FOOD SECURITY AND AGRICULTURE IN THE MEDITERRANEAN. RECENT CASE OF A PREDICTED CRISIS. WHAT PROSPECTS ARE THERE FOR THE FUTURE?

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The Mediterranean and the world: food security threatened by price instability.

On the planet: 7.5 billion inhabitants in 2020, 8 billion in 2030, population growth since 1990 is due to be 45% of that of India and China, but the Mediterranean also contributes towards this. In 20 years the Mediterranean will have 100 million more inhabitants, the vast majority of whom will live in cities or suburban areas. The increase in living standards on the one hand, the changing dietary habits of the new urbanites on the other, will cause large changes in consumption. Overall, individual consumption of plant products will continue to decline in favour of an increase in meat and dairy products but also products derived from processed animal products. This transfer in demand from vegetable to animal products is accompanied by a growth in demand for plant products for animal feed but also for the production of biofuels. This biomass competition in a context of pronounced climate change and then the rise in energy and transport costs leads to a sustained rise in agricultural prices, the effects of which are exacerbated by their instability and volatility.

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2007: Identité et qualité des produits alimentaires méditerranéens (Identity and quality of Mediterranean food products).

2008: Les futurs agricoles et alimentaires en Méditerranée (Agriculture and Food Future in the Mediterranean).

2009: Repenser le développement rural en Méditerranée (Rethinking Rural Development in the Mediterranean).

2010: Atlas Mediterra. Agriculture, alimentation, pêche et mondes ruraux en Méditerranée (Agriculture, food, fisheries and rural worlds in the Mediterranean).

The illustrations here are mainly taken from these documents;

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The 2008 food crisis and its aftermath in 2009 and 2010 clearly reflect this instability manifested by a sudden and excessive increase in prices followed by an increase in volatility in the short term. The price of a bushel of wheat in Chicago over three months rose from 5 USD in May 2007 to 12.80 USD in February 2008[3] only to fall sharply to USD 4.4 in October 2009....then to soar again in spring 2010 and late summer 2010 due in particular to production losses in Russia and the Ukraine which were undergoing a prolonged period of drought and harvest fires. More recently the floods in Australia in early 2011 and the continued drought in Argentina do not appear to be offset by surpluses of stockable and exportable crops from South Africa, the Sahara and Asia[4]. That volatility reflected in the consumer markets has a strong impact on food consumption, especially that of the poorest households in the Mediterranean and elsewhere. The instability in the price of wheat had a significant short-term impact on food security but also an impact in the medium and long term due to the abandonment of cereal crops whose prices had become low or unpredictable and investment in which seemed unprofitable in the long term. After a period of consumption which exceeded production between 2000 and 2008, stocks rose again in 2009 only to fall again in 2010, causing new tensions on the market and increased costs of livestock feed. In 2008, as a whole, developing countries faced an increase of at least 25% in their food imports, making food security more difficult. The conditions for the emergence of new crises are again present with a potentially more dangerous situation, in that agricultural products have become the financial assets most speculated on. New non-traditional speculators in the agricultural raw material sector have emerged. This potential situation of tension is a reality for many Mediterranean countries that share common characteristics in the evolution of the dynamics of their agricultural and food products. We will summarise the salient facts and major trends.

In this context several scenarios are possible - from the strong development trends in the rural and agribusiness sector observed in the Mediterranean for several years and reinforced by the recent crises coupled with the predicted impacts of climate change on the Mediterranean rural sector. Characterisation of key developments leading to several possible scenarios, from the worst marked by shortages and growing asymmetries (S1) to a desirable scenario of convergence (S3), possibly via differences in rates of integration into a global economy (S2). We propose several avenues for cooperative action for those active in the public and private sectors to move towards food security in the Mediterranean.

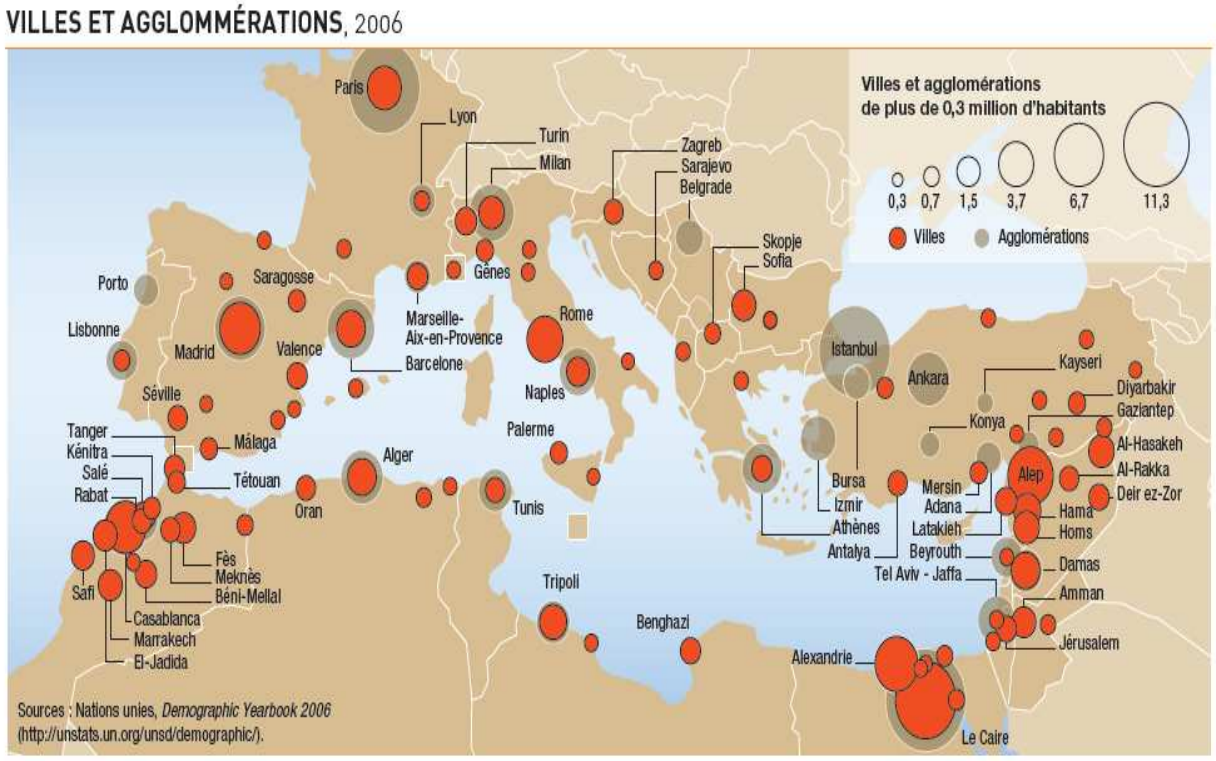
Future diagnosis for the Mediterranean in 2030: Common features in the Mediterranean.

1. **In Mediterranean countries the high population growth is marked by urbanisation of coastal areas which penalises production in the agricultural sector.**

This urbanisation is concentrated along coastlines accompanied by an increasingly pronounced split between the interior of Mediterranean countries and their coastlines. The map showing the distribution of towns and cities in the Mediterranean (Méditerra 2010, 2006 data) shows the population concentration in coastal cities where the majority of the 100 million extra people in the Mediterranean in the next 30 years will be located. This tendency for the countries of the northern shore is more recent for the countries in the south and east with two exceptions, those of the Balkan countries and Turkey which still retain a substantial population in rural areas in the interior of the countries.

3 Global Economic Prospects 2009. Commodities at the crossroads. World Bank.

4 Données Réseau de Système d'Alertes Précoces contre la Famine. Sahel et Afrique de l'Ouest. Perspectives sur la sécurité alimentaire ; octobre 2010-mars 2011. bulletin janvier 2011.(Data from the Early Warning Network against Famine. Sahel, West Africa. Food Security Perspectives; October 2010 - March 2011. Bulletin January 2011.



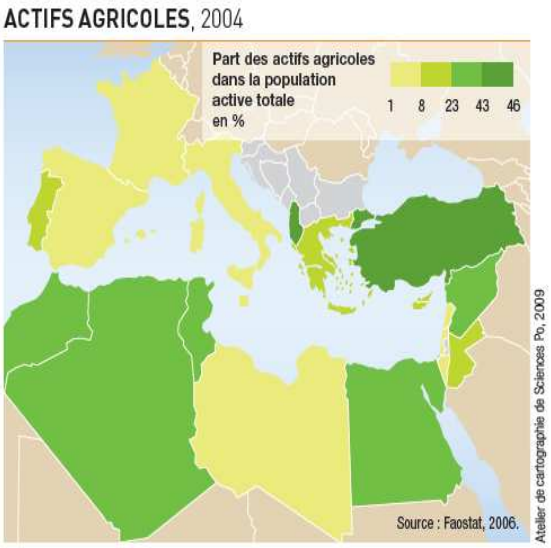
CITIES AND AGGLOMERATIONS, 2006
Cities and agglomerations with more than 0.3 million inhabitants
Lisbonne = Lisbon
Seville = Seville
Malaga = Malaga
Alexandrie = Alexandria
Le Caire = Cairo
Jerusalem = Jerusalem
Valence = Valencia
Saragosse = Zaragoza
Barcelone = Barcelona
Genes = Genoa
Palerme = Palermo
Athenes = Athens
Beyrouth = Beirut
Damas = Damascus
[All other country names remain the same]
Source : United Nations, Demographic Yearbook 2006
[right hand vertical:] Cartography Studio, Sciences Po, 2009

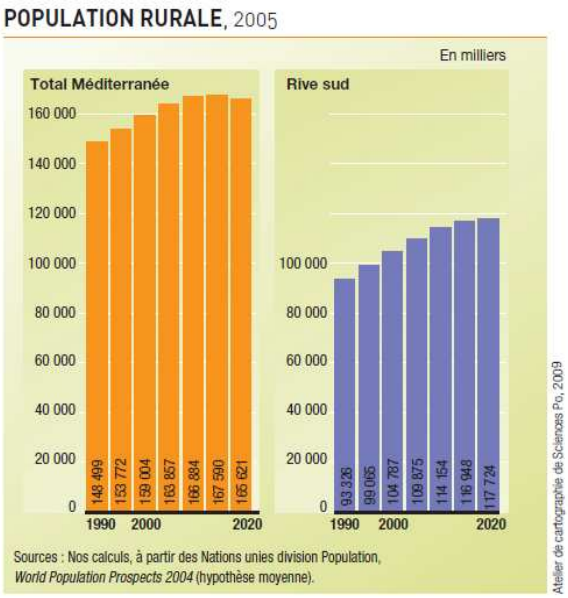
This growth in urbanisation in coastal areas, which often occurs in floodplains and the most fertile estuaries, will increase competition for water and soil for urban and industrial needs at the expense of agricultural activity and production, which is often intensive in suburban locations.

