



# Les Notes IPEMED

ÉTUDES & ANALYSES

N°6 JANUARY 2010

Jean-Louis Rastoin

MONTPELLIER SUPAGRO-UMR MOISA

Foued Cheriet

INRA MONTPELLIER

## S O M M A I R E

<b>FOOD SECURITY: A DIAGNOSIS</b> .....	2
Massive imports .....	5
Increasing pathological risks .....	5
<b>STRATEGIES TO PROMOTE FOOD SECURITY</b> .....	8
Adjust imbalances between supply and demand .....	5
Restructuring food channels .....	5
Strengthen trade in agricultural products and food industry .....	5
The great potential of FDIs .....	5
A badly needed inter-company cooperation .....	16
<b>CONCLUSION: A PRIORITY POLICY FOR ACTION</b> .....	18

# Food Security in the Mediterranean

## A MAJOR GEOSTRATEGIC ISSUE

Food security is tied to the right of every individual to get access to “quantitatively and qualitatively adequate and sufficient food corresponding to the local cultural traditions, and which ensures a physical and mental, individual and collective fulfilling and dignified life free of fear”. However, in the Mediterranean, food insecurity is increasingly prevalent with a high risk of worsening in the next twenty years. While the food production deficit in this region is very worrisome, in the medium and long term, concerns about the increased health risks must be taken seriously by political leaders in Europe and the Mediterranean. Strategies to restore a mandatory level of food security exist and can be deployed as part of binding but stimulating sustainable development policies. They require the strengthening of agricultural and food trade and the increase of Foreign Direct Investments (FDI) in all the sectors involved. Whatever be the solutions, food security should be considered as a top priority for politicians in the Euro-Mediterranean region.



**IPEMED**

INSTITUT DE PROSPECTIVE ÉCONOMIQUE DU MONDE MÉDITERRANÉEN

FOOD SECURITY IS  
A TYPE OF “COMMON  
PROPERTY” THAT  
FALLS UNDER  
GOVERNMENT POLICY

COULD AND SHOULD  
MEDITERRANEAN  
COUNTRIES CHOOSE  
THE WAY OF  
GLOBALIZATION  
OR SHOULD MED  
COUNTRIES OPT FOR  
REGIONALIZATION ?  
THAT IS THE QUESTION.

IN 2008, THE PLANET REACHED the symbolic and troubling mark of a billion malnourished people. However, food security is not confined to the grim count of individuals suffering from unger. The concept is much broader. It is rooted in the “right to food” stated in the 1948 Universal Declaration of Human Rights<sup>(1)</sup>. The right to food is defined as “the right to have a regular, permanent and free access – either directly or by means of financial purchase – to food in adequate and sufficient quantity and quality, compatible with local cultural traditions, to ensure a physical and mental, individual and collective, free of fear, fulfilling and dignified life.” Therefore, food security is achieved when each individual in a given country has access to enough food to maintain a healthy biological and psychological well being. The parameters of this right to food are : economic (household incomes and prices), technical (availability of sought products, according to cultural and social criteria), informative and educational (knowledge of sought after diet in terms of nutritional value and product information).

Food security is thus a type of “common property” that falls under Government policy. A secondary yet increasingly important concept arises in national and international debates, the concept of “food sovereignty”. By “food sovereignty” we mean the possibility for the people and governments to define their food policies, both in terms of consumption patterns and supply strategy. This strategy may be based on domestic supply, i.e. food produced by farmers and agribusiness companies operating in the country and/or imports. In underserved areas like the Mediterranean, this strategy aims to question the origins of a product and how external supplying is done, i.e. : geostrategy. In other words, could and should Mediterranean countries choose the way of globalization (assuming the international market will provide food in sufficient quantities and at low prices) or at the contrary, should Med countries opt for regionalization? (by fostering a close partnership with the European Union to ensure a lasting stability of the food supply).

We will first make a diagnosis and forecasting of food security in the Mediterranean by showing it is unfortunately insecurity that prevails in this area with a high risk of aggravation in the next 20 years. Secondly, we will discuss possible strategies for achieving this in the stimulating, yet constraining context of sustainable development.

(1) “Everyone has the right to living standards adequate for the health and well-being of themselves and their family, including food...” (Article 25 of the Universal Declaration of Human Rights, United Nations, December 10, 1948).

TABLE 1

## Demographic Forecasting in Mediterranean countries

Million of inhabitants

	2010	2030	2010-2030 Growth	
			Absolute	Relative
Egypt	80	104	25	31 %
Turkey	78	92	15	19 %
Algeria	35	45	9	26 %
Morocco	32	39	7	21 %
SEMC (16)	302	378	76	25 %
EU (27)	495	496	1	0 %
Union for the Mediter- ranean (43)	797	874	77	10 %
World	6 896	8 307	1 411	20 %

FAOSTAT © FAO STATISTICS DIVISION 2009, 13 AUGUST 2009, UPDATED 10 FEB 2009

LAND RESOURCES AND  
AGRICULTURAL WATER ARE  
CRITICAL, WHILE FUNDING  
AND MANAGERIAL SKILLS  
ARE OFTEN LACKING  
IN FARMS AND IN SMALL  
AGRIBUSINESS COMPANIES

(2) This will represent a doubling or even a tripling of the corresponding market in terms of value – therefore an opportunity for agricultural and agribusiness companies.

## 1 Food security: a Diagnosis

ACCORDING TO FAO, criteria based mainly on a serving's calorie content, Mediterranean countries are not in critical condition nowadays. Indeed, less than 5 % of the population in these countries is below 2400 kcal/day/person. The billion undernourished people is concentrated in about thirty countries of Sub-Saharan Africa and South Asia. South-East Mediterranean countries (SEMC), however, saw this figure increase following the peaks in food prices recorded in 2007 and in 2008.

### Massive imports

QUANTITATIVE FOOD SECURITY is subject to a «triple purchasing power» according to the theory developed by Louis Malassis: the consumers' purchasing power; the agribusiness companies' purchasing power; the country's international purchasing power.

**The consumers' purchasing power** • The major issue is the reduction of poverty, as food expenditures account for a very high portion of the budget of low income households. But poverty niches are mainly in rural areas: over 50 % of SEMC populations still live in rural areas and between 10 and 30 % of rural populations (compared to 2 to 10 % of urban populations) are below the poverty threshold. A second challenge is population growth. In less than a generation, SEMC will have 25 % more inhabitants (76 million more mouths to feed between 2010 and 2030). **TABLE 1**

A third issue has to be addressed, that the domestic price level, in a context of probable high volatility in international prices in the coming years and a risk of rapid spread of the global market prices to national economies in the event of dismantled protection schemes. The purchasing power of consumers is the result of their income and food prices.

**Purchasing power of farmers' and other stakeholders' in agribusiness sectors** • The price of food is highly dependent on the output of the production channels. Productivity gains are in turn based on the ability of companies to invest in tangible and intangible resources for their production activity. In SEMC, land resources and agricultural water are critical, while funding and managerial skills are often lacking in farms and in small and very small agribusiness companies. Moreover, the challenge in this industry is to convert the "purchasing power" of firms into performance factors.

Farms are very numerous and small in SEMC – over 80 % of farms are less than 10 hectares, with a low level of mechanization and use of inputs. Arable land represents about 50 million hectares and rangeland: 30 million hectares. The most optimistic forecasts suggest the possibility of converting some 5 million hectares of rangeland into cropland by 2050<sup>(2)</sup>. The availability of land *per capita* is still slightly above the global average (0.18 ha/capita against 0.12 in 2005), but could decline because of climate change, erosion and non agricultural ventures. Water is sorely lacking in the area and the situation is rapidly deteriorating according to the FAO Aquastat database, in 2007, 14 out of 16 SEM were below the threshold of 1000 cubic meters of internal renewable water resources *per capita* – which is considered a minimum in order to satisfy vital human needs. As agriculture engages 70 % of water resources, the situation is really critical and leads to very expensive supply methods such as very deep drilling of aquifers or desalination of seawater, convenient but not sustainable. Yields are expected to increase in SEMC by improving doses and quality of inputs, but

TABLE 2

### Historical and Forecasted evolution of food

MENA Région

	2003/1961	2050/2003
Population	+ 190 %	+ 70 %
Agricultural Production	+ 250 %	+ 20 %
Food Deficit	+ 50 %	+ 150 %

CIRAD-INRA, 2009, AGRIMONDE

THE GAP BETWEEN LOCAL RESOURCES AND CONSUMPTION REACHED 54 % OF THE SUPPLY IN 2003. IT COULD MORE THAN DOUBLE BY 2050

THE AGRICULTURAL TRADE DEFICIT (EXCLUDING TURKEY) HAS INCREASED BY 60 % BETWEEN 1995 AND 2005 AND DOUBLED BETWEEN 2005 AND 2008

(3) Almost all the grain produced and imported into SEMC is intended for human consumption, while the third concerns the feeding of animals in Europe.

could remain low on average because of the high sensitivity of crops to rainfall.

An original research program conducted by the French institutes INRA and CIRAD – Agrimonde – helped track the evolution over a long period (1960-2003) for 6 major regions of the world and build Agriculture and Food scenarios for 2050 (Chaumet et al., 2009). The year may seem distant, but it is the time required (2 generations) to meet the enormous challenges posed by population growth and severe constraints on this sector: climate change, depletion of fossil fuels and specific inputs (phosphate), strong constraints on natural resources (land and water), etc.

Agrimonde proposed 2 scenarios: the first one named “as time goes by” (au fil de l’eau in French) does not seem able to meet these multiple challenges. A second “severance” scenario or radical change has been developed in an attempt to meet the imperatives of sustainable development, including improving the consumer model (global convergence towards a balanced and quality diet of 3 000 kcal/day/capita). Below in TABLE 2 are the main results of this second scenario for the North Africa / Middle East (MENA) region.

