarded as a strategic pillar of the economy. It contributes enormously to the increase in productivity and competitiveness at macro-economic level. In this context, the agri-food sector is particularly open to international trade with significant comparative advantages over its principal trading partners. This trade is chiefly with the EU countries, Spain in particular. As regards foreign trade outside the EU, two aspects should be noted: on the one hand, the limited trade with the southern Mediterranean countries and, on the other, the importance of Angola and Brazil, lusophone countries illustrated by the rapid growth of exports to these countries in the last decade. This intensity of foreign agri-food trade is primarily due to the recent expansion of infrastructure and logistics and the implementation of public and private strategies to encourage the modernisation of logistics chains. Although Portugal is on the fringes of Europe, it seems that its geographical position can be an advantage. The country is located in an area of confluence of international sea routes; it has a relatively important port system with increased capacity for goods transport and also offers excellent prospects of becoming a major logistics nodal point in Europe and especially within the Iberian Peninsula.

Chapter 23

Private food safety and quality standards in international trade

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Private food and safety standards have been proliferating in the past decade and are increasingly used to govern food safety and quality issues in agri-food value chains, not least in the Mediterranean Region. This paper describes some of the main food safety and quality standards - PrimusGFS, FSSC22000, IFS, SQF, and GlobalG.A.P - and compares their requirements based on the ITC Benchmarking tool for public and private standards. The analysis focuses on the standards' quality management systems and food management systems and finds that harmonization efforts are much advanced for some of the key global food quality and safety standards. Nevertheless, the amount of notifications to the WTO related to food safety issues is increasing and company surveys carried out by ITC reveal that food safety standards are a recurrent concern for exporters globally. Strict requirements, costs of compliance and limited access to testing facilities are among the most prohibitive burdens for exporters. Given the potential for increased efficiency in Mediterranean and international trade and positive welfare impacts, the need for harmonization amongst these standards is evident.

Chapter 24

From agricultural production to agro-food trade: the energy challenges

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The enormous challenge of food security is among the world's major concerns, Food security depends on several factors including the availability of energy at all stages of the food chain. Due to the constraints of the use of energy in agriculture, the competitiveness of agricultural and agro-food chains is increasingly related to the performance of their logistics systems and the optimization of their direct and indirect energy consumption. This chapter provides an overview of energy requirement in agricultural production systems in farms, and then in the distribution systems for agricultural and agro-food products at national and international levels. It reveals disequilibrium between the northern and southern shores, and shows that energy use could be significantly improved.

Chapter 25

From local markets to international trade: logistics and debate on the food miles concept

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The Mediterranean Sea has been fundamental to develop the exchange of agro-food products among Mediterranean countries but also as a means to facilitate imports and exports from many areas in the world. Developing Mediterranean countries have increased their food dependence and a great volume of imports comes, for certain agricultural commodities, from long distant origins. The distance travelled by exports, from the South Mediterranean shore, is increasing as the European Union remains to be the first importer but there are other far away destinations which are gaining importance. As a result, food travels longer distances now than decades ago. Transportation means and infrastructures have been developed for trucks, trains, ships and planes. All of them are used, more or less efficiently, within and among countries. The food miles concept tries to incorporate the damage caused to the environment depending on the distance that a food product travels between production and consumption. Consumers, in developed countries, are increasing their awareness about the impact that the distance food travels might have. There are many other aspects that influence environmental damage besides the distance, such as the means of transportation, but also all production, transformation and distribution processes. In this chapter there is a description of all the items mentioned above and how they might affect the Mediterranean countries trade and logistics.

Chapter 26

Agrotechnoparks : working towards innovative systems

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Euro-Med governments consider agrotechnoparks as one of the most effective ways to foster innovation in the agro-industrial sector. This chapter provides an overview of agrotechnoparks in the MENA region and Turkey, and shows that achieving world-class Euro-Med agrotechnoparks requires the alignment and coordination of the different national strategies towards a more cohesive approach. This entails the creation of appropriate framework conditions, i.e. establishing effective governance mechanisms and engaging in networking and collaborative efforts at country, euro-Med and global levels.

Chapter 27

Transport and logistics: territorial issues and the role of local and regional authorities

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By implementing policies for agricultural production at territorial level, local and regional authorities become truly influential actors in the flow of products and logistics organization given that they will commit themselves to comprehensive strategies for territorial food security. In the future, factors that are external to territories will affect trade conditions of agricultural goods, either by counteracting or, in the other hand, by encouraging local policies. Societal choices in the next few years will also be decisive. Among the five scenarios drawn up by Samarcande Etudes et Conseil for the situation of freight and logistics in 2040, three suggest that territories may be in more or less strong competition in a system which will become increasingly globalised and asymmetric. The last two scenarios which focus on changing market demands and radical changes in social values respectively suggest that territories and their populations may well regain control of their destiny,

Chapter 28

Innovation in logistics and in the supply chain integrated approach

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The focus on supply chain allows a step towards sustainability because the supply chain considers the product from the processing of raw materials up to the delivery to the customer. Furthermore the shift from “supply chain” to “supply chain management” allows a better and more attention to the ecosystem through the adoption of two different models of chain, the first one “closed-circuit” the second one “triple bottom line”. In this work the main features of the on-going ENEA national research projects on food quality and safety (“Ortofrulog”, “Magazzino Viaggiante”, “Food Flavour”) are presented and the benefits of the supply chain integrated approach on food quality and safety are discussed. Finally, we discuss the main food safety issues by applying an integrated approach along the entire supply chain (from primary production up to consumers) and we describe the recent project proposal for the National Technology Cluster Agrifood (Food Safety Area): “Safe&Smart”.

Contact and information

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About CIHEAM

Founded in 1962, the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) is an intergovernmental organisation composed of thirteen member states (Albania, Algeria, Egypt, France, Greece, Italy, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia and Turkey).

The CIHEAM is at the service of its member states to promote multilateral cooperation in the Mediterranean in the fields of agriculture, food, fishery and rural territories, aiming to respond to the needs of the states. The CIHEAM works for the Mediterranean and therefore with Mediterranean populations. Providing concrete solutions, sharing experiences and avoiding the waste of knowledge are among the main objectives of each one of its actions.

The CIHEAM pursues this cooperation mission through specialised training, networked research, scientific diplomacy and political partnership. Thanks to its activities, the CIHEAM therefore contributes to the elaboration of a global, structural and engaging vision for development in the Mediterranean.

170 permanent agents and hundreds of consultants regularly work within the 5 headquarters of the organisation: the 4 Mediterranean agronomic institutes (MAI) based in Bari (Italy), Chania (Greece), Montpellier (France), and Zaragoza (Spain); the General Secretariat is located in Paris (France).

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