2. **Mediterranean societies that remain agricultural. Rural employment in the south is still characterised by great fragility.**

Southern and Eastern Mediterranean Countries (SEM) retain a significant share of the agricultural labour force. 25 to 45% of the population of these countries derive the majority of their revenues from activities on farms, as farmers or farm employees. If the rural population stabilises in the whole of the Mediterranean around 2020, according to different population projections, this stabilisation will be due to two opposing forces: the endurance of a continued decline in the north combined with growth in the south and east that will only stabilise in 2020 and beyond.

In a Mediterranean in transition, the issue of agriculture and food remains central, given the persistence of the economic and social importance of the agriculture sector.





[Diagram on left : AGRICULTURAL EMPLOYEES, 2004
Proportion of agricultural employees out of the total employed population as a %
[right hand vertical:] Cartography Studio, Sciences Po, 2009]

[Diagram on right: RURAL POPULATION, 2005
In thousands
Total Mediterranean
South coast
Source: Our calculations, based on the United Nations Population Division
World Population Prospects (average hypothesis).
[right hand vertical:] Cartography Studio, Sciences Po, 2009]

Agriculture is the second largest source of work in the world, as in the Mediterranean, after services. The income from these jobs, however, is often lower than for other economic activities in rural areas.

Informal work is still of great importance in rural Mediterranean areas. In North Africa, agricultural employment accounts for 80% of rural activity: 35% in Tunisia, Algeria and Egypt[5]. In Turkey, agriculture still accounts for more than 65% of employment in rural areas. The Turkish agricultural workforce continues to grow. Diversification is still limited in the southern Mediterranean countries. Rural areas do not attract industrial activities and services that could develop there. The continued flow of employees leaving the agriculture sector, related to attempts at modernisation, are not easily absorbed into other sectors leading to underemployment, unemployment and migration.

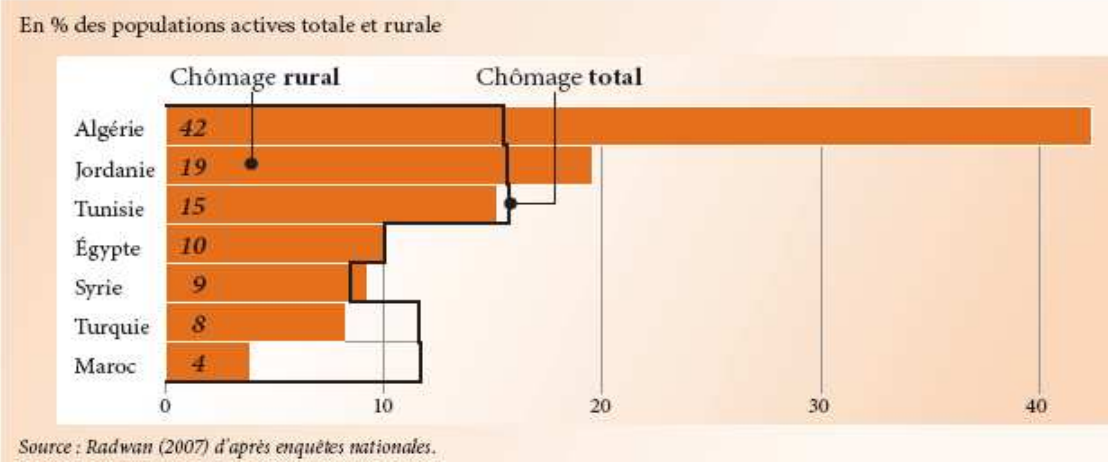
5Rethinking Rural Development in the Mediterranean. What role for agriculture in rural areas? Mediterra 2009.

Rural employment in the southern and eastern Mediterranean, including agricultural employment, is characterised by many features that often characterise its fragility:

- the strong presence of small family farms and small secondary service businesses associated with primary processing of agricultural products has lead to a high proportion of self-employment and independent workers,
- rural employment of women and generally unpaid caregivers is rarely reflected in national statistics although it represents a significant volume of employment,
- rural activity in the Mediterranean is still strongly influenced by seasonal agricultural production, leading to under-employment of the available workforce out of season,
- salaries are precarious and intermittent in nature, this phenomenon being exacerbated by a lack of labour laws or non-compliance with those existing,
- vocational training is underdeveloped for professions practiced in rural areas and levels of skill and human capital are lower in rural areas than in urban areas,
- the weakness of the economy is often linked to an infrastructure deficit that makes rural areas unattractive for a possible redeployment of new activities,
- Underemployment related to seasonal activity, however, could become an advantage for agricultural pluriactivity, free from many constraints.

In the southern and eastern countries, many young rural people seeking jobs migrate to urban areas where the unemployment rate may already be high[6]. Maintaining employment and incomes in rural areas, creating alternatives outside the agricultural sector in the rural non-agricultural economy becomes a priority for all of the SEM countries if agriculture can not provide jobs to cope with population growth.

Total and rural unemployment in Mediterranean



The example of Algeria illustrates this phenomenon. Rural unemployment, which exceeds 40%, forces migration to urban areas where unemployment is already high, affecting housing demand. This is consistent across the countries of the south coast with varying amplitudes in each country. Creating jobs and income in rural areas becomes a priority which should be dealt with as a matter of urgency in plans for the development of rural areas in the south.

North of the Mediterranean, especially in the 27 EU countries, rural areas represent over 90% of the land surface and 50% of employment. There is however a sharp decline in agricultural employment in rural areas where unemployment is higher than in urban areas. This unemployment particularly affects young people.

Initiatives to develop the rural and non-rural economy in the northern countries in the last 20 years driven by the EU have been largely supported by the CAP. They have brought some solutions in the north but are they transferable to the situation of the SEMs?

6 Radwan. S. Rural youth unemployment and coping strategies in the north east and north africa region, Rome. Ifad. 2007.

The workforce in rural areas in the north of the Mediterranean is increasingly older and undertrained. In these rural areas, agriculture is losing 2-3% of its employees per year, but this decline in the working population is socially acceptable, because it is often accompanied by compensation policies that are still lacking in the south of the Mediterranean. The employment policies implemented in the European Union and in particular the actions of the CAP are at the heart of structural initiatives. Priority is given to rural revitalisation and regional cohesion to reduce the development gap in "disadvantaged" rural areas and the promotion of regional projects.

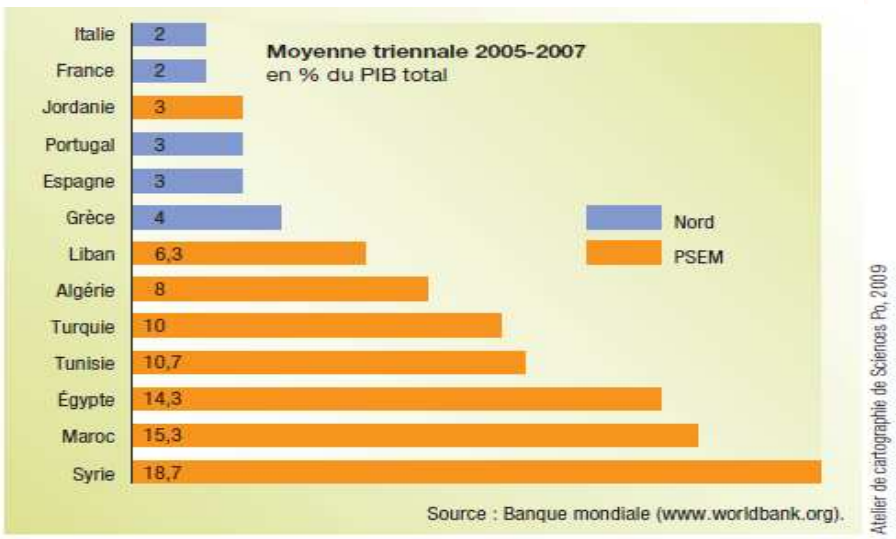
In the northern countries, policies combine different types of instruments, the most important concerning vocational training. Other instruments complement these in the form of support to rural areas and diversification of financial instruments enhancing the effectiveness of these policies. All of these enable diversification in the agriculture type and the form that entrepreneurship takes for non-agricultural activities: the sale of agricultural products and processed products in small circles, tourism, recreation, activities relocated to rural areas, and creation of goods and services associated with these goods. The different generations of the LEADER projects in Mediterranean Europe have led to the creation of rural enterprises that are more independent and sustainable, well beyond the agricultural sectors - in environmental services, heritage. Which elements of these situations can be reproduced in the south and east?

3. The issue of agriculture and food remains central in the Mediterranean, but the economic and social importance of the sector is decreasing.

In a socio-demographic context marked by a growth in urban food demand, Mediterranean societies in the SEM countries are still under the influence of the rural sector whose gross agricultural production is still important in the south for the gross domestic product. However its economic importance declines more rapidly in the south than in the north.