The need for agricultural and food products expressed in energy equivalents (plant and animal kcal) will grow by 80 % between 2003 and 2050 (slightly more than the population). The production, given the constraints mentioned above, in the absence of strong agricultural policies could grow by about 20 %. This could result in a very large deficit, up 150 % from 2003.

Thus, the MENA region, which used to be referred to as a gigantic food “stock room” for ancient Rome has become over the centuries the most underserved area in the world in terms of food. The gap between local resources and consumption reached 54 % of the supply in 2003. It could more than double by 2050, reaching the abysmal figure of 137 % *per capita*, this deficit will be 3 times higher than in Sub-Saharan Africa, long considered the most vulnerable area in the world.

**International purchasing power of importing countries** • This purchasing power is represented by the availability of foreign currency in importing countries and their negotiating capacity vis-à-vis food sellers. In this field, the various foresight exercises carried out at the global and macro-regional level (FAO, IFPRI, Cirad-Inra/Agrimonde) show the situation is already serious today, with a high chance of deterioration in the coming years.

In 2004-2006, SEM showed a deficit of their international agricultural trade balance of over \$ 12 billion and nearly 14 billion if we take Turkey out of the equation, the only country with surplus in the area. The deficit (excluding Turkey) has increased by 60 % between 1995 and 2005 (three-yearly averages) and doubled between 2005 and 2008 because of soaring prices, exceeding \$ 25 billion. The weight of the agricultural deficit is considerable – 1 to 6 % of GDP in 2005. According to Ifpri calculations, a 15 % increase in the price of agricultural products on the international market costs 0.9 % of GDP in Jordan, 0.8 % in Lebanon, 0.7 % in Algeria and 0.3 % in Egypt, and Tunisia (Minot et al., 2007).

In the category list of 12 agricultural products of the United Nations nomenclature for 16 SEMC, only fruits and vegetables show a trade surplus (4.3 billion dollars on average for 2004-2006) and 9 products with a reported deficit of more than 1 billion. Food products that weigh heaviest in the deficit are cereals (about 40 % of the total food deficit)<sup>(3)</sup>, dairy products, animal feed, oils, sugar, and oilseeds. Also noted is the deteriorating trade balance in the last 10 years for all products except oils. TABLE 3

The concentration of international flows of goods can be measured using the population benchmark. SEMC show a successful specialization in fruit and vegetables as the production represents 4.3 % of the world popu-

TABLE 3

**SEMs: a large and widening food deficit**

Product / Balance X - M	Average 2004-06*	Distribution for 2005	1995-05 Variation
Fruits et Vegetables 05	4 299	-	57%
Cereals and preparations 04	-5 910	37,6%	21%
Dairy products and eggs 02	-1 443	9,2%	39%
Animal feed 08	-1 400	8,9%	87%
Animal and vegetable oils 4	-1 261	8,0%	-22%
Sugar and honey 06	-1 235	7,9%	17%
Oilseeds 22	-1 202	7,6%	121%
Coffee, tea, cocoa, spices 07	-1 201	7,6%	20%
Beverages and tobacco 1	-838	5,3%	133%
Meat and meat preparations 01	-827	5,3%	88%
Preparing food, various 09	-401	2,6%	614%
Food deficit	-15 719	100,0%	34%
Agricultural products, total	-12 212	-	21%
Total Trade	-44 102	-	3%

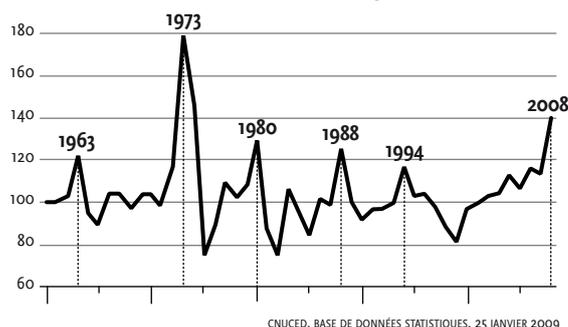
\* M. USD

FAOSTAT, © OAA DIVISION DE LA STATISTIQUE 2009, 13 AOÛT 2009

FIGURE 1

**Evolution of international nominal food prices on the very long terme 1960-2008**

Price index, basis of 100 en 1960. Annual average on the free market



CNUCED, BASE DE DONNÉES STATISTIQUES. 25 JANVIER 2009

lation, 6 % of total exports of these products for the 2004-2006 period, with a growth of over 60 % in value in the last ten years. Although the market share remains very low, there is also a strong increase in exports of dairy products (239 %) and oil products (157 %), primarily in the SEM region and Sub-Sahara Africa. However, this specialization concerns particular imports, particularly cereals (12 % of world imports), sugar and oils (6.3 %), oilseeds (5 %). SEM is an area where agricultural imports account for a significant fraction of the total trade (9 % against 6 % in the global average). These figures reveal two important trends in terms of globalization: first the emergence of a South / South trade stream, on the other hand the high level of external dependence of SEMC for their food supply reached worrying proportions given the volumes of the 3 countries: Egypt, Algeria and Morocco.

Indeed the basic food prices on the international market are very volatile and the probability of a new shock remains high. Since 1960, international nominal food prices have had 6 peaks at a magnitude close to or above 20% over a period of 2 to 3 years. The maximum amplitude was recorded in 1973 with a dramatic increase of 80 % compared to (year n -2) and an abyssal 104 % decrease, also over a 2-year period of time. In four years, price variation amplitude recorded was 184 %. Other episodes of volatility have been observed around 1963 (a 54 % variation in absolute value), in 1980 (83 %), in 1988 (76 %), and in 1994 (56 %). In late November 2008, a 66 % amplitude was recorded. Using the FAO index of food prices and considering that a strong increase can be defined as a price change exceeding twice the standard deviation of the five years preceding the rise, it confirms that the "overheating" periods were 1972-74, 1988, 1994 and 2007-2008 (Rastoin and Ghersi, 2010). **FIGURE 1**

**Increasing pathological risks**

THIS NOTION COVERS TWO ASPECTS of food safety or food safety hygiene (zero toxicity) and nutritional quality of the consumption model (absence of diseases other than accidental ones related to food – measured by the rate of foodborne diseases, FBDS). On these two points, the diagnosis is worrying. Datas are lacking on the issue of food safety in SEMC. Failing to have a global view on the Mediterranean, we can present an analysis of the situation in Algeria as an example to generalize to countries of the region.

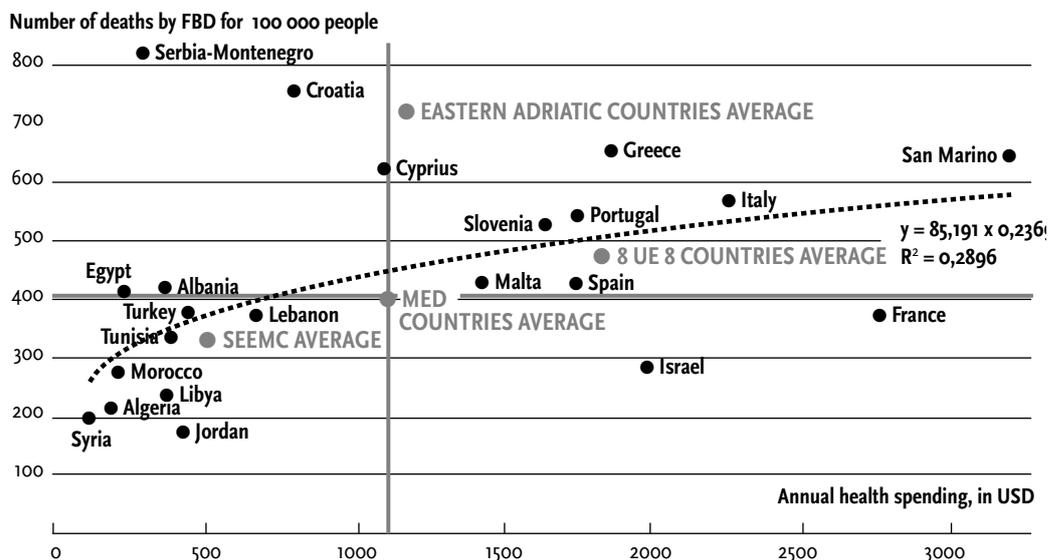
In Algeria, the informal sector is estimated at about 20 % of small-scale crafts industry and 35 % of small industry (wholesale and retail). A major portion of the production-distribution system therefore lacks any technical or economic control. Moreover, the monitoring scheme is particularly destitute (3500 agents for 1 million merchants). Finally, the low purchasing power of households results in a price squeeze and a major cut in the costs related to quality. Accordingly, there are many foodborne diseases, with about 300 thousand to 500 thousand cases per year (about 1 to 1.7 % of the population), well above the official figures, which are reported 100 times lesser.

However, lethality remains low. The last significant episode of food poisoning (botulism), officially registered in 1998 occurred at Setif and Tlemcen and caused 42 deaths and 345 cases of hospitalization. Contamination originated from dairy, bakery, poultry and couscous. There is a high occur-

FIGURE 2

**Number of deaths due to Food Borne Diseases (FBDs) and health spending in Mediterranean countries 2002**

WHO, DEPARTMENT OF MEASUREMENT & HEALTH INFORMATION, GENEVA, DECEMBER 2004



IN SEMS, THERE IS NO SPECIFIC HEALTH MONITORING SCHEME, NOR EXPERTISE AND INFORMATION FOR THE FOOD INDUSTRY

BY 2010, NEARLY 71 MILLION PEOPLE OVER 15 WILL SUFFER FROM OBESITY IN 21 COUNTRIES BORDERING THE MEDITERRANEAN

rence of collective poisoning during religious and festive ceremonies and in university canteens. Also to note is a significant contamination of food by persistent organic pollutants, agrochemicals, industrial waste (heavy metals) and water irrigation (Lebeche, 2006).

In SEMS, there is no specific health monitoring scheme, nor expertise and information for the food industry. Food safety is usually regulated by central administration bodies and multiple Departments. In Tunisia, a multi-products agency exists. There are also significant gaps in the enforcement of legislation regarding standards of bacteriological quality of food or chemical residues. These shortcomings arise both from the analytical devices and low equipment and human resources or the failure of the administrative apparatus of control and enforcement. Furthermore, tracking tools are still inexistent.

If microbiological and viral attacks mentioned above – because of their accidental nature – have caused large panic outbursts as much in the government as in the professionals sector and the consumers, other risks, far more formidable by extent, have been emerging in recent years. These pathological risks are related to eating habits and therefore belong to the consumers' choice. It is proven through many epidemiological studies that overconsumption of sugars and fats and underconsumption of fruit and vegetables associated with a lack of exercise are a breeding ground for the development of obesity and FBDS.

According to the WHO, in 2002, obesity affected 18 % of the population aged over 15 years in Mediterranean countries, with a scale ranging from 7 % in France to 31 % for Egypt. The countries most concerned are, in addition to Egypt, Malta, Jordan and Greece (over 25 %). There rates are significantly higher among women (22 % against 14 % for men). By 2010, nearly 71 million people over 15 will suffer from this disease in 21 countries bordering the Mediterranean, almost 20 % of the total adult population. The United States offers an extreme image of the impact of uncontrolled nutritional model: 35 % of obese individuals in 2002, 46 % by 2010 if the current trend continues.

Being overweight is an aggravating factor for a whole host of diseases, particularly cardiovascular diseases which account for 42 % of total mortality rates in all Mediterranean countries, 43 % in SEMC and 57 % in Eastern Adriatic Countries. **TABLE 4**

Finally, microbiological or nutritional FBDS could be the cause of 54 % of deaths in the Mediterranean area, the trend observed is an increase of the cause of death due to the deterioration of nutritional model. This is

TABLE 4

**Estimation of mortality (by causes)  
in Mediterranean countries 2002**

Thousands	8 EU countries	10 SEMC	4 Eastern Adriatic countries	22 Medi- terranean countries
<b>Population</b>	180 516	249 946	20 128	450 590
<b>Death (all causes)</b>	1 644	1 492	212	3 348
<b>Diarrheal Diseases</b>	1	39	0	40
<b>Nutritional deficiency</b>	5	7	0	11
<b>Stomach Cancer</b>	28	11	4	43
<b>Colorectal Cancer</b>	55	10	5	70
<b>Diabetes</b>	45	26	5	76
<b>Cardiovascular Disease</b>	630	646	121	1 398
<b>Digestive Diseases</b>	75	76	8	160
<b>Sub-total for food borne disease (FBDS)</b>	839	815	143	1 797
<b>FBDS (all causes)</b>	51 %	55 %	67 %	54 %
<b>Diarrheal Diseases</b>	0,1 %	2,6 %	0,1 %	1,2 %
<b>Cardio-vascular</b>	38 %	43 %	57 %	42 %

WHO, DPT OF MEASUREMENT &amp; HEALTH INFORMATION, GENEVA, DECEMBER 2004

the result of a sensible and relatively rapid modification of the food consumption model (in less than half a century). Greece is often cited for the quality of its traditional Food Consumption Model (the notorious Cretan model) which is now aligned with the Western model, which explains the current high rate of FBDS reported in this country.

Within each geographical subset of Euro-Mediterranean countries the situation is mixed (see Appendices 2 and 2a): FBDS are very deadly in Serbia-Montenegro and Croatia (over 65 % of total deaths in 2002) and less present in Slovenia (57 %) and Albania (59 %). In SEMC, Turkey is strongly affected (62 %) so is Tunisia (57 %), while Algeria is relatively spared (39 %); Syria is in an intermediate position (47 %). These differences confirm the multiplicity and complexity of factors involved and the need for a fine analysis to define appropriate health policies.

The following figure shows that mortality rate is not diminished by the level of health spending, which could indicate that for this type of pathology, preventive action is more effective than medicalization. In other words, there is a significant correlation between diet and food production

model. The agriculture and food industry could play – at the level of each country and each region – a major role in exacerbating or otherwise preventing FBDS. **FIGURE 2**

In summary, in 2002, food-related insecurity affected 11.2 million people in a state of under nutrition in 14 out of the 22 Mediterranean countries, representing 4 % of the population of these countries, while food borne diseases resulted in the death of 1.8 million individuals or 54 % of total mortality. If under nutrition rates are indeed much lower in the Mediterranean area (4 %) than in other developing regions (14 %), diet-related diseases are rather more important in the Mediterranean basin (54 %) than throughout the world (40 %).

The contrast is striking when considering the geographical area comprising the countries bordering the Mediterranean. In the North, there is indeed a high level of quantitative food safety (with large surpluses of agricultural and food balance) and qualitative food safety (low toxicity and occurrence of FBDS rates, below the world average). The European food system is probably the most powerful in the world in terms of safety and food quality. This contrast in two geographically close area leads to assess the trade system between Europe and SEM in the vital area of food, and to discuss the prospects of a strategic alliance to improve the level of food security in southern and eastern Mediterranean countries.

**STRATEGIC ALLIANCES,  
INVOLVING BOTH  
GOVERNMENT AND  
COMPANIES ARE  
ESSENTIAL TO IMPROVE  
THE LEVEL OF FOOD  
SECURITY**

IT IS IMPERATIVE  
TO INCREASE NATIONAL  
PRODUCTION OF STAPLE  
FOODS (CEREALS, DAIRY  
PRODUCTS AND MEAT)  
TO IMPROVE  
SELSUFFICIENCY

IT SEEMS WISER TO  
CHOOSE THE PATH OF  
INTERNATIONAL  
COOPERATION THAN  
THE SOLE USE OF  
THE "FREE MARKET" TO  
ENSURE FOOD SECURITY

## 2 Strategies to promote food security

THE STATE OF FOOD INSECURITY in SEMC just described bears several dimensions: 1) a public health component, with inadequate levels of traceability and monitoring of the hygienic quality of food, and the rise of FBDs caused by nutritional imbalance of the diet; 2) a technical dimension, with the difficulty to increase local agricultural and food production – a situation exacerbated by the phenomena of depletion of natural resources that has been happening for half a century, and climate change in the longer term; 3) an economic dimension, with a huge foreign commercial trade deficit that has been widening over the past 50 years and severely exposes countries to high volatility in international prices of basic foodstuffs.

### Adjust imbalances between supply and demand

IN THE "ARSENAL" OF FOOD SOVEREIGNTY, many instruments can be used to adjust these multiple imbalances involving on the one hand the national food demand and supply, and on the other hand, international exchanges. In the context of a mismatch of food supply and demand, very characteristic of SEMC, several strategic directions can be considered. Firstly, it is better to act on the food consumption model (FCM) to be closer to the optimal diet that prevailed still half a century ago in the Mediterranean and which has now almost disappeared with the generalization of the Western model. This component falls into to food policy and is based on informing and educating the consumer, but also on an economic incentive for households (e.g. food stamps), farms, food companies and distribution channels (especially GMS and RHF) to adjust the supply of nutritionally "positive" products (grant and taxation schemes, quality labels and identification of public markets).

Also as part of the food policy component – the food security system needs to be improved (regulation and quality standards, product control, traceability). From the supply side, it is imperative to increase national production of staple foods (cereals, dairy products and meat) to improve self-sufficiency by taking the following actions: R&D, training, popularization; conservation and management of natural resources (land, water); structuring and organizing of food chain; agriculture policy (guaranteed prices and markets) and agri-industry policy (innovative investment support).

As stated earlier, a goal of food self-sufficiency is unfortunately not possible in SEMC due to heavy agro-climatic constraints. Resorting to the international market, but also to bilateral and multilateral cooperation is indispensable. We have also demonstrated the extreme exposure of SEMC to inevitable volatility of agricultural prices (6 peaks and crashes between 1961 and 2008). Therefore, it seems wiser to choose the path of international cooperation than the sole use of the "free market" to ensure food security. However, this international cooperation in place in the Mediterranean for decades has proven to be a failure, as it shows contradictory North-South, South West, East-South and South-South currents running through. To be effective, it must be renewed and rethought in geostrategic terms and go beyond the narrow and mistaken framework of the Washington consensus on the supposed benefits of "the invisible hand". It is becoming increasingly clear that the geopolitical structure should be multipolar, with the emergence of macro-Regional sub-sets based on meridians rather than on parallels. The Euro-Mediterranean could be one of these geostrategic areas, with the essential arguments of proximity, complementarity and solidarity.

TABLE 5

SEMC Food Balance 1991-2003	Wheat		Rapeseed		Soy		Sunflower		Poultry	
	Psem	UE-27	Psem	UE-27	Psem	UE-27	Psem	UE-27	Psem	UE-27
Average annual expenditures (Y+M-X) in M.tons	46,8	173,5	0,1	10,2	1,4	17,6	1,7	11,9	2,3	9,1
External dependency ratio M/(Y+M-X)	27 %	15 %	44 %	27 %	81 %	95 %	25 %	22 %	2 %	18 %
External coverage ratio (X/M)	12 %	127 %	14 %	113 %	0 %	7 %	6 %	94 %	50 %	141 %
Industrial utilization rate (T/R)	76 %	51 %	95 %	90 %	91 %	90 %	91 %	90 %	0 %	1,1 %
Loss Rate (P/R)	8 %	2 %	4 %	1 %	3 %	1 %	3 %	2 %	nd	0,3 %

Y: output; M: imports; X: exports; T: industrial transformation; P: Losses; A: total resources

FAOSTAT, OCTOBRE 2009

**TWO ISSUES HAMPER  
THE WHEAT SECTOR:  
THE QUALITY OF IMPORTED  
GRAIN AND A LACK  
OF DIALOGUE AND  
COORDINATION BETWEEN  
ACTORS IN THE SECTOR**

For food safety, these arguments, in addition to nutritional policy, revolve around the following components: the organization of chains and markets, trade agreements, foreign direct investment and partnerships between firms.