In 2005, Syrian or Albanian agriculture contributed to ¼ of the total national value added, that is 10 times more than that of France or Italy. In 2007, with an annual growth rate of 2.1%, Albanian agriculture still contributed to over 23% of the national GDP (32% in 2001). Looking at another area, growth in agricultural production in Morocco, in terms of average annual growth, decreased from 10.6% for the period 1985 -1991[7] to 0.25% from 1991 to 2004. In Greece, the GDP for agriculture decreased from 11% of the total GDP in 1995 to 4.5% in 2007. So it was in Turkey that the decline was fastest relatively, the annual GDP decreased by 18% between 2001 and 2005.

Agriculture in the formation of the GDP, three-year average 2005-2007, %



Source: World Bank (www.worldbank.org).
Cartography Studio, Sciences Po, 2009]

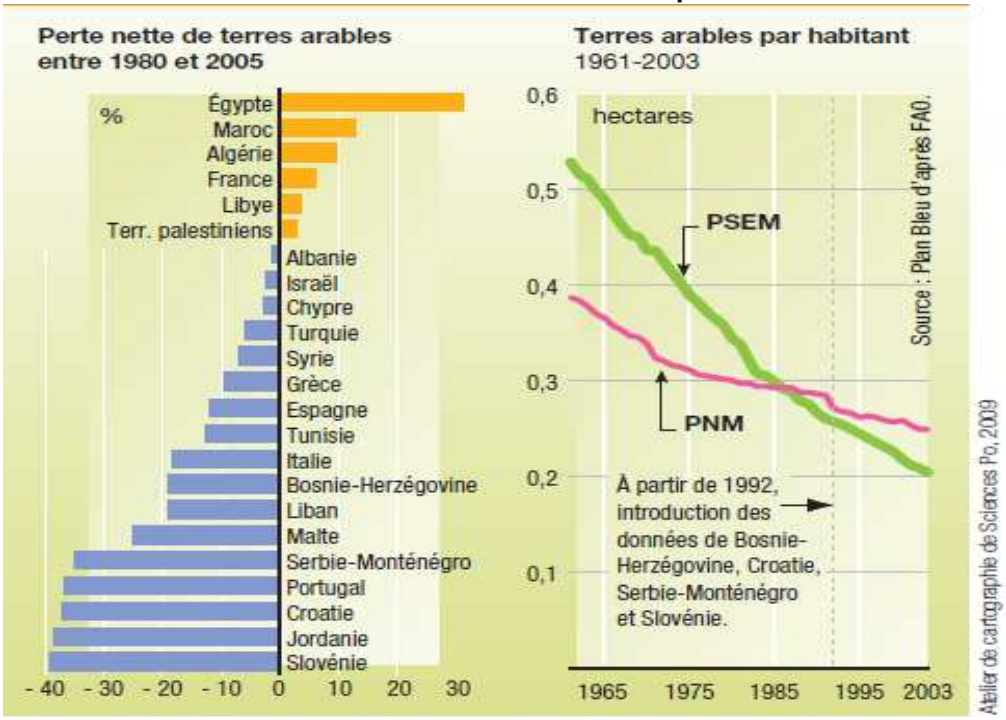
7 World Bank, World Development Report. Agriculture for development, Washington (D.C.), World Bank 2008.

This share of the agricultural GDP which is still a significant part of the total GDP, often increases in years of high rainfall and decreases in years of drought. The substantial but fluctuating part of the agricultural economy in the global economy of the SEM countries is also due to a lack of growth in other economic sectors. The asymmetry of the situation of the SEM countries compared to the Mediterranean countries in the European Union is not only marked by the relative importance of the agricultural economy. It is accentuated by the ability of the agriculture sector in the countries of the north bank to contribute to the development of food industries with high added value.

4. Demography and climate change exacerbate the pressures on available resources, should more be produced on less land?

The aridity that characterises many Mediterranean countries naturally limits farming possibilities...The percentage of arable land varies from 30% and upwards for France and 5% for Egypt, Algeria, Jordan and Libya. The improved land and irrigation of new land areas enable Syria and Egypt to slightly increase the area of arable land. But overall, for both SEM countries and the Northern Mediterranean Countries (NMC), population growth is leading to a decrease in arable land per capita which requires an increase in productivity per available hectare to offset this increased pressure on available agricultural land.

Net loss in arable land 1980-2005 **Arable land per inhabitant 1961-2003**



From 1992, data introduced from Bosnia-Herzegovina, Croatia, Serbia and Montenegro and Slovenia [Cartography Studio, Sciences Po, 2009

Losses of arable land due to eviction from land and natural events associated with aridity (winds, heavy rain...) are exacerbated by inadequate cultivation and pastoral practices which are responsible for erosion. Salinisation of soil through irrigation with ground water laden with minerals or reservoir water, where intense evaporation concentrates the salt in the water, combined with pollution, the use of pesticides or fertilisers, leads to a loss of land due to it becoming unproductive.

5. As water resources are becoming increasingly scarce, a supply-demand discrepancy leads to tensions and shortages

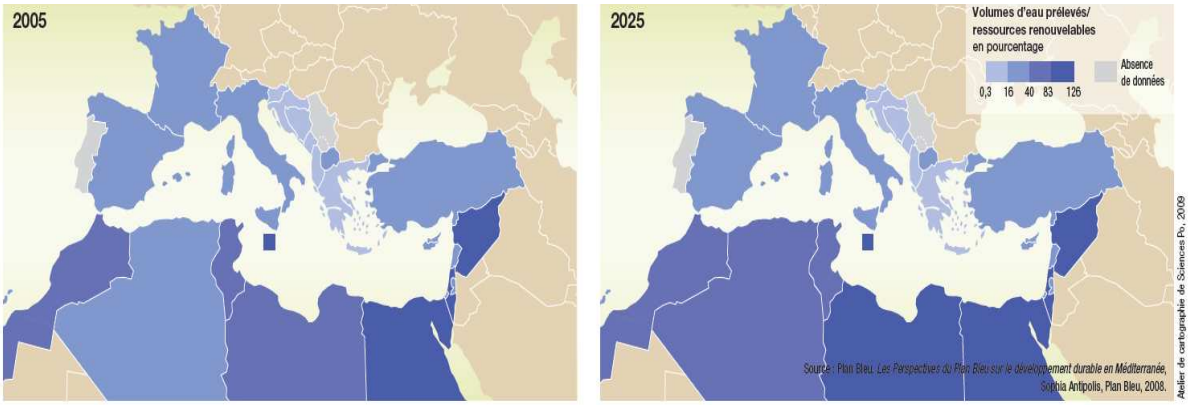
The pressure on water resources (in the Mediterranean, 80% of the demand for water is for agriculture) and land (0.55 ha per capita in 1960 to 0.30 ha in 2005) in a context of negative effects of climate change on agricultural production makes it more difficult to solve the issue of food security in the Mediterranean: feeding more people with less water and soil with a growing productivity gap between the north-south and east. Performance is difficult to maintain in agriculture, which is irregular and punctuated by erratic weather conditions.

Irrigated areas doubled between 1965 and 2005. They then reached a total area of 24 million hectares[8]. Major agricultural hydraulic programs have been launched in most Mediterranean countries with increases in surface area in: Turkey (+3 million ha), France (+2), Spain (+1.5) and North Africa (+1.5 with 0.6 in Morocco and and 0.3 in Algeria).

Gravity irrigation practices remain dominant in the Mediterranean[9], localised irrigation systems and sprinklers which consume less water are developing, but overall the overall physical efficiency of irrigation water shows losses of water in irrigation systems of 52% for the NMC countries and 44% for the SEM countries[10].

The analysis of exploitation indices for resources in natural renewable water, which measure the ratio between the volumes sampled and the volumes available and their change between 2005 and 2025 by country, led to the finding of a predicted shortage[11] for the majority of the SEM countries. A more detailed regional analysis shows that this could become a reality in many coastal regions of northern countries.

Index of exploitation of renewable natural water resources, volumes of water sampled/renewable resources, %



Source: *Plan Bleu. Les perspectives du Plan Bleu sur le développement durable en Méditerranée (Blue Plan, Perspectives of the Blue Plan on Sustainable Development in the Mediterranean)*, Sophia Antipolis, Blue Plan 2008

Cartography Studio, Sciences Po, 2009

The north bank states must also cope with situations of hydric stress in economic systems based on tourism and urbanisation, as well as intensive agriculture that is a major consumer of water without paying the real price for it. The supply of water in the Mediterranean in the northern countries, just as those in the South cannot accommodate an unlimited demand indefinitely in a context of irregular rainfall compounded by the different climate change scenarios for the Mediterranean. The Catalan example[12] illustrates this tension which could deprive Barcelona (headquarters of the secretariat of the MFU) of water, and which could result in potential conflicts between autonomous communities.

8 24 million hectares: 13 million in the SEM countries and 11 million in the NMCs

9 100% of Egypt's cultivated land is under irrigation. Unique situation in the Mediterranean.

10 Total Physical Efficiency: transport efficiency x irrigation efficiency. For one country, Syria , irrigation efficiency rose from 50% with traditional gravity irrigation to 78% with spray, to 88% with localised drip irrigation. IAMZ Data 2007 - Abed Rabboh.

11 See PAM data and Blue Plan in Mediterra 2008.

12See the squabble over water in Catalonia. J.P. Nicol. Le courrier de l'environnement de l'INRA (INRA Environment Paper) No. 57. July 2009.

The change in water demand for agriculture in the Mediterranean is not compatible with the change in available resources. The growing shortage linked to exploitation rates that are steadily increasing and the negative effects of climate change will require heavy revision of water management policies by sector of use. Irrigated agriculture in the Mediterranean, the main consumer of water, will therefore become the sector where economisation of water is most important. Revision of water strategies is needed, success or failure will lead to certain crisis or possible development.