### Restructuring food channels

THE CHANNEL, WHICH BRINGS TOGETHER various agricultural, industrial and commercial stakeholders, contributes to the development and distribution of a food product is characterized and analyzed using a resources/ jobs balance<sup>(4)</sup>. Taking this type of balance, we calculated ratios to diagnose the situation in 4 strategic sectors for food security during the 1991-2003 period<sup>(5)</sup> in two areas we're interested in: SEM countries and EU countries: wheat, oilseeds (rapeseed, sunflower and soybean) and poultry<sup>(6)</sup>. **TABLE 5**

Regarding wheat, the above figures reveal the weakness of the production (21 %) and exports of SEMC (5 %) compared to the EU 27. Imports remain rather high (51 %), resulting in disproportionate International coverage ratios: EU 27's wheat exports largely cover its imports (127 %), while this ratio is only 12 % in SEMC. Also, the rate of external dependency is two times higher in SEMC than in the European Union.

Both regions have very different loss rates: 8 % in SEMC compared to only 2 % in the EU. Thus, the losses amounted to almost 4 million tons per year between 1991 and 2003 in SEM, one-third of total wheat imports for the region. Similarly, EU losses are significantly lower than those of SEM in absolute terms, while production is 5 times larger.

In the EU, animal feed for the assessed period was far greater than all of the wheat resources (import + domestic production) of SEMCS, and industrial processing rates (flour and semolina) are higher in SEM countries (76 %), than in Northern Mediterranean countries (51 %). These figures reflect two contrasting directions of the wheat industry: balance of food in SEMC and animal feed in the EU. In SEM countries, if the processing capacity of wheat appears to be sufficient, or in excess, two issues hamper the sector: the quality of imported grain (usually poor as the import bureau usually focus on prices rather than quality) and a lack of dialogue and coordination between actors in the sector (non-existent or weak inter-professional organizations)

Significant differences were identified when comparing the food assessments for wheat in the two of Union for Mediterranean's regions (UFM). We will see that the differences are even stronger for rapeseed. Data from food balance of the two regions for rapeseed suggest two distinct dietary patterns. SEMC are highly dependent on imports for processing rapeseed. The import/local production ratio is 72 % in this region against 25 % in EU countries. The latter, however, allocate nearly 9 million tons for animal feed, for overall resources of around 13 million tons/year. Transformation

(4) These resources consist of domestic production and imports. Usage includes direct use in food, feed, seed, food industry processing and other industries (non-food, such as chemicals), losses and stock changes. Such food balances are prepared annually by the FAO, but are published with an important delay, the latest available balance dating back to 2003.

(5) This contributes to hiding the inter-annual variations that could in reality be substantial.

(6) It would have been interesting to include milk, but the food balance for this product is incomplete. Oilseeds (soybean, sunflower and rapeseed) are somehow "precursors" of animal products with oilcakes produced from oil crushing.

COMPLEMENTARITIES CAN  
BE IDENTIFIED BETWEEN  
THE NEEDS OF SOUTH  
AND THE NORTH'S WHEAT  
AND RAPESEED  
SURPLUSES, THE WHOLE  
REGION IS STRUCTURALLY  
DEFICIENT AND HIGHLY  
DEPENDENT ON IMPORTS  
FOR SOYBEANS

rates are higher in both subsets, while loss ratios continue to be larger in SEMC (4 %) than in EU countries (1.4 %).

In terms of foreign trade and food dependency, two patterns stand out: on the one hand, SEMC, where imports are very high and the international coverage rate is below 14 %, and the other countries of the EU27, which are self-sufficient in terms of international trade and whose ratio of external dependence is barely at 21 %. European countries only import a quarter of their production.

Similarly, EU resorts to cross trading, by importing and exporting rapeseed. Several explanations can be given on this issue: the increasing share of re-exports which make some countries regional trading platforms, the distinction between quality attributes and by-products and interactions among countries for specific categories, the strategies of multinational firms in terms of supply management of raw material before the first transformation and finally the increased exchange of rapeseed oilcake intended for animal feed. The changing patterns of production and the growth of livestock (including poultry for meat and eggs and cows for milk) in SEMC could increase the dependence of these countries towards the international trade, and the trade with EU countries in particular.

If it's true for wheat and rapeseed, important distinctions can be made between the two sub regions of the Union for the Mediterranean (UFM), soy balance for Mediterranean countries show a strong dependence of the whole region towards imports. The external dependency rate exceeds 80 % both in the South and the North. Countries of the EU 27, import almost 8 times their local production. They spent nearly 10 % of imported soya for animal feed, that is 19 million tons on annual average for 10 years – as much as SEMC's overall resources. The latter imported 1.1 million tons per year intended for transformation. Local production has only reached 230 thousand tons during the period assessed, that is less than 15 % of the European production. The loss ratios in the two sub regions, provide information about the high rates in SEMC (3.3 %) compared to the EU's (1.2 %). High conversion rates are recorded in the two sub regions, averaging over 80 % between 1991 and 2002.

COMPARING SITUATIONS FOR FOOD BALANCE of products assessed in the UFM can help us make two observations: if complementarities can be identified between the needs of South and the North's wheat and rapeseed surpluses, the whole region is structurally deficient and highly dependent on imports for soybeans<sup>(7)</sup>. This overall dependence may increase with the increasing needs of developing countries, especially in terms of animal feed. On the other hand, developments in alternative uses of rapeseed (biofuels) may increase EU countries needs. The Northeast Mediterranean Region is currently in surplus and could increasingly rely on imports, with some difficult trade-offs and decisions in terms of human, animal and energy use.

The European Union has produced nearly 12 million tons of sunflower per year between 1991 and 2002. During this period, the region managed to cover its overall imports with exports. Three quarters of the resources were devoted to processing (oil crushing), while the equivalent of a third of imports from the region was devoted to animal feed. On the other side of the Mediterranean, during the 1991-2003 period, SEMC only had 1.4 million tons on average, to cover both their industrial needs in feed and seed. SEMC exported very little during this period (less than 25 thousand tons per year, i.e. 6 % of imports). The resources available are mainly destined to oil crushing (9 out of 10 tons). Other uses and livestock feed remains marginal for sunflower. Losses are controlled at about the

(7) Following the embargo decided by R. Nixon on U.S. exports of soybeans, the United States adopted an hegemonic position in the global market, particularly through the strong action of the American Soybean Association (ASA), very active in importing countries, especially in SEMC and the EU.

ALL FOOD CHAINS IN SEMC  
SHARE THE HANDICAPS  
OF THE AGRO-INDUSTRY'S  
INADEQUACY OF LOCAL  
RAW MATERIALS  
REQUIREMENTS (QUALITY,  
VOLUME, AND DELIVERY  
TIME), LACK OF  
TECHNOLOGICAL AND  
MANAGERIAL RESOURCES

same ratios than in Europe. The two sub regions have similar dependency ratios with 25 %.

Even if the food balance of sunflower and wheat may seem similar, they differ in the strategic importance of cereals for Southern and Eastern Mediterranean countries, but also by the magnitude of needs (quantity imported / produced, availability, etc.) – with “pessimistic” projections in the medium and long terms. Then, the structural dependencies are less strong for imports of sunflower than for wheat. SEMC's deficits seem apparently less “dangerous” in terms of food security. Indeed, the dietary transition observed in the last ten years in these countries witnesses the substitution of grains by livestock products. However, they do require large amounts of oil seeds. Accordingly, a national strategy based on importing meat or milk powder could aggravate food insecurity and compete dangerously (socially) with the local agriculture. Where there is a national industry for oil crushing, dismantling of tariff protection on oilcakes could expose this industry to a sub-competitiveness compared to industry giants (Bunge, Cargill, ADM). It therefore seems sensible to encourage domestic production of sunflower and rapeseed in SEMC to promote integrated sectors for animal protein<sup>(8)</sup>. The current emphasis granted to cereals should not overshadow the importance of such channels, as illustrated by the example of poultry.

Beyond the reported trends compared to changes in dietary patterns in SEM countries, we see a relative weakness of the inclusion of this sector in international trade (3 %) compared to the rate in Europe (40 %). The production of SEMC is only a quarter of total European imports and remains weak. SEMC currently benefit from low external dependence for poultry meat, as this sector remains of a very small scale, as evidenced by the very low rate of transformation in the industry. Furthermore, products such as frozen chicken nuggets are not accepted by the population (the issues of eating habits and the cold chain). However, the industry is threatened due to the adoption of modern production techniques (integration of large factories) and international trade agreements (WTO and bilateral organizations) that can expose the industry to products imported at low cost from the United States and Brazil, while urbanization and female labor are rapidly changing the consumer's behavior.

All food chains in SEMC share the handicaps of the agro-industry's inadequacy of local raw materials requirements (quality, volume, and delivery time), lack of technological and managerial resources and lack of coordination between agents. Counterbalancing those shortcomings with training and a proper structuring could substantially improve the level of food security in these countries. This point clearly shows a strengthening of the regional cooperation.

The European Union, through the CMO scheme (common market organizations) which is an essential element of the CAP (Common Agricultural Policy) enabled a relatively rapid modernization of the production, by introducing security and qualification schemes of the production benefiting both farmers and agribusiness clients. It would be highly desirable to adapt and extend these mechanisms to SEMC<sup>(9)</sup>.

However, such an analysis in terms of overall food balance fails to reveal the interaction between channels and regional balance in terms of food supply. Commercial exchange is increasingly carried through subsidiaries of multinational firms located in southern and eastern Mediterranean, but also through cooperation between firms. Two factors argue in favor of this development: first the opening of more advanced economies of these countries, including on the agricultural aspect, and the high degree of integration achieved by multinationals and their control of international distribution and supply networks.

(8) One major collateral advantage is the diversification of agricultural production systems – almost mandatory with the exhaustion of soils.

(9) See in this regard the *Food and rural agreement aiming for Ipemed's Euro-Mediterranean regional integration* project (Dubreuil and Rastoin, 2009).

TABLE 6

**Matrix of the global agricultural and food trade** Average for 2006-2008. Rows: Exports / Columns: Imports

	Nafta	China	Japan	Mercosur	SEMC	Northern UE	Medit. UE	Rest of world	World	Global imports
Nafta	61 667	9 633	15 567	1 897	<b>5 833</b>	7 867	3 967	35 000	141 430	16 %
China	11 133	-	8 033	258	<b>767</b>	3 567	1 397	13 800	38 955	4 %
Japan	687	1 127	-	14	<b>22</b>	127	54	1 790	3 820	0 %
Mercosur	5 567	9 400	1 823	7 133	<b>5 500</b>	13 167	9 100	28 167	79 857	9 %
SEMC	<b>943</b>	<b>64</b>	<b>400</b>	<b>90</b>	<b>3 220</b>	<b>4 467</b>	<b>4 600</b>	<b>7 600</b>	<b>21 384</b>	<b>2 %</b>
Northern UE	10 133	1 857	2 740	923	<b>6 233</b>	117 000	53 000	44 333	236 220	26 %
Mediterranean UE	9 000	1 227	2 387	677	<b>5 100</b>	47 333	35 667	25 400	126 790	14 %
Rest of world	29 167	13 467	15 400	3 273	<b>9 700</b>	52 000	26 567	102 667	252 240	28 %
World	128 297	36 774	46 350	14 265	<b>36 375</b>	245 527	134 350	258 757	900 695	100 %
Global imports	14 %	4 %	5 %	2 %	<b>4 %</b>	27 %	15 %	29 %	100 %	-

COMTRADE, SEPTEMBRE 2009, ELABORATION IPEMED

## Strengthen trade in agricultural products and food industry

CONSIDERING THE MATRIX of international trade in agricultural products and foodstuffs (TABLE 6), three findings appear. First, a sharp asymmetry between the major 'historical' commercial powers (EU and U.S.) and the emerging ones (China, Brazil, Argentina); and second the rest of the world. The EU was responsible, during the 2006-2008 period, of an average of 42 % of the world's agriculture exports and 40 % of the world's agriculture and food imports for a total exceeding \$ 900 billion – Nafta with 16 % and 14 % respectively, China with 4 % for both flows and Mercosur, with 9 % and 2 % respectively.

We see that 8 Mediterranean countries of the EU are importing more products from SEMC than the other 19 member countries. This is an important point as most of SEMCs' export products consist of fruits and vegetables: crossed trading is intense, which suggests complementary rather than competitiveness according to the international specialization and product differentiation theory within the same product range. Northern EU comes before Mediterranean EU as an exporter towards SEMCs, the rationale being the nature of products (mainly cereals and dairy products). Nafta and Mercosur are also significant suppliers of SEM, with respectively 6 and 5 billion of exports (wheat and soybeans). By cons, these two regions receive very few products from SEMC (about 4 % of SEMC exports: olive oil, fruits and vegetables, go to Nafta). One can infer from this rapid analysis:

- two "promising" phenomena: while Euro-Mediterranean trade is substantially balanced (less than 1 billion dollar deficit for SEMC), trade in the two Americas with SEMC are in deficit for SEMC (over 10 billion dollars); the production complementarity is strong between the EU and the SEM, especially for fruits and vegetables;
- one question: aren't agricultural and food products likely to suffer the consequences of signing bilateral agreements? (e.g. the Morocco-United States trade agreement)?

However, SEMC's international trade flows geometry is evolving to the benefit of the new global dynamics: trade growth is much faster in emerging countries (BRIC) with the historic partners (EU and Nafta) as clearly shown in TABLE 8: China's exports to SEMC multiplied by more than 6 over 10 years, while to the rest of the world exports only doubled, while those of Mercosur multiplied by 3 (a 75 % growth for the EU and 42 % for Nafta). These figures are to be put into perspective with the amounts at stake, mentioned above.

In summary, the logic of proximity, complementarity and solidarity should play well for a strengthening of Euro-Mediterranean trade agree-

TABLE 7

## Areas of origin (imports) and destination (exports) of agricultural and food trade flows in SEMC

2006-2008 average. Millions of dollars

	Imports		Exports	
Rest of the world	9 700	27 %	7 600	36 %
Northern EU	6 233	17 %	4 467	21 %
Nafta	5 833	16 %	943	4 %
Mercosur	5 500	15 %	90	0 %
Mediterranean EU	5 100	14 %	4 600	22 %
Semc	3 220	9 %	3 220	15 %
China	767	2 %	64	0 %
Japan	22	0 %	400	2 %
World	<b>36375</b>	<b>100</b>	<b>21384</b>	<b>100</b>

COMTRADE, SEPTEMBRE 2009, IPEMED DEVELOPMENT

TABLE 8

### Origin and destination of SEMC trade between 1997 and 2007

Areas of origin (imports) and destination (exports) of SEMC.  
Millions of dollars

	1996-1998*		2006-2008*		2007/1997
Rest of the world	1 450	10,0 %	9 700	26,7 %	569 %
Northern EU	3 293	22,7 %	6 233	17,1 %	89 %
Nafta	4 100	28,3 %	5 833	16,0 %	42 %
Mercosur	1 507	10,4 %	5 500	15,1 %	265 %
UE Mediterranean	3 367	23,2 %	5 100	14,0 %	51 %
Semc	653	4,5 %	3 220	8,9 %	393 %
China	117	0,8 %	767	2,1 %	555 %
Japan	14	0,1 %	22	0,1 %	58 %
<b>World</b>	<b>14 501</b>	<b>100 %</b>	<b>36 375</b>	<b>100 %</b>	

\* 1997 : average for 1996 to 1998 ; 2007 : average for 2006 to 2008.

COMTRADE, SEPTEMBRE 2009, IPEMED DEVELOPMENT

ments. An extended CAP could guarantee sustainable food security for the region by opting for a “regional preference bias” perspective providing a “smoothing” of prices and guaranteeing supplies for the long term.

## The great potential of FDIs

THE BASE OF COMMERCIAL ACTIVITY, both on the domestic markets and abroad consists of business activities of agribusiness sectors. In SEM, these activities are fostered by population and economic growth; which is much more intense than in the EU. They are driven in the South and the North by investment and strategic partnerships. As demonstrated further, these vectors are far from reaching a level comparable to that observed in other areas of the world. Hence, they represent a great potential to be exploited.

Reports on economic, commercial and food dependencies define relations between countries of the South shore, East and North of the Mediterranean. Some authors suggest in this sense a “triple asymmetry” between Europe and Mediterranean countries: first in relation to the economic weight of the two sets (GNP, business competitiveness, market size and shares in the international market) Then, compared to levels of economic and political integration (the EU is an integrated set while SEMC represent a “crumbled” group, and usually negotiate agreements individually). Finally, in relation to trade dependency (the EU accounts for 60 to 70 % of the international trade of SEMC while the latter only represents 5% of the EU’s). **TABLE 9**

In terms of FDIS, we note a reduction of projects towards SEMC The global amount went from almost 69 billion Euros in 2006 to less than 40 billion in 2008. These investments are heavily concentrated in Mashreq countries, in Turkey and in Israel. In terms of populations, Israel surpasses all Mediterranean countries, with 1096 Euros *per capita* per year received on average over the last three years. Algeria, Egypt and Morocco are below the region’s average ratio, as estimated for the 2006-2008 period, at 206 Euros *per capita*.

As to the origin of these investments, European companies continue to be major vectors in industrial facilities in the region, with a cumulative total over the past three years of about 88 billion Euros. European investments are primarily intended to Israel, Turkey, Malta and Cyprus. A significant increase was also recorded in investments from Gulf countries and other emerging countries. In terms of destination, Southern and Eastern Mediterranean countries received nearly 221 billion Euros, including 50 for the Maghreb. **TABLE 10**

On the sectoral front, the restructuring of Agribusiness Multinational Corporations can provide information on their strategic options in the Mediterranean region. The process of acquisitions and business partnerships in this regard is indicative of these firms’ expectations, both in terms of regional geopolitical and institutional agenda, but also with the arrival of supermarkets and the profound changes of food channels associated with the latter. **TABLE 11**

The restructuring of Agribusiness Multinational Corporations’ operations can be divided in two main types: mergers, acquisitions and partnerships on the one hand, and sales and other partial sales of assets on the other hand. The breakdown of the restructuring operations in two main categories is detailed in the previous table. Thus, in addition to the 4292 mergers and acquisitions recorded in the world, 1708 operations of sales

TABLE 9

### FDI Distribution in SEMC

Millions of euros	Average for 2006-2008		Variation compared to the previous year	
	IDE/capital		2008/07	2007/06
Turkey	16 171	227 %	-19 %	-71 %
Egypt	14 230	177 %	563 %	-84 %
Israel	7 046	1 096 %	3 278 %	-79 %
Algeria	3 161	95 %	-33 %	1123 %
Morocco	3 158	94 %	-3 %	-94 %
Tunisia	2 902	282 %	-56 %	-15 %
Libya	2 669	442 %	-55 %	-14 %
Syria	2 588	134 %	42 %	-1 %
Jordan	2 403	397 %	-80 %	39 %
Lebanon	1 658	423 %	-48 %	-57 %
Cyprus	421	534 %	-62 %	129 %
Malta	216	536 %	-45 %	-49 %
Palestinian territories	161	41 %	2 238 %	-97 %
<b>Total</b>	<b>56 785</b>	<b>206 %</b>	<b>-93 %</b>	<b>-11 %</b>