6. Fragile agricultural systems, increasingly dependent food security for the majority of the Mediterranean countries.

The performance of agricultural production systems and business results have been following inverse dynamics in the north and south of the Mediterranean since the early 1960s. For the period 1964-2004[13]. The 26 EU countries have stabilised their share of world agricultural imports to around 25-40%. They have doubled their share of world exports from 22 to 45%[14].

The countries in the south and east have experienced the opposite trend over the same period, becoming, since the 1970s gross structural importers of agricultural commodities and food. The deficits in their agricultural trade balances are long-term (more than 8 billion dollars for the SEMs in 2001) with contrasting responses associated with varying abilities to import products from Europe, but increasingly originating from regions other than Europe (60% of agricultural and food imports outside of Europe in 2005).

These countries have become chronically dependent for their food security. In 2004 the negative trade balance of the SEM countries in world agricultural trade reached 9 billion dollars. Turkey is an exception, displaying a positive agricultural trade balance in 2004 of 1.3 billion dollars, providing nearly half of agricultural exports of the SEM countries and importing 22% of the total SEM country imports[15].

Euro-Mediterranean agricultural trade remains highly skewed. While only 2% of agricultural imports and exports in Europe are from the SEM countries, the EU absorbs more than 50% of the agricultural exports from the SEM countries and 30% of their agricultural imports. If Turkey has gradually become an agricultural and food power, Morocco and Tunisia have succeeded, in good crop years (ie years with high rainfall), in balancing their trade balances with the EU while Egypt and Algeria are significant in the overall SEM country deficit.

Privileged exchanges develop between countries. Euro-Mediterranean trade is often targeted. Five EU countries alone cover 75% of agricultural exports from the EU to the SEM countries[16]. The 4 main SEM country exporters are: Turkey 47%, Morocco 22%, Israel 14%, Tunisia 12%. The main SEM country importers from Europe are: Algeria 25%, Turkey 14%[17] and Egypt 13%. Privileged bilateral exchanges have developed between certain countries - Germany/Turkey, France/Morocco, France/Algeria.

There are also specialised Euro-Mediterranean trade exchanges depending on the agricultural specificities of the two banks. Imports from the EU are more than 50% for fruits and vegetables and olive oil (10%) and seafood (10%). The SEM countries mainly import cereals from the EU (16%), dairy products 15% and sugar 8%.

7. Food insecurity following a prevailing dependence on cereals, difficult negotiations for the future

The issue of cereal remains strategic for the SEM countries which have cornered almost 15% of world imports of cereals while representing only 4% of the world population. This structural deficit increases in periods of severe crisis (Algeria, Morocco, Tunisia and Egypt held 18% of the market at the time of the crisis in spring 2008). Import volumes are growing[18] and projections for future years show a growth in imports of cereals for food and feed.

13 FAO data stat 2006

14France plays a major role in this evolution, remaining the second largest agricultural exporter in the world.

15 Data from Mediterra 2008 - Contexte géoéconomique (Geoeconomic Context) - S. Abis, P. White, J. Ould Aoudia.

16 Shares of the 5 countries: France 30%, Netherlands 15%, Germany 12%, Spain 9%, Italy 5%

17 Part of Turkey's cereal imports are processed in Turkey and exported to northern Africa (biscuits, pasta).

18 Between 1965 and 2005, Algeria and Morocco multiplied their net cereal imports by 20. Tunisia by 13 and Egypt by 4. Source: FAO Stat 2006.

In the "North Africa" region [19], consumption of wheat increased sharply again. In six years, it rose from 32 million tonnes (2004-2005) to 40 million tonnes (2010-2011). This growth rate of 25% is two and a half times higher than that seen globally. This continued growth in consumption is double that of production. It cannot be met by imports, whose prices will continue to increase. How to ensure access to food for the poorest populations in the Mediterranean will become a strategic problem to overcome for most countries in the south.

In the trade negotiations between Europe and the Mediterranean since 1995, the agricultural issue is still a delicate subject. It was not dealt with in EU/SEM country relations until 2002. The free trade area is organised for industry, it is not used for agriculture for reasons of competitiveness for industries developed in the north and south (fruit and vegetables, olive oil). The first Euro-Mediterranean conference in Venice in 2003 opened the matter that was firmly on the agenda of the relaunced Euro-Mediterranean partnership in 2005. Since then, bilateral negotiations (EU countries) are under way with Tunisia and Morocco and other countries, but they often lead to the establishment of non-tariff barriers under the guise of quality and safety of products imported from SEM countries.

Scenarios for the future of Euro-Mediterranean trade depend on the results of several ongoing negotiations[20]. The agricultural opening of the SEMs envisaged in the context of WTO negotiations should guarantee objectives that are always compatible with those of other negotiations. How to maintain trade preferences for access to the European market while safeguarding trade in goods where the SEMs are not competitive?

The ongoing negotiations for a new CAP in Europe from 2013 could greatly impact the development of agricultural production in the SEM countries if, for example, the prospect of opening and liberalisation of trade continues with the implementation of reforms of the common market organisations such as wine, fruit and vegetables.

These important elements of the Euro-Mediterranean regional situation will strongly influence the sequence of different scenarios for the future of the SEM countries.

8. Diet and consumption habits that are changing quickly for a population which is becoming rapidly urbanised.

The Cretan food model, created long ago provides many nutritional benefits that have a strong impact on the health of consumers who combine the Cretan diet with regular physical activity. The variety of the Mediterranean diet coupled with many conservation and cooking techniques characterises a Mediterranean lifestyle which originally combined frugal meals, conviviality and cultural tradition. The division of the basic diet components (cereals, sugar, fruit and vegetables, milk, meat, fish, etc.) make up three major types of diet in the Mediterranean as compared to the Cretan diet.

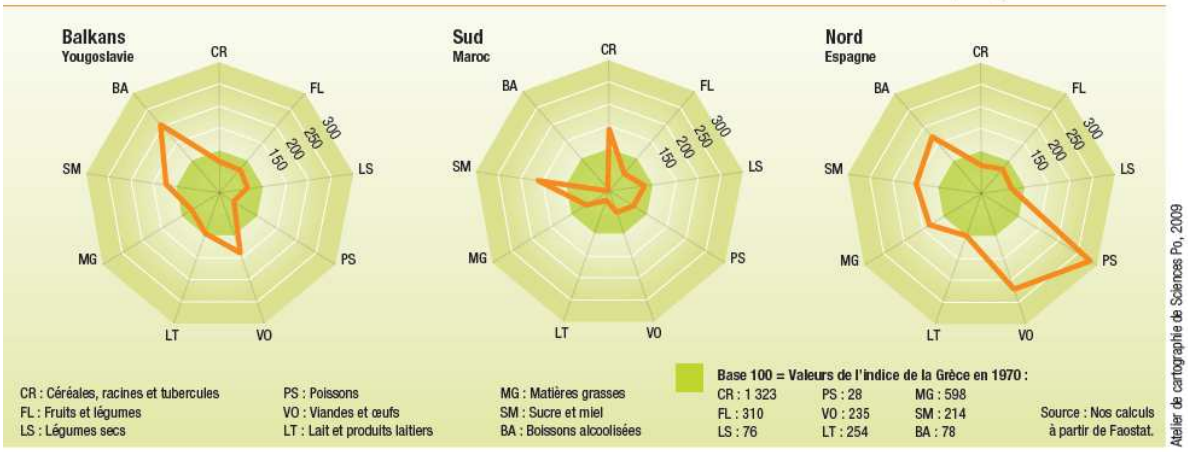
19 North Africa: Morocco, Algeria, Tunisia, Libya and Egypt. USDA data.

20 CIHEAM Analysis notes - May 2006.

La question céréalière : un enjeu stratégique en Méditerranée (The issue of cereals: a strategic challenge for the Mediterranean). B. Hervieu, R. Capone, S. Abis, June 2006.

L'état des lieux des échanges agricoles euro-méditerranéens (The state of play of Euro-Mediterranean agricultural trade). F. Jacquet, Ch. Emlinger, F. Lerin.

The 3 diet types in the Mediterranean compared with Cretan diet, 2003



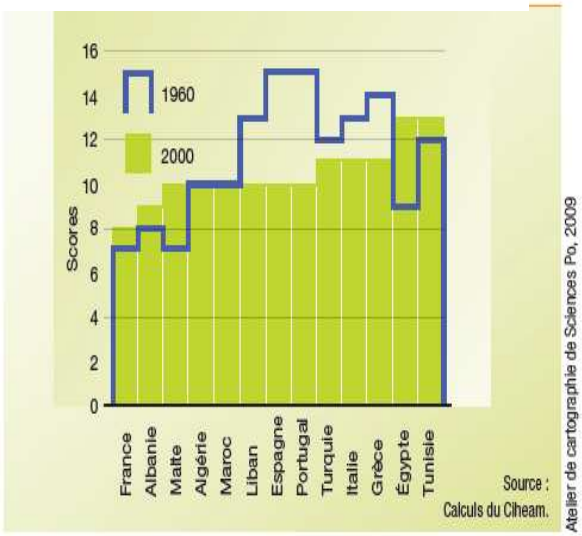
CR: Cereals, roots and tubers
FL: fruits and vegetables
LS: dry vegetables
PS: Fish
VO: Meat and eggs
LT: milk and dairy products
MG: Fats
SM: Sugar and honey
BA: Alcohol
Base 100 = Values of Greek index in 1970

Source: Our calculations based on Faostat

From recommendations on the level of nutrient uptake, a composite index of food quality (IFQ) is calculated from the consumption score[21]. In 40 years, several countries have seen their food quality indicator deteriorate: Spain, Portugal, Italy, Greece, Turkey...others have improved: France, Tunisia, while the FQI of Morocco and Algeria stabilised. This global data on a country level obtained through nutritional surveys, can barely conceal the disparities related to consumer purchasing power and access to certain foods for people who spend 60 to 80% of household budgets on food, as is the case in the north African countries.