DATA FROM THE ANIMA OBSERVATORY-INVEST IN MED, 2009

**TABLE 10**

**Origin of FDI in the Mediterranean by geographical region**

Cumulative flows for 2006-2008

Billion Euros	Maghreb	Mashrek	Other Med*	Total by origin
Europe	25,6	19,6	42,3	87,5
Gulf countries / Mena	16,0	42,1	10,4	68,5
USA / Canada	6,2	4,8	30,7	41,8
Asia and other emerging countries	2,5	10,4	10,8	23,7
<b>Total by destination</b>	<b>50,3</b>	<b>76,9</b>	<b>94,2</b>	<b>221,1</b>

\* Israel, Turkey, Cyprus, Malta

SOURCE: DATA FROM THE ANIMA / MIPO OBSERVATORY

**TABLE 11**

**Distribution of restructuring operations in Agribusiness Multinational Corporations**

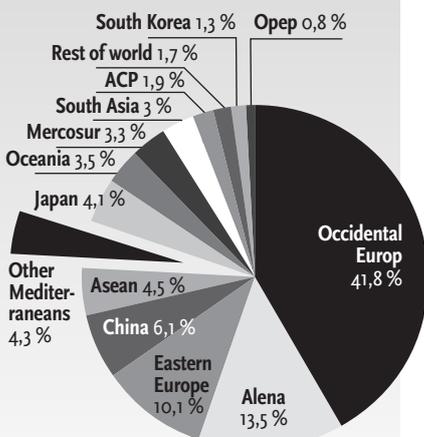
1987-2006

	Procurement and Partnerships	Sales	Total	Areas /total	Sales /total	Procurement & partnerships /total
Western Europe	1 922	1 043	2 965	49 %	35 %	65 %
Nafta	991	417	1 408	23 %	30 %	70 %
Eastern Europe	369	44	413	7 %	11 %	89 %
Mercosur	173	23	196	3 %	12 %	88 %
Océania	139	46	185	3 %	25 %	75 %
China	142	7	149	2 %	5 %	95 %
Other Mediterraneans	99	6	105	2 %	6 %	94 %
Asean	98	22	120	2 %	18 %	82 %
Japan	75	23	98	2 %	23 %	77 %
Other countrys	284	77	361	6 %	21 %	79 %
<b>Total world</b>	<b>4 292</b>	<b>1 708</b>	<b>6 000</b>	<b>100 %</b>	<b>28 %</b>	<b>72 %</b>

AGRODATA DATABASE, JRL UMR, MONTPELLIER, 2007.

**FIGURE 3**

**Distribution of agribusiness alliances and partnerships by economic region of target countries 1987-2006**



AGRODATA DATABASE, JRL UMR, MONTPELLIER, 2007

and partial sales have been observed between 1987 and 2006, nearly a quarter of the 6 000 operations.

These sales operations are relatively more present in Western European and North American countries than in other regions – something that indicates a strong dynamic reconfiguration of the food industries and restructuring of firms in these regions. Out of nearly 3,000 European restructuring operations, a third had to do with the sale of assets. The proportion is almost similar in North America.

The distribution of restructuring operations in the food industry between “acquisitions and partnerships” and “sales” is significantly different in other regions. The share of sales is around 15 % (excluding Japan and Oceania). This proportion is even lower in the Mediterranean (less than 6 %), confirming the thesis of an early cycle of restructuring of agribusiness firms in the region. The distribution in the Mediterranean is also identical to that in China, where most of the Agribusiness Multinational Corporations restructuring operations move towards acquisitions or strategic alliances. Thus, purchases and partnerships account for 95 % of the 142 restructuring transactions recorded between 1987 and 2006 in the food sector.

This sharp increase in strategic agribusiness partnerships in the Mediterranean shows a certain dynamism of restructuring operations in the region, including in the North as a strategic response of multinational firms to their changing environments on one hand, and to new competitive constraints on the other. **FIGURE 3**

The trends regarding the distribution of mergers and acquisitions, are confirmed by those relating to strategic alliances and partnerships undertaken by agribusiness firms throughout the world: a very high concentration in Western Europe (42 %), a relative important weight of CEEC (10.1 % against 13.5 % in North America) and a relative substantial share from Mediterranean countries (4.3 % more than in South Asia, Mercosur and Japan).

The strategic trend of multinational firms may also be assessed through divestment operations. Nearly 9 “disinvestment” operations out of 10 carried out by Agribusiness Multinational Corporations between 1987 and 2006 targeted assets or businesses located in Western Europe or North America. Out of the 1408 recorded transactions, almost 96 % were made by European or American firms. The number of intrazone divestments is substantial: two-thirds of divestitures in North America are made by American firms and over three quarters of the divestitures recorded in Western Europe were the work of European agribusiness companies.

Regarding Mediterranean third countries, foreign disinvestment remains rare. Only 5 divestitures were reported in the previous two decades, and only 4 of those were carried out by European firms. However, for the area assessed, higher proportions are to be expected by including Northern Mediterranean countries, where Agribusiness Multinational Corporations are more active in terms of restructuring (debt reduction, refocusing). **TABLE 12**

During 2007 and 2008, Anima, the Mediterranean investment observatory network recorded about 2.7 billion euro in food FDI inflows for SEMC. The distribution of these flows shows a clear predominance of Turkey (nearly two-thirds of FDI in the IAA) and Israel (a \_ of FDI). Two other countries emerge with more than 6 % of all flows (Egypt and Algeria).

**TABLE 12**

**Flux d'IDE entrants dans les industries agroalimentaires dans les Psem**

2007 et 2008

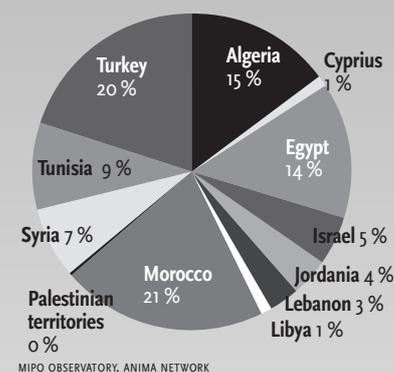
	Millions of Euros	% of total
Turkey	1 627	61,0 %
Israel	640	24,0 %
Algeria	176	6,6 %
Egypt	168	6,3 %
Morocco	24	0,9 %
Palestinian territories	13	0,5 %
Tunisia	11	0,4 %
Libya	3	0,1 %
Jordania	2	0,1 %
<b>Total</b>	<b>2 665</b>	<b>100 %</b>

ANIMA INVESTMENT NETWORK DATABASE / MIPO 2009

**FIGURE 4**

**FDI in the Food Industry in SEMC**

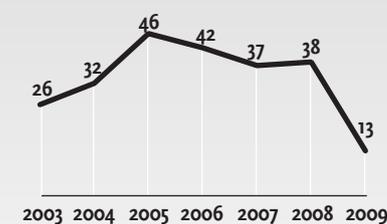
2003-2009. Number of projects



MIPO OBSERVATORY, ANIMA NETWORK

**FIGURE 5**

**Evolution of FDI agribusiness projects in SEMC**



MIPO OBSERVATORY, ANIMA NETWORK

Beyond inequalities in the distribution of flows, the above data provides information on new strategic directions of multinational firms. The size of food markets (demographics, credit demand and urbanization) as well as conditions for receiving foreign investment or saturation in terms of international locations may explain the high amplitude of some differences. In terms of number of projects, the data of the Mipo Anima network shows a dominance of four countries recipient of food FDI: Morocco (21%), Turkey (20%), Algeria (15%) and Egypt (14%) which totaled 70% of projects recorded between 2003 and 2009 in the SEMC region (Fig. 23). SEMC have been recipient for an average of 30 projects per year between 2003 and 2006. A slight increase was observed past that year. The average annual of FDI projects in the agribusiness sector has stabilized at 40 since 2006. During the whole period assessed, 234 FDI projects were identified in the food sector in SEMC. **FIGURES 4 & 5**

In terms of origin of investors, a few salient facts should be noted: First, European investors continue to be the first operators in terms of number of projects in SEMC. Out of 10 projects, 6 are European. Then a peak of investment from Gulf countries was recorded from 2004, although those of the EU were decreasing. After a peak of 37 projects in 2005, European agribusiness investments amounted to only twenty operations in 2007 and 2008. During the whole period, investment by Gulf countries (Saudi Arabia, Qatar and Kuwait essentially) represented 15% of the 234 agribusiness FDI projects in the region. Finally, it should be noted the emergence of “south-south” intra-regional investments: 7% of the agribusiness FDI were made by investors in SEMC. **FIGURES 6 & 7** (page 16)

Such a global flow analysis is not sufficient to define the comparative attractiveness of a region. For this reason, an analysis of agreements by sector and an identification of actors and cooperation operations and restructuring of firms are recommended. In this sense, in the following segment, we will discuss the cooperation agreements identified in the Mediterranean in four food sectors: cereals and by-products, dairy and oilseeds and vegetable oils, and poultry meat. The goal is to provide an overview of FDI in the three sectors, but also to identify needs and opportunities of cooperation between partners on both shores of the Mediterranean.

**A badly needed inter-companies cooperation**

SEMC REPRESENT AN IMPORTANT INTERNAL MARKET (especially for cereal by-products and vegetable oils). The demand is growing rapidly in size because of the continued increase in income *per capita* and population growth (Maghreb, Egypt and Turkey). In this sense, there are genuine opportunities for cooperation between European companies and local partners to meet national needs for such products, or to establish export platforms to nearby markets. Furthermore, opportunities for establishing logistics bases or units for crushing oils intended to the primary processing of cereals may allow European companies to find outlets for their production surplus. In exchange, local companies can reap the benefits of partnerships between firms, particularly in terms of technical, managerial training and international competitiveness.