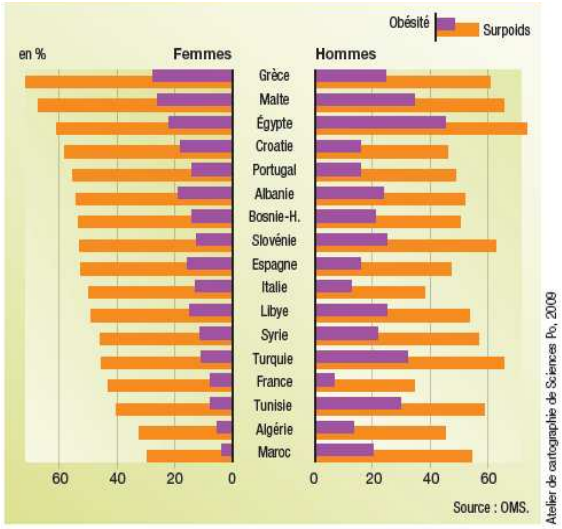
Changes in eating habits in the Mediterranean[22] linked to urbanisation, the feminisation of economic activity, greater mobility, are causing a loss in the transmission of traditional knowledge. Culinary traceability and the increased the number of meals eaten at home, just as the increased consumption of street food, consumption of sugary drinks - all these changing practices affect the health of Mediterranean populations, particularly the poorest. Obesity, excess weight, diabetes, cardiovascular diseases are increasing rapidly in Egypt, Turkey, Morocco, Slovenia and Albania, in both men and women.

Indicator of Food quality, 1960-2000



Source: Cheam calculations
Cartography Studio, Sciences Po, 2009

Obesity and overweight in the Mediterranean, 2009



Source: WHO

21 The score varies from 0 to 2 for each variable: eg. consumption of olive oil in g/day: from the least satisfactory: <5g = 0, 5 to 15 g = 1, to the most satisfactory > 15g/day = 2.

22 Comportement et sécurité alimentaire en Méditerranée (Behaviour and food security in the Mediterranean). Padilla M. Futuribles, January 2009.

These diseases are linked to malnutrition and nutritional deficiencies...Future proactive public health policy focusing on providing information and prevention in terms of nutrition and food should further modify the eating habits at the origin of these new non-communicable chronic diseases and return to the Cretan diet which is now far from the current habits....

9. A Mediterranean with an uncertain future: several scenarios are possible - from the worst to the most desirable.

From this overall picture that highlights the fragility of the productive agricultural sector as well as permanent food insecurity, several scenarios can be envisaged. The first scenario is the continuation of current trends that confront the north-south asymmetry and confirm the south shore's dependence on food with the fast emergence of crises correlated with rising food prices and the continued marginalisation of rural areas in Mediterranean countries. This scenario should be avoided[23] if the trends described continue or accelerate. Food crises lead to economic and social crises...the results of crises and democratic transitions can then open the door to other scenarios.

The second scenario is the emergence and differential integration of some countries of the south and east in the global economy (Morocco - Tunisia - Turkey) catching up with the northern Mediterranean countries falling behind in their European goals (Greece, Portugal, Italy...). Mediterranean agriculture in the north and the south is increasingly challenged by imported products from Latin America and Asia. Poorly protected quality chains are also faced with competition from labelled chains from North America or South America and Australia. Food security is provided temporarily for some southern countries if they manage to contain the growth in cereal demand and manage water demand for agriculture.

The third scenario, held to be desirable, is convergence based on the desire of Mediterranean players for strong change with implementation of agreed policies for investment in rural areas to boost Mediterranean agricultural production. This boost must be accompanied by agricultural policies to control fluctuations in agricultural prices. Better coverage of food safety is thus ensured by the provision on domestic markets of quality products and services supporting production and the economy in rural areas. This is the scenario of a Euro-Mediterranean food security pact.

These different scenarios will be quickly raised in light of the essential diagnosis of the state of Mediterranean agriculture and food systems. The last scenario of convergence for a better control of food security involves many prerequisites that are shall be presented showing the measures for implementation and and actions necessary.

10. Major trends, quantitative and qualitative approaches, some data for the future

Some numerical approaches are needed to better outline the possible evolutions in the major variables used for food security, distinguishing for analysis: quantitative food security related to the energy content of the daily diet and qualitative food security correlated with food security and nutritional value aspects[24] - energy of the products on the market.

The changes in food availability (CFA) used by countries for the quantitative approach are not available for all Mediterranean countries. The analysis of the CFA, when available, for example for Tunisia, shows the impact of food aid programs and the fight against poverty[25] over 40 years, from 1960 to 2000, the CFA was just over 3000 kcal/capita per day in 2000.[26].

Available data and updates concerning the quantification of food resources for the region of North Africa and Middle East[27]. It is calculated from the amount of plant, animal and aquatic calories [28] available. The

23 Update: this occurred in Tunisia on 14 January 2011 and Egypt on 11 February 2011.

24 See point 8 of the food quality indicator.

25 To better take into account food security: Actualisation concertée de la politique agricole, Ministère de l'Agriculture-AFD Tunisie-CIRAD-GRET-IRAM, Nov 2010 (Update in agricultural policy, Ministry of Agriculture, Tunisia).

26 The intake was less than the quantities available. Individual energy needs vary between 2000 and 3000 kcal/day according to gender, height, weight, physical intensity of activity carried out...

27 Millennium Ecosystem Assessment - MEA - 2005 which proposes different scenarios for the future based on the weight of the issues of globalisation and regionalisation and the capacity to tackle environmental aspects related to development.

calculation of available plant calories links per capita calorific efficiency hypotheses and cultivated land for food production. The available animal calories are calculated, first from proteins produced by fodder production and thus the evolution of fodder land on the other hand, the production of protein from animal feed (sensitive to changes in grain prices in general for imported by the SEM countries). For aquatic calories, the assumption is that resources from regional production cover regional needs.

The evolution of these different interacting variables (which makes it difficult to build up detailed scenarios from the quantification of food resources), however, means that the evolution of major trends from the data on population, area available, regional crop yields etc. can be outlined.

Regarding the evolution of the population, specialised scenarios detailed elsewhere are referred to. The overall figure is 500 million people in the Mediterranean for 2030. The average hypothesis used is that the level of food consumption reached would be 3000/3300 Kcal/day/person according to the diet specificities of each country (see point 8). Food consumption is derived from economic growth under different scenarios[29]. This overall average availability does not take into account at this point large intra-regional disparities such as the one related to animal and vegetable foods making up the diet.

To quantify changes in food demand, we will retain the changes in demand for cereals and more particularly the demand for wheat, whose significance has been underlined, given the structural deficit of the SEM countries (excluding Turkey). The need for further work on food demand for cereals for human consumption and animal feed becomes pertinent. Between 2000 and 2030, cereal demand will increase from 85 million tonnes to over 140 million tonnes[30].

The factors limiting the growth of cultivated areas due to the low potential of arable land; water stress probably on the increase due to climate change and loss of areas already cultivated as a result of urbanisation reduces the capacity for the cultivation of new land. The maximum increase of the cultivated area is estimated at +10% for areas under cultivation (food and non food areas) in the North Africa and Middle East zone.

The increase in agricultural production following the increase will translate into increased food calories per cultivated area. This production has followed an annual growth rate of 2.5% between 1961 and 2000, whereas it will grow between 2000 and 2050 at between 0.25 and 1%[31]. Under these assumptions for population growth, changes in the consumption of plants and animals, cultivated area, and yield, the balance sheets show a constant[32] food deficit.

If regional production rose in a steady trend from 40 to 70 MT, the Middle East-North Africa region in 2030 would have to import over 50% of its consumption, more than 70 million tonnes of grain to meet the growing needs related to a sharp increase in meat (+104%) and milk (82%). The Mediterranean region SEMC will, therefore, address this constant deficit importing so to feed its population.

Given the volume of renewable water production in m 3 per capita per year in Maghreb + Mashreq + North Africa and coupled with population growth projections for the period 200-230, the assumption adopted for the same average period with a population increase of 70%, insufficiently compensated by increasing agricultural production by 20%, results in a food deficit of 1150% (see note 25).

This overall aggregate result differs by countries as the balance of trade deficits varies by country. Tunisia in this scenario would occupy a more favourable position[33] with only 27% of additional demand for cereals in the next 10 years and 34% for oils. For the Maghreb region (Algeria-Morocco-Tunisia-Libya) there is an overall increase in imports of 50% for oils, whilst 75% for grain is retained.

For the evolution of food prices, the trend for the evolution of prices of wheat and oil on the futures market[34] strategic raw materials for food security (food, energy). The rapid fluctuation in the price increase is a primary trigger for that riots which have occurred in the Mediterranean since the early 2005.

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28 Agrimonde – Agricultures et alimentation du monde en 2050. Scénarios et défis pour un développement durable. (Agrimonde - Agriculture and food worldwide in 2050. Scenarios and challenges for sustainable development). INRA-CIRAD, 2nd edition Sept 2009.

29 Quantity available (production +/- stocks + imports - exports).

30 Renforcer la sécurité alimentaire dans les pays arabes (Increasing Food Security in Arab Countries). FAO-World Bank Study, 2009.

31 Food yields and annual growth rates in an agricultural forecasting scenario. See note 28

32 The calculation of this deficit is the difference between local production and consumption (food + animal + human + other uses of seed food biomass.

33 Min.Agri.Ress.Hydrauliques et Pêche, Tunisie – Vers une nouvelle stratégie pour le développement du secteur agricole 2008 (Towards a new strategy for agricultural development)– cited in note 25.

34 Data cited by Nicolas Bricas, UMR Moisa-CIRAD. January 2011.

Prices of wheat on the futures market (FT. 28/01/2011 by N. Bricas)

Crude Oil Price (FT. 28/01/2011 by N. Bricas)

The pattern used for the evolution of wheat prices is a steady increase in the long run, however, undergoing significant variations related to the permanent settlement of the price volatility of stocks in the absence of effective regulation[35].

The realisation of these scenarios depends on the ability of Mediterranean agriculture to cope with the fundamental challenges of agribusiness:

- To improve production of food resources:

35 The price of a tonne of wheat stored in Ile-de-France passes for an identical product (same place and same storage capacity) from €130 in July 2010 to €270 in February 2011.

- capacity of agriculture and rural development due to an intensification beyond the growth constraints of cropland and competition on land resources and water
- the ability to produce innovations, the more complex production systems, to manage the demand for inputs, ensuring access to resources and support services to production.

➢ To accommodate the demand for food resources:

- of changing eating habits, the development of institutional policies, controlling the consumption of calories from animal[36] and reducing losses in production chains, processing, food distribution,
- the establishment of new national governance arrangements and interregional secure supplies to regulate markets and prices.

For the baseline and the adequacy of resources and food demands, we will retain, on the horizon of 2030, the following key figures:

- cultivated land: a maximum increase of + 10%
- grasslands: maintained or with a decline of 5%
- forested areas: a decrease of 30%
- a rainfall deficit of + 10% to + 20%
- rate of increase in food yields per hectare: from +0.25 to + 1% per year
- Agricultural production increased up to 20%
- human food consumption 3000 K cal/cap/d including 2,500 plant and 500 animal
- food yields kca/ha/day: 14 500
- increase in overall food deficit of more than 100% (doubling)

11. The scenario of convergence to the bottom and break (S1)

In this scenario the previous trends are confirmed and accelerated, the successive crises with a rise in prices of agricultural commodities and food products that will be sustainable. These higher prices will be accompanied by strong variations related to active speculation and a lack of food stocks for regulating minimum prices and food security stocks.

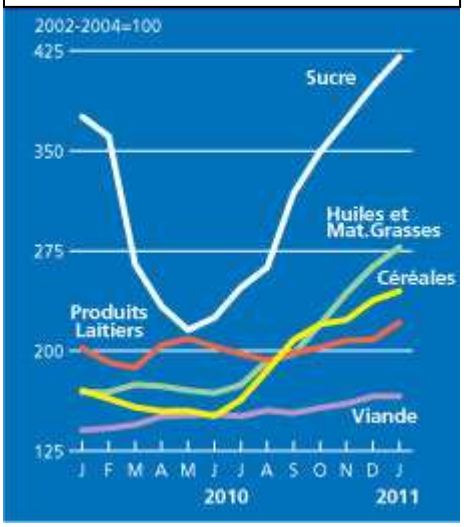
The first part of this scenario is currently playing out, the evolution of food prices according to the FAO index[37]. At the start of 2011 this index has risen every month for 7 months. It was up 3.4 in January 2011 and reached 231 points, its highest level since 1990, the inception date of the index.

36 Significant decrease for the countries of the North Shore

37 Http. / / Www.fao.org /worldfoodsituation /foodpricesindex

AO Index for food prices

Food commodity price index



Sugar

Oil and Fats

Cereals

Milk Products

Meat

The price of food soaring in 1 month (sugar: + 5.4%, oils and fats: + 5.6%, cereals: + 3%). If the price of meat at the global level remains stable, this is due to lower prices in Europe[38]. The food crises then settled permanently and States respond individually to the crisis of Tunisia. Beginning in January 2011, Algeria buys 1 million tonnes on the international market[39]. Morocco launched on 12 January 2011 a tender for 150,000 tonnes of wheat and 100,000 tons of barley; Libya 100 000 tonnes of wheat. The tensions accelerated on the market because of uncoordinated national policies.

Food insecurity may then be transformed into high vulnerability and food crises, related riots and other crises....

If world prices of agricultural materials globally increase, the ripple effect of prices in the Mediterranean on agricultural income is lower for family farms in the majority in number of farms and in agricultural assets working in or for these farms focus mainly on the production of food crops combined with subsistence farming and dry tree crops.

Trends continue, this scenario leads to the gradual abandonment of cereal crops in areas where climatic conditions are too strong, in a context of accelerating trade between North and South, in an open unregulated market, the collapse of rainfed (non-irrigated) agriculture from the South Bank and the Middle East. Agriculture in the MENA countries, except for some export sectors to the north shore of the Maghreb, Israel and Turkey, lose their competitiveness on foreign markets as domestic markets.

In this scenario of convergence and downward acceleration of the trends identified for the reference scenario, access to water resources, leading to conflicts. The increasing demand for agricultural water is no longer satisfied with a limited supply without the possibility of increasing or improving irrigation efficiency (losses, surface irrigation development without significant remaining majority of drip irrigation)

The deficit of professional organisations, associations or unions of farmers cannot organise access to support services for agriculture and the market. Small farms, technically framed, living off transfer incomes and multiple jobs are able to ensure their survival. The agricultural sector's business increasingly dominated operators non-agricultural land ownership concentrated primarily on communal lands and State areas[40] and may proceed with its modernisation by improving yields and overall production. In the same period smallholder agriculture saw its population increase, migration and emigration no longer absorb the dreams of the population. These small farms decapitalise their physical and financial land resources and pressure on natural resources increases, so ... we are witnessing the spread of poverty and social and regional inequalities.

38 A lowering of prices following the crisis of confidence in December 2010 and January 2011, consumers associated with the consumption of livestock feed (Germany) offset by higher export prices by the U.S. and Brazil.

39 Order of 6 January 2011 after five days of 'riots in the cost of living in Algeria, followed by purchases of 600,000 tonnes of milling wheat and 50,000 tonnes of durum wheat in mid-January 2011.

40 Mediterra 2008: In the Maghreb area 1.5% of total holdings are larger than 50 ha and account for 20% of the cultivated area. 2 of 3 operations are under 5ha.

The rupture scenario is thereby reinforced with forced migration, uncontrolled migration, asymmetry and imbalance. The North Shore trying to get out of the economic and financial crisis (more marked by the Mediterranean countries of Europe than the countries of the north) can invest in policies to mitigate the drop in these asymmetries ... The fall of FDI observed in the Mediterranean in 2008 and 2009 is confirmed whilst the period, as the decline in remittances from expatriate workers and the reduction in tourist flows

The decline in exports[41] accompanied by rising unemployment and inflation. Budget deficits are growing with annual growth rate of GDP slowing with bringing spending from 5% for the Maghreb countries to less than 3%.... The construction of a Euro Mediterranean economic space disappears for a long period.

12. The divergence scenario, a disparate inclusion in the global economy (S2)

The Euro-Mediterranean Partnership in this scenario subsists in a free market economy open to the world. The free trade agreements with Europe, negotiated by individual countries with Europe, grow asymmetrically but with more benefits for the river's north shore than its south. These agreements continue to exclude agriculture and ultimately prevent the massive expansion of exports from the south and east to Europe. This asymmetry in favour of the North is increasing the extent of regional integration south-south or south-east still cannot see the day in the absence of political will of governments in power who prefer isolated negotiation and the status quo to a regional agreement.

The negative impact of blocking boundaries[42] with transaction costs between the Maghreb countries with higher transaction costs to Europe, do not promote regional integration. This lack of common approach is highly prejudicial to the Maghreb countries, for example in their negotiations to purchase grain on the world market given the weight of imports Total imports of wheat at the height of the crisis of 2008 combined for Algeria, Morocco, Tunisia and Egypt account for 20% to 25% of world imports of cereals.

In this context trade with the EU SEMC continues to decline. Brazil reinforces itself as a partner of the Mediterranean countries. Mercosur strengthens its alliances and negotiating agreements with Egypt, Morocco and Turkey. The agri-food exports from Brazil to Egypt and Algeria are growing rapidly. Egypt imports nearly all of the meat and sugar imported from Brazil.[43]

Only some Mediterranean countries, foremost among which stands Turkey, in this scenario maintain growth rates of total GDP and agricultural GDP around 5% per year primarily due to the benefit of the mechanised farming sector. For most MENA countries, family farming continues to decline and is marginalised; intensified and mechanised agriculture is developing. The insolvent rural population has more and more difficult access to resources, goods and services, while part of the solvent urban population remains with access to the globalized market, the big retail stores, education and health services. This scenario sees continued urbanisation with a widening gap between coastal and inland rural areas. The southern Mediterranean, to ensure its food security, then turns gradually to other emerging partners, Brazil, China and India, where agricultural production and food eventually compete with those from the North Shore.

A scenario that changes the game, with a gradual convergence to a pact of co-development that enhances regional food security.

13. The scenario of convergence from above, a set of agricultural and concerted multisectoral policies. (S3)

This scenario is built by a voluntary commitment by Mediterranean countries to assume their collective food security policies with concerted and complimentary regional agricultural policies. The evolution towards this scenario implies some prerequisites in terms of sharing common goals of food security, the creation of elements of European and Mediterranean agricultural policies compatible on some key points such as control of agricultural prices, regulation of markets and the constitutions of security stocks for food security. This scenario sees the

41 Exports decline by 21% in Tunisia in 2008 and 18% in Tunisia 2009. Source O. Bessaoud. CIHEAM/IAMM. Seminar GTZ /INRA/IRD Tunis. November 2010.

42 For lasting security in the Maghreb, a chance for the region, a commitment for the European Union. Thomas More Institute. April 2010

43 See Confluences méditerranéennes, la méditerranée sans l'Europe (Mediterranian Confluences, the Mediterranian without Europea N°74. Summer 2010.

realisation of massive public and private investments in agriculture essential to ensure a steady increase in agricultural GDP from 3 to 5% per year.

The investments in the agricultural sector over time should grow at the same pace as GDP growth in agricultural sectors for the mobilization of water resources, transportation and localized distribution of irrigation water but also in strengthening devices on rainfed agriculture and the economy of water resources in farming systems, meaningful grasslands and areas of supplementary irrigation[44]. Agricultural public investment must be accompanied by a reinforcing of human capacities for monitoring the policies in place. These enhancements of human capabilities will facilitate market access for farms weakened by years of structural adjustment policies and policies related to market liberalisation.