Most cooperative operations identified in the sectors discussed above, have involved multinational firms and national leaders. They were primarily aiming for the domestic markets or needs or launching products ready for European markets. These collaborations have resulted in multinational joint ventures – often transitional – to facilitate the establishment of firms in local markets. Many other opportunities for cooperation exist,

## SIM, New challenges of the Algerian leader in cereals and by-products

● The SIM group was founded in 1990, in light of the first liberalization policies in Algeria. Specializing in cereals and by-products, the Group's production capacity increased from 150 to 2850 tons/day over 15 years. In 2005, the Group employed 700 employees for a turnover of 15 billion Algerian dinars (about 150 million Euros). Each day, the group produces 2200 tons of semolina and flour, 300 tons of pasta, 115 tons of couscous and 210 tons of animal feed.

In terms of production capacity, the SIM group operates 5 semolina factories, 3 mills, 5 pasta factories, 3 couscous plant, 1 unit for animal feed and numerous storage silos including a harbor grain elevator of a 145,000 tons storage capacity. The SIM group exports some of these products (pasta and couscous), especially to Jordan and a few African countries. The group has recently undertaken many acquisitions and strategic alliances with

local operators to consolidate its diversification policy in real estate, mineral water and grain trades.

In terms of international strategic alliances, in 1997 the SIM group signed an agreement with an Italian group to create a joint enterprise to supply and market equipment and spare parts for the cereal transformation industry (semolina-flour). Similarly, the SIM group instigated in late 2004, discussions with a European company, to create a

joint subsidiary to manufacture biscuits. The growth potential of the biscuit market is indeed very important and Algeria has a production deficit. Demand is estimated at 100,000 tons / year, while local leaders only provide 20,000 tons.

The group's new challenges entail controlling supplies of raw materials (upstream of the chain) and commercialization in foreign markets. To do this, strategic alliances with European firms seem to be a relevant policy option.

BASED ON THE DESCRIPTION OF THE BENACHENHOU A. GROUP, (2006), «LES NOUVEAUX INVESTISSEURS EN ALGÉRIE», ALPHA DESIGN, PARIS, 285 PAGES.

FIGURE 6

### Origin of agribusiness investors in SEMC

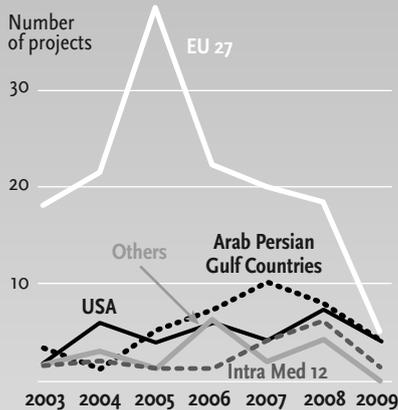
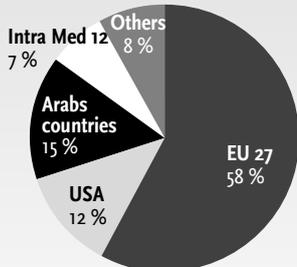


FIGURE 7

### Origin of agribusiness FDI projects in SEM 2003-2009

2003-2009



in particular between cereal, dairy or vegetable oil SMEs on both sides of the Mediterranean. The number of European SMEs in these three sectors is quite substantial. These companies all are potential partners for local firms in the SEM, provided the needs and the demand of such cooperations are identified and put into relation with each others

The implantation of large food Agribusiness Multinational Corporations in the Mediterranean was often done through joint ventures made with family-owned market leaders, or partial acquisitions by local partners. The goal of these firms being to minimize the risks associated with of a "Greenfield" implementation and to benefit from an adaptation period and to learn the business climate and local consumption habits.

Strategic alliances with local partners can help mitigating the effects of a novelty and "foreign" brand (Newness and foreignness Liabilities). On another level, some firms could benefit from the recent economic opening of countries to foster competition thanks to the attractiveness of direct investment. This example has been observed with the Carlsberg and Heineken plants located in Central and Eastern European countries (competition between Hungary, Slovenia and Croatia). The situation of strategic alliances in sectors considered here is no exception to this rule: multinational joint ventures, cooperation, transition and accommodation of multinational companies through local partners, often leaders in their domestic markets. Three other observations can be made from the Mipo / Anima census of FDI in the Mediterranean food sectors examined: 1) an increased presence of Gulf countries investors, and a gradual return of European FDI; 2) significant upstream investment in sectors aiming for vertical integration and securing raw materials supplies; the occurrence of a few South-South investments often made between geographically close countries.

In 2008, SEMC received 24 FDI projects in the food sector, representing 3 % of total flows to the region. Taken together, the three sectors examined showed 8 major foreign investments in 2008, for a total flow of 250 million Euros. In terms of types of commitment, it appears that FDI's are still marked by acquisitions or equity interest. These operations are often carried out by large multinational firms or financial institutions.

The results in terms of partnerships between SMEs from both sides of the Mediterranean are disappointing and well below the potential of food chains stakeholders. However, this observation must be put into perspective as the data collected rarely takes into account the agreements between small firms, cooperation that is not capital intensive (technical support agreements, *ad hoc* contracts, etc.) and operations with little media coverage.

## Sud Céréales: A French group seeking business opportunities in the Southern Mediterranean

● Created in 1974, the Group has consolidated and merged the operations of twenty cooperatives and private companies involved in grain and oilseed transformation. The Sud Céréales group has currently 4000 members in 5 counties in southern France: 250,000 tons of grain were collected in 34 collection points. Through its 19 subsidiaries, Sud Céréales made, in 2008, a turnover of 110 million Euros for 313 employees. During the 2000's, the group has

refocused on its three core business, namely acquisition and seed production, collection and marketing, and distribution outlets. For the latter, the group runs 21 outlets in partnership with *Gamm'Vert*, *Comptoir du village Alpesud*, *Lisalp*. In terms of marketing activities, the Group is the leading agricultural distributor for the South of France. Regarding the strategic alliances between firms, Sud Céréales is involved in several cooperations with local companies (*Perret*,

*Province Group Service for seeds*). Similarly, the Group tackles the collection of grain since 2006 for *Comptoir du grain*. In 2007, Sud Céréales conceded *Soufflet Alimentaire*. Its shares in the SCS rice mill to shift to grain products. From 2008, the Sud Céréales group initiated discussions with local operators in the SMEC (Maghreb and Egypt) to identify opportunities for cooperation and partnerships in these countries. The group's goal was to select viable

operators for marketing or first processing of products, while creating local business outlets. Thus, it seems Sud Céréales is looking for opportunities through local partners in the Southern Mediterranean. In this sense, the options for cooperation with SMEs or local groups may provide, *inter alia*, intelligence on market and local supply, storage and logistics networks, while also allowing sharing risk between partners on both sides.

AMADEUS VAN DIJK DATABASE, SUD CÉRÉALES WEBSITE.

THE EURO-MEDITERRANEAN PUBLIC PARTNERSHIP SHOULD ENCOURAGE STRATEGIC ALLIANCES BETWEEN SMES OF BOTH SIDES OF THE MEDITERRANEAN AS WELL AS A UNIQUE CO-DEVELOPMENT BUSINESS MODEL

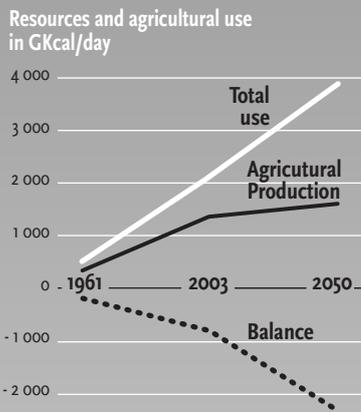
To illustrate the elements of the previous findings, in the following sections, we will be presenting the profiles of two Mediterranean companies specialized in collecting, processing and marketing of cereal products (see Boxes 1 and 2). Both companies are important players in their respective domestic markets. They both present opportunities and needs for cooperation. For the Algerian group, the needs are concentrated around business training and opportunities to export to a few Mediterranean countries (Jordan, Libya) and African countries (Senegal, Mali, etc.). For the French group, the needs are more oriented towards the marketing of surpluses to major markets (Algeria, Morocco, Egypt) in collaboration with an experienced local partner. **BOX**

Such situations of not meeting cooperation's demands and offers exist in all three sectors. Operators of both sides of the Mediterranean are looking for viable and experienced partners. The benefits of a cooperation are most obvious. It is rather to help stakeholders meet to bring out potential partnerships. The dissemination and updating of information to all stakeholders is performed by a coordinating agency to promote investment in the region. A specialization per sector of the existing cooperation structures, should allow for an increase of inter-SME partnerships.

Global firms are already present in SEM Countries (Nestlé, Danone, Coca Cola, etc.) And contribute to bringing technological and managerial training to local businesses. These firms have the financial means to convey their geostrategy but usually share a business model that is heavily dependent on foreign share-holders logic and therefore depend on the financial currents. Consequently, the Euro-Mediterranean public partnership should encourage strategic alliances between SMEs of both sides of the Mediterranean as well as a unique co-development business model, both territory-oriented and non-hegemonic.

**FIGURE 8**

**A scenario of the unacceptable. Historical and forecasted evolution of food in the MENA region: a growing insecurity**



INRA-CIRAD, 2009, AGRIMONDE

**CREATING A MEDITERRANEAN FOOD LABEL IN THIS REGARD COULD BE A POWERFUL PROMOTIONAL TOOL TO RECAPTURE BOTH THE LOCAL MARKET IN SEMC AND THE EXPORT MARKET**

### 3 Conclusion : a priority policy for action

THE ISSUES OF FOOD SECURITY in the Mediterranean are at the crossroads of three distinct issues: the challenges of regional and national environmental, social and climate-related constraints on food, and finally, issues related to building institutional and geopolitical under way. In such configuration, the business cooperation can be a vehicle for strengthening North-South relations and accelerate regional integration. However, these strategic alliances should not be regarded as a long-term solution. First, because these alliances cannot substitute for public policy of security and food sovereignty, but also because it comes from non-institutional stakeholders which can in no case lead to well planned regional policies. Hence, these strategic agribusiness alliances in the Mediterranean must go along and accelerate a wider institutional and regional process and, whose dynamics could depend on the countries involved.