Create jobs and income in rural Mediterranean areas - a prerequisite to better ensure food safety; necessitate developing agricultural policy coherence with other sectoral and intersectoral public policies (import controls, tariffs, quotas and tariff measures backup, etc.).

Within each Mediterranean country[45] better coverage of food security therefore means being able to develop an agricultural policy consistent with other public policies. The public and private investment in the productive sector can be upgraded without industrial policy for promotion of local products, bringing international norms and standards for products, processing companies and marketing. The implementation of the scenario of convergence will also require, in the countries of the south shore, to couple to a policy of incentives for production of agricultural GDP annual growth above 3%, elements of general economic policy to support agricultural credit, the setting up of insurance and tax measures such as aid for the storage and production of quality seeds. Access to investment methods and equipment also implies specific allocations to agriculture at subsidised rates managed by professional financial services. The development of public policies in the agriculture and food sector requires the presence of an organised professional sector for partner government and generally contributing to the rehabilitation of public action.

Policies for land records are deemed essential to stimulate investment in the timing and funding of agricultural activity. Complementary environmental policies; sound management of water resources and land, infrastructure policies and transportation planning must accompany the investment policies in the productive sector.

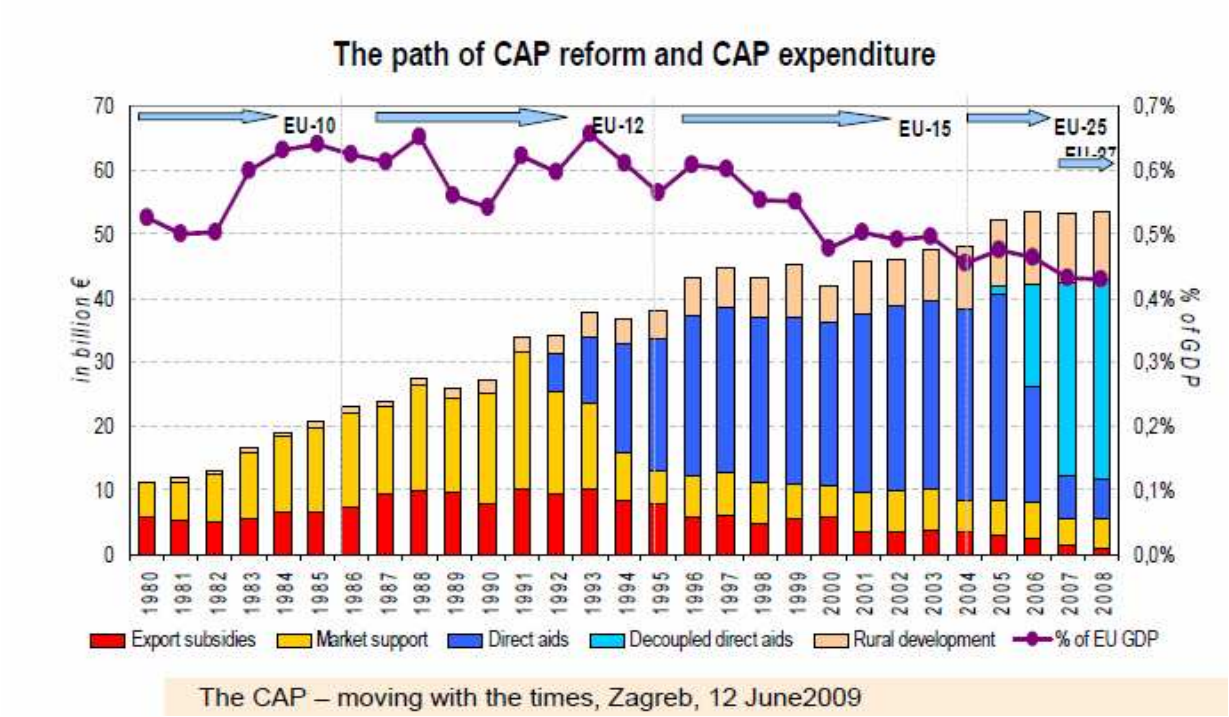
14. Learning from the European common agricultural policy before considering its extension to the Mediterranean.

As indicated by the analysis of integration schemes for agriculture in the European countries of the northern Mediterranean to be gradually extended to the east, these integration schemes require the mobilisation of significant financial resources over time. The northern countries of the Mediterranean, for a successful integration policy have benefited from public policy installed stable over time and receiving massive financial support (45 billion Euros per year for the EU-27 until 2012). It does not seem possible that this provision can be gradually extended to the countries of the southern and eastern Mediterranean when also taking into account the low capacity of these countries to collect taxes to feed a system of coaching and aid to rural development.

Modes of Governance in use, such as lack of appropriate legislation and adjustment devices and upgrade, make the establishment of such provisions barely envisageable in the short term. This context is not one of countries of the southern and eastern Mediterranean. The recent food crises have shown, however, that the established doctrine of risk management without affecting agricultural prices should be questioned. There may be a space for the development of new agricultural policies and food cooperative in the north and south of the Mediterranean, with a significant amount of aid to the rural development sector. These resources allocated to "2 rd pillar" share, which still account for a minority of EU funds allocated by the CAP current could evolve in the next CAP from 2013.

44 These may include provisions for spreading, protection and restoration of soils, micro structures, catchment ponds for supplemental irrigation, etc. ..

45 See a recent analysis of Tunisia cf. Note 25.



A dynamic of this type could be implemented in a concerted manner between Mediterranean countries and the EU Experience Green Morocco plan must be followed carefully with a measure of the impacts of "2nd pillar actions" to restart family farms and create jobs and income in rural areas.

15. A new common agricultural policy, leaving room for the development of Mediterranean agriculture.

Communication from the Commission to the European Parliament in November 2010[46] which follows numerous exchanges and internal and external consultations[47] and public debate offers strategic options for the long term future of European agriculture and rural areas. The proposed new CAP 2013, in its current stage of development, the act of maintaining two pillars to structure a CAP to remain a common policy on strong Europe organised to meet three strategic objectives.

- Ensuring long-term food security of Europe while contributing to global food demand where there is continuous growth. Preservation of food production potential must be done in a changing climate and with increased pressure on land resources and water.

- Support the production of food variety, quality, value-added produced with an approach respectful to territorial development.

- Preserve the viability of rural communities that create local jobs.

These general positioning elements stress the importance of agriculture to the economy and European society with options for reorienting the CAP 2013 budget. The existence of two supplementary pillars is confirmed, the first pillar offering market measures and direct payments but more ecologically based and more equitable than at present. The 2nd pillar proposes multi-annual measures of rural development but they are more oriented towards competitiveness, innovation and the environment in a climate change context. These guidelines are consistent with the priorities of development of Mediterranean agriculture, although the drafting of the future CAP does not include any measures of the impact of future CAP on trade in goods between the Mediterranean areas in the north south and eastern Mediterranean.

16. A Neighbourhood Policy: no membership or association, enhanced cooperation as a priority for the convergence of health standards

[46] See Communication - COM (2010) 672 final.
[47] Brussels Conference on the future CAP 2013 16 July 2010.

The European Neighbourhood Policy aims to provide greater economic integration between the EU and its neighbours including Mediterranean Partner Countries (MPC) members of the Barcelona Process. This policy, different from a policy of expansion, seeks to establish closer cooperation with no prospect of accession. It therefore provides a status less than membership but more than that of the association, to countries that commit to a series of policy and institutional reforms, primarily aimed at promotion of Mediterranean agricultural products to markets export but also for domestic markets.

For PPM, the convergence of health standards with those of the EU becomes a must for all products they export to the EU and especially for fruits and vegetables, which represent 56% of exports destined for Mediterranean countries EU (25) in 2005-2006. The low current capacity of PPM companies to control the quality of health products is often an argument used to oppose the liberalisation of trade in agricultural and food products. Reforms that would create health agencies are required to address these new non-tariff barriers, they involve the compliance of national legislation with international commitments, but also the accountability of private actors themselves, the promotion of quality and traceability, ensuring an improved product competitiveness in domestic markets. In this context, it becomes essential to develop a concerted effort between the north, south and east for a provision for promoting the quality of products based on such a network of laboratories to characterise, validate and certify the sanitary quality of agricultural products and Mediterranean food for the domestic market and export markets. Health regulations are central features of food safety in Europe for public or private traders, mainly from the retail sector. The European Food Safety Authority (EFSA) was established in 2002 to assess existing and emerging risks in food. Its scientific work and results in which it publishes the advice should help decision makers in the adoption of EU legislation on food safety of animal and plant products. The creation of a common area for agricultural trade and food between Europe and the Mediterranean necessitates the introduction of legislation where future movement with less distortion than present. This convergence of food standards between Mediterranean partner countries (MPCs) and those of the European Union can help accelerate the modernisation of sectors of the MPC and contribute to the progressive creation of a Euro-Mediterranean Partnership. This will involve the mobilisation of resources for specific layouts compliance, for the consolidation of financial capacities and the strengthening of technical skills. It will also extend beyond institutional constraints relating to the quality of products traded health and organisation of courses in the MPC.

17. Initiate public policies to stabilize food prices and regulate markets.

A major factor of food security lies in the instability of agricultural prices and it is often a result of speculation and anticipation of incapacity of actors in the agricultural and rural worlds. The use of different instruments to manage this instability becomes indispensable[48], or by stabilising prices, either by better control of market risks, using instruments combining market regulation and public intervention. Public policies to stabilize food prices cannot be conceived only in the medium and long terms. These public policies combined arbitration, hedging against risk, insurance schemes and transfer measures. Temporary controls on production by regulating imports and exports must be designed with the establishment of quotas for imports and exports. Modernising production systems, adapting to climate change, investing in the productive sector in the processing and marketing means to control the stability of prices at different levels. The modernisation of production structures and being increasing environmentally friendly is one form of stabilisation.