The first issue of food security in SEMC is undoubtedly a public health issue. The drift in the food consumption pattern caused by the globalization of agro-industrial products that are too high in empty calories causes a slow emergence – hard to discern in the short-term – emergence of true pandemic potentially very costly in human, social and economic terms.

In SEMC, we are faced with a shocking paradox, since the Mediterranean diet is considered a “nutritional standard”. To prevent disastrous events waiting to happen, it is essential to establish real qualitative food security policies in SEMC (quantitative food security affects only very little SEMC to date). These policies must be built on the foundation of the traditional local diet rather than supplements or medicalization of food recommended by multinational companies. This basis represents a significant advantage: revitalizing or creating food chains generating sustainable local development. It must be based on “production” (this is the link with the second issue of food security) on a scheme to identify, define, set standards through innovation and protection of local products. Creating a Mediterranean food label in this regard could be a powerful promotional tool to recapture both the local market in SEMC and the export market, helping to reduce the international abyssal deficit trade of SEMC.

This third issue will of course require other tools that are to be found within local cooperation. As a priority, a co-development of food production in SEMC through scientific, technical and economic partnerships: productivity “pools” remain high in these countries and innovative and sustainable technology packages can be implemented quickly if a conducive institutional and Human cooperation framework is created. Secondly, a new international macro-regional trade policy. Indeed, the north shore of the Mediterranean is one of the two anchors of the European Union, the world’s largest exporter of food, but which only makes 10 % of its sales outside the community towards SEMC and only imports 10 % of its agricultural products of SEMC, while the latter buy 35 % and sell 51 % of their agricultural products to the EU.

Globalization is measured with other indicators, including capital and services exchange. Regarding FDI (Foreign Direct Investments), SEMC account for 4.3 % of the world population, they do not yet constitute an attractive area, with less than 0.4 % of total world inflows for 2002-2004, 1.6 % for agriculture and 0.9 % for food industries. This underinvestment is a serious problem as the companies in the area have a great need for “upgrading”.

The food imbalance in SEMC is obvious and all foresight analysis converge towards a worsening of food shortages. According to Agrimonde, the MENA region (Northeast Africa/Middle East) is at risk of experiencing a

## BIBLIOGRAPHIE

Abis S., 2009, «Désordres agricoles et alimentaires en Méditerranée», *Revue politique et parlementaire*, n°1051, Paris

Berger S., 2003, *Notre première mondialisation*, Seuil, Paris

Braudel F., 1985, *La dynamique du capitalisme*, Arthaud, Paris

Cheriet F., 2009, *Instabilité des alliances stratégiques asymétriques: cas des relations entre les firmes multinationales et les entreprises locales agroalimentaires en Méditerranée*, Thèse de doctorat en sciences de gestion, Supago, Montpellier

Chaumet J.M., Delpeuch F., Dorin B., Ghersi G., Hubert B., Le Cotty T., Paillard S., Petit M., Rastoin J.L., Ronzon T., Treyer S., 2009, *Agricultures et alimentations du monde en 2050 : Scénarios et défis pour un développement durable*, Inra-Cirad, Paris

Dubreuil C., Rastoin J.L., coord., 2009, «Un pacte agricole, agroalimentaire et rural pour l'intégration euro-méditerranéenne», *Les Notes Ipemed*, n°4, Paris

Hervieu B., éd., 2008, *Mediterra, Les futurs agricoles et alimentaires en Méditerranée*, Les Presses de SciencesPo., Ciheam, Paris

Hervieu B., éd., 2007, *Mediterra, Identité et qualité des produits alimentaires méditerranéens*, Les Presses de SciencesPo., Ciheam, Paris

Malassis, L., *Économie agro-alimentaire, T.I, Économie de la consommation et de la production agro-alimentaire*, 1979, Ed. Cujas, Paris

Minot N., Chemingui M., Thomas M., Dewina R., Orden D., 2007, *Impact of trade liberalization on agriculture in the Near East and North Africa*, Ifpri, Ifad, Washington

Rastoin J.L., 2007, «Risques et sûreté alimentaire dans un contexte de mondialisation: vers une approche politique et stratégique», in Hervieu B. (dir.), *Mediterra, Identité et qualité des produits alimentaires méditerranéens*, Ciheam, les Presses de Sciences po, Paris

Veltz P., 1996, *Mondialisation villes et territoires*, L'économie d'archipel, Puf, Paris

critical situation in 2050. In 2003, the gap between local resources and consumption reached 35%. In 2050, this gap would be reaching nearly 60%, which would make the region the most vulnerable in the world in terms of food security. The impact of climate change, not taken into account by Agrimonde simulations for 2050, is an additional factor of concern. The scarcity of water resources – an ongoing process for several decades in this area – and rising temperatures will change the agricultural landscape. This reality provides a strong incentive to recommend major R&D investments in new plant varieties and saving water production systems.

This very worrying situation, likely to occur within two generations, is already at work: the food bill in foreign currency (imports) of SEMC (Turkey excluded) doubled between 2006 and 2008, reaching \$ 25 billions. With less than 5% of world population, the region accounts for more of 12% of cereal global trade. Improve food security is therefore on top of the agenda. This involves international trade agreements to ensure stable supplies and prices smoothing for sensitive food products in the institutional framework of Euro-Mediterranean dialogue. But the inter-companies partnerships seems very relevant too, as far as the traded goods are more complementary than competitive: cereals and dairy products go in the North-South direction, while fruits and vegetables go from the South to the North.

The benefits of strategic alliances in the food sector to businesses on both sides of the Mediterranean are manifold: access to financing and international supply and distribution networks for SEMC partners, and a minimization of country risk, cultural distance and better control of local business climate and consumption pattern for Northern partners – all being reasons to expand the operations of inter-company cooperation.

The channels considered here – dairy products, vegetable oils and oil-seeds, poultry meat and cereal by-products – show many partnerships opportunities between firms. These are emphasized by the large number of European companies specializing in these activities. 16 000 European companies were identified as potential partners for future cooperation. Most of these firms are small and very small, with such significant needs in terms of external international growth opportunities.

HOWEVER, IT IS CLEAR that the balance of strategic alliances in the sectors assessed is disappointing. Most of the recorded FDIS, are setting-up activities of large multinational firms collaborating with national conglomerates, leaders in their respective local markets. Many of such cooperation have helped create or strengthen an important market share. Often, the overall competitiveness of the local group was indeed strengthened. However, most of these partnerships were transitional in view of the larger firm, and merely aimed at adapting to the host country's commercial and institutional frameworks.

We also note the growing role of investors from Gulf countries in the three sectors examined. A few South-South cooperations were also reported, especially between companies from neighboring countries. The promotion of such partnerships and the agreements between North-South SMEs and the promotion of expatriate projects from the South who settled north of the Mediterranean, all constitute good examples serving to generalize agribusiness cooperation projects in the Mediterranean.

Opportunities, needs and demand of cooperation between firms exist on both sides of the Mediterranean. Meeting this offer and need of partnership also belongs to the regional institutional framework being built. Better coordination between investment promotion agencies, a selection of reliable partners in all countries, identifying opportunities for outsourcing, exporting or re-exporting, could lead to a generalization of strategic



**Jean-Louis Rastoin** is an agroengineer, Doctor in Economics and holds an aggregation of Management Science. He teaches

Economy and Management at Montpellier SupAgro. Founder and Director of the Shared Research Unit Ciheam/Cirad/Inra/IRD/Montpellier, he was advisor to the Ministry of Agriculture in Brazil and also in charge of Planning at Renault Agriculture SA. He presided during 6 years over the International Association of Food and Agro Industry Economy (AIEA2). He is a national correspondent of the Agriculture Academy of France. To be published cosigned with G.Gherssi, *Le système alimentaire mondial: concepts, méthodes et dynamiques*, ed. Quae, Paris.



**Foued Cheriet** is a research engineer at Inra in Montpellier, Doctor in Management sciences (Montpellier SupAgro). His

research is concentrated on the food and agro industry sector in the Mediterranean oriented on strategic management of relations among organizations, asymmetric alliances control, strategies of multinationals and foreign direct investment. He published many contributions on the instability of strategic alliances and investment in the food and agro industry sector in the Mediterranean.

alliance agreements between companies to all sectors involved (upstream-downstream), but also a more promising portion of SMES.

All these factors argue in favor of a major action. It could take the form of a “agricultural, food and sustainable rural development Agreement”, to be added to the “opportunity window” opened by the CAP reform for 2013 (Dubreuil *et al.*, 2007) The agreement will be based on a goal of food security in the long term for the area by guaranteeing supply of strategic products for local populations, and co-development for food chains players. The agreement will be largely based upon strategic partnerships between the entrepreneurs involved in the Euro-Mediterranean food system Partnership. It will securely be in line with a double logic of solidarity and complementarily provided by the geographical and cultural proximity. ●



**IPEMED**

- INSTITUT DE PROSPECTIVE ÉCONOMIQUE DU MONDE MÉDITERRANÉEN -

IPEMED, Institute for the Mediterranean region economic prospects, is a general interest institute, created in 2006. As a think tank promoting the Mediterranean region, its mission is to bring the two shores of the Mediterranean closer, through economic ties. Privately funded, it is independent from political authorities.

IPEMED 's directors: **Jean-Louis Guigou** and **Radhi Meddeb**. Editorial advisor: **Akram Belkaïd**. Scientific advisor: **Pierre Beckouche**. Media: **Véronique Stéphan**. ISSN: 2106 - 5063

→ [www.ipemed.coop](http://www.ipemed.coop)

Production: **Patricia Jezequel, Alain de Pommereau** Printing: CPI Imprimerie France Quercy.



20 Les Notes IPEMED n° 6

FOOD SECURITY