Complementary public interventions strengthen control of the process of speculation by recourse to international markets or the management of stocks. Export controls in times of crisis can also help improve the management of physical inventory associated to the mechanism for variable levies on imported goods which can also help offset the excessive price fluctuations. It is a set of measures for stabilizing intervention which must be put in place to reduce risk and anticipate future interventions, they articulate: control prices and markets, incentives to production for the domestic market, strengthening professionalisation of chains and POs. All these

48 See Volatilité des prix internationaux agricoles et alimentaires et libéralisation en Afrique du nord (Volatility of international prices and food and agricultural liberalisation in North Africa). François Lerin, Sylvaine Lemeilleur, Michel Petit, in perspectives des politiques agricoles en Afrique du nord (Prospects of agricultural policies in North Africa). CIHEAM / AFD. Options méditerranéennes. N° 64. 2009:

elements of agricultural and food policies implemented in a concerted manner between the northern, southern and eastern Mediterranean could be a genuine rural co-development pact with mutual benefits.

It would then be possible to accept some form of protectionism on a transitional period to help consolidate the income of farmers with access to local markets at profitable prices. Control provisions developed in the north and south would regulate markets and promote agricultural production to ensure quality jobs and incomes in the rural interior of southern and eastern Mediterranean.

In this context the setting up of stocks for "Euromed" grain could be organised to make emergency responses more effective. Inventory policy, including the Mediterranean ports, could be revived in a concerted manner between the riparian countries. The cereal fields of the north bank could establish a partnership with the South and East on the basis of a comprehensive agreement that guarantees the northern countries an opportunity, cons in part, the northern countries would ensure food security a mechanism for management of shared stocks. Such a project in the long term (5-10 years) would make sense at geostrategic level. Over a period of 20 to 25 years, it will feed a hundred million people around the Mediterranean. This implies in particular for Europe to engage in building a partnership to support the reform of agriculture in developing countries in the southern Mediterranean through transfers of resources as was done for the Eastern European countries.

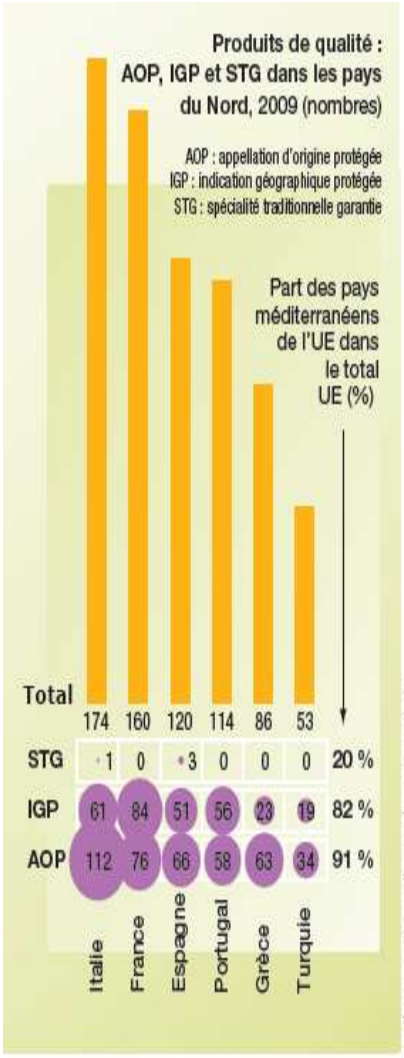
18. Possible ways of "integration" and common organisation, a few lines of convergence of agricultural policies for priority sectors

The fruit and vegetable sector remains the major potential trade between the north, south and east, to the extent that the grain sector is structurally a diversified sector of import to the "South" from the "North ". The development of a dynamic co-Euro-Mediterranean Development would build an organization of production and trade of Mediterranean fruit and vegetables that can be later extended to other sectors. The objectives of this organisation could be formulated as follows:

- Create jobs and value added by domestic and international trade by promoting quality and Mediterranean origin and consolidation of the Euro-Mediterranean partnership business.
- Boost consumption of fruits and vegetables in Mediterranean offering quality products from the certification procedures at acceptable prices and awareness of nutritional benefits of fruits and vegetables.
- Control the adverse effects on the environment by developing integrated production and biological outcomes of ecological intensification and valuing the expertise and innovations available.
- Reduce emissions of greenhouse gases and particles at high environmental footprint by reducing road transport South-North and North-South by incorporating elements of eco-conditionality in trade.

In a Euro Mediterranean space which would share a minimum of common rules with an established quality assurance of products traded; chains of quality products (including the economic impact is increasing in the north) represent a significant potential for development of employment and income in rural areas.

AOP, IGP and STG quality products in the Northern Countries 2009 (numbers)



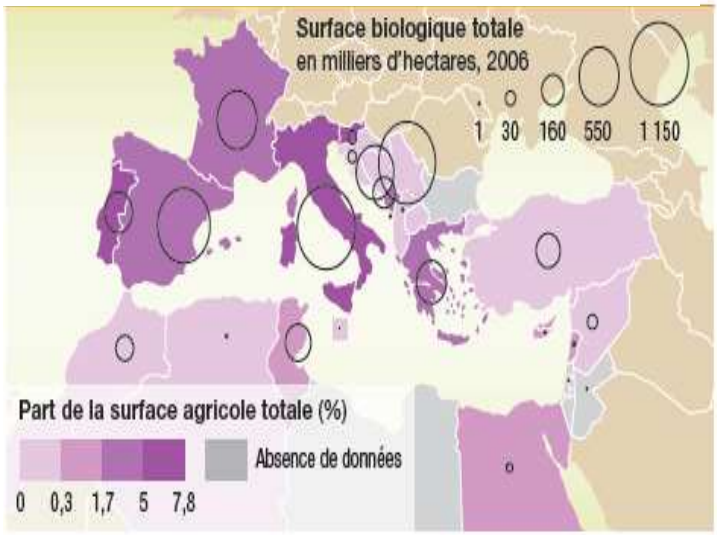
AOP: Product with a protected name

IGP: Protected geographic indication

STG: Guarantee traditional specialty

Proportion of the Mediterranean countries in the EU in the EU total (%)

Organic agriculture and quality products



Total organic surface area in thousands of hectares (2006)

Proportion of the total agricultural surface (%)

19. Better management of risks to food security in the Mediterranean

This scenario of convergence and co-development needs to strengthen risk management of different types that build food security:

- Ensure availability of basic food combining domestic production and import capacity.
- Ensure throughout the year and the length of the available regularity
- Maintain access to food while preserving the purchasing power, transport infrastructure and storage capacity and balanced negotiations between actors in industry from production to consumption
- Guaranteeing the nutritional quality of foods.

To ensure the long-term food security, the process of Euro-Mediterranean cooperation strengthened in the area of food security could focus efforts on a few priorities:

1 - Encourage the integration between local industries and export sectors, exporting firms have expertise in implementing quality standards could be encouraged to disseminate their learning to the domestic market.

2 - Encourage the transfer of know-how in production systems reasoned and expertise of standardization by establishing joint venture producing north-south to the north and south to ensure continuous supply of the same distributors.

3 - Develop a program to support the health standards, targeted for producers identified, adapted to production conditions and sociocultural values of PPM to ensure an active contribution to the development of these standards.

4 - Start certification programmes for origin of products and to recognize these labels between countries adhering to these provisions. Encourage North-South partnerships and create joint ventures capable of organising the complementarities in the production schedule and diverse ranges of products.

5 - Invest significantly in the production of innovations and technical and managerial skills in export sectors such as traditional industries whose products are destined for domestic markets. These provisions, built on the diversity of agro climatic Mediterranean agriculture, enhancing the quality of their products based on the considerable potential for development of domestic markets.

7 - Mastering better price volatility through mechanisms of control of markets tightened during speculation using dedicated funds on basic food products.

8 - Training, education for better nutrition. Develop nutrition programs that improve productivity in economic and social development and poverty reduction by improving educational outcomes for health and physical fitness for work.

9 - Building systems to adapt to climate change impacts on provisions built upon mutualised insurance and risk management related to aridity by developing production systems adapted for saving water resources and enhancing the work and local know-how.

10 - Strengthening the development of knowledge and data useful for the development of networking Euro-Mediterranean education and research cooperation. Connect universities and research systems on the life sciences, creating centres of expertise with a regional distribution teams (North Africa, southern Europe, Mashreq, Balkans ...) supporting targeted programs on priorities defined in common assigned to faculty members qualified Euro-Mediterranean and can move more freely between the northern, southern and eastern Mediterranean.

20. the Mediterranean spring and food safety, a utopia, new opportunities??

Climate uncertainty always leads to some caution in the Mediterranean on the sustainability of positive developments, wet and green springs are sometimes followed by dry summers not confirming the promise of spring. Revolutions are long processes involved in stabilising a positive impact but are expected vis-à-vis food security concerns of possible new opportunities for promoting efficient regional cooperation south-south and south-east a prerequisite for strengthening the Euro Mediterranean area.

Virtually nonexistent trade among the countries of the south bank could boost local productions, regional markets, jobs and incomes in rural areas. GDP gains from the actual reduction of corruption, invested in dynamic reduction of food insecurity could accompany new dynamic regional resource management[49] to develop agricultural production. A regional system of financing local development would support and stabilize the positive dynamics of rural economies in the non-farm rural Mediterranean areas.

In this context of openness and strengthening of possible cooperation, the Union for the Mediterranean, currently broken, could relaunch itself by placing food safety and the right to food among its priorities[50]at the risk of observing the strengthening of the role of other non-European players who have seen the issue of an active partnership with the Mediterranean again becoming an important element in the global arena.

49 The image of the international institutions for managing resources in fossil waters ih the Eastern Maghreb or in the Middle East.

50 L'Europe gardera-t-elle ses paysans ? (Does Europe keep its farmers?) A perspective on the reform of the CAP . Henri Nallet , Jean Jaures Foundation October 2010.