

# FOOD CONSUMPTION PATTERNS AND FOOD POLICY IN MALTA

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Malta is a small island in the Central Mediterranean and gained independence from Britain in 1964. Since the sixties, the Maltese economy has undergone restructuring which resulted in the phasing out of the military base, the expansion of the manufacturing sector and the development of tourism. Although successive development plans considered the agriculture and fisheries sector as one of the main pillars of the Maltese economy, it certainly is no longer the case. However this sector has significantly affected food consumption patterns. This does not in any way imply that the sole factor behind the current composition of the food consumption model is the impact of agricultural policy. Other factors which have played an important role in the moulding of the current model include socio-cultural features, income growth, demographic patterns and consumers' attitudes and perceptions of different foods.

The main objectives of this article are to identify (1) whether there are common features in food consumption patterns between Malta and the typical Mediterranean model (if this actually exists) and (2) evaluate the policy actions which Malta embarked upon in the area of food and nutrition policy.

## Section 1: Some economic and social characteristics of Malta

Malta's identified growth sectors in each of the published six Development Plans were manufacturing including ship-repair and ship-building, agriculture, fisheries, and tourism. We will mainly discuss the positioning of the agriculture and fisheries and tourism sectors.

In 1992, the agriculture and fisheries sector contribution to Gross Domestic Product was a mere 3 per cent. The sector remains characterised by a gradual contraction of land area (12,000 ha or 37 per cent of the total land area), intensive animal production, and a general disinterest on the part of the younger generation of the farming community to remain on the land.

Despite increased crop yields due to the introduction of drip irrigation techniques, a

### Abstract

The food consumption model in Malta contains several characteristic features of the so-called «Mediterranean model». Nevertheless there are also certain distinct differences attributable to cultural and economic factors. With sustained economic growth, the impact of tourism, the media and eventual entry in the EC and participation in the mechanisms of the Common Agricultural Policy (CAP), there is bound to be a further transformation of the island's food consumption patterns. Although the foundation stone for a food and nutrition policy was laid down in 1988, more coordination is required between public and private agencies engaged in policy implementation and surveillance, particularly in the area of food quality and safety.

### Résumé

*Le modèle de consommation alimentaire à Malte a diverses caractéristiques qui rapprochent le «modèle dit-Méditerranéen». Néanmoins il y a des différences distinctes à cause des facteurs culturels et économiques. Une croissance économique plus forte, l'impact du tourisme, les médias et l'entrée éventuelle dans la CE et la participation dans les mécanismes de la Politique Agricole Commune (PAC), vont entraîner une transformation accrue du modèle de consommation alimentaire de l'île. Bien que il y aie la base d'une politique alimentaire et nutritionnelle depuis 1988, plus de coordination est nécessaire entre les agences publiques et privées engagées dans l'implémentation et la surveillance de cette politique, surtout dans le champ de la qualité et sécurité des produits alimentaires.*

sizeable portion of arable land has become marginalised. Institutional constraints, in particular the land tenure system, coupled with lack of investment in the upgrading of agricultural structures as well as in water development schemes, limit future agricultural development in Malta.

The contribution of the fisheries sector to the Maltese economy is considerably less than that which might be expected of an island nation. National catches supply less than one-quarter of total fish consumption, the main limitations being very small vessels (which are only capable of short-term or overnight operations) and a declining full-time gainfully occupied population engaged in this industry.

To this must be added the general Mediterranean Sea problems of overfishing and pollution. Since 1989, an aquaculture industry has been set up and the main objective is to involve actively full-time fishermen in order to help them complement their continuously declining incomes. Until now, aquaculture remains entirely geared towards export. This is why Malta has to import 80 per cent of its calories - 100 per cent of sugars and cereals, 70 per cent of meats, 87 per cent of fish, over 90 per cent of oils and fats (all in weight terms). This importation is not only necessary to meet the demands of a more demanding population but also a booming tourist industry.

Tourism is one of the determining factors of Malta's recent positive economic growth performance. Total arrivals during 1992 topped the 1 million mark, 52 per cent of the arrivals being constituted of British tourists. This inflow, coupled with the Brit-

ish occupation of the islands for over 150 years, necessarily has had an effect on Maltese food consumption patterns.

In the social sphere, the size of Maltese households has been on the decline although the female participation rate in the labour force still remains one of the lowest in the developed world. The demand for quality rather than quantity is not only the result of a more «educated» population but other factors include outward-bound tourism and the media, especially the influence of Italian television.

After providing a broad description of the economic and social features of Malta, the next Section will delve into the characteristics of the «Mediterranean food model» and the Maltese dietary habits.

## Section 2: The Mediterranean model and Maltese food consumption patterns

Research on the composition and «health promoting features» of the Mediterranean diet has been rather diffused. However information has been rather concentrated on the food consumption models of the developed northern-bound Mediterranean countries and few studies have attempted to analyze food consumption in the Maghreb and Mashreq area and the islands scattered all over the Mediterranean.

This section will examine the Mediterranean diet, as defined by Ferro Luzzi and Sette (1989). Food consumption patterns in the Mediterranean will be briefly compared to the food consumption model characteristic

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of a «glut economy», principally N. America and most of N. Europe.

The attention of food economists seems to have shifted towards the convergence phenomenon of dietary habits - a convergence towards the North American model. The indications point that a saturation point has been reached in North America and several W. European countries and a gradual switch is discernible towards fresh products especially fruit and vegetables, and lower meat and dairy products' intakes.

### The Mediterranean model

Ferro Luzzi and Sette (1989) describe the Mediterranean diet as that prevailing in two Southern Italian sites in the early sixties as described by the Euratom study (see Cresta *et. al.*, 1969). The Euratom study was carried out in eleven areas of Holland, Luxembourg, France, Belgium, Germany and Italy. The most striking feature was the significant consumption of cereal products in South Italy (490 g/day), pasta and bread providing about 60 per cent of total energy intake. The diet contained much less milk and dairy products, meats and sugar than the so-called «northern countries». A rather unexpected feature was a lower intake of fruit and vegetables than in countries like Germany and Belgium.

Consumption of separated fats and oils was not particularly low in S. Italy, the fats used being almost exclusively vegetable oils, mainly olive oil. Margarine was not used, while butter and other fats (principally lard) were used very sparingly. Total dietary lipids, i.e. separated fats plus unseparated fats were found to be lowest in S. Italy amounting to 28 per cent of total energy intake.

Ferro Luzzi and Sette, p. 21 even conclude that the composition of foods in N. Italy places it in a separate category from that of S. Italy «further demonstrating that being geographically Mediterranean does not necessarily imply that the dietary profile conforms to the purported Mediterranean model».

Thus the main conclusion was that, even in a Mediterranean country such as Italy, the Mediterranean diet is not as universal as expected. The features of such a diet are «a high proportion of total energy provided by cereals and a low proportion by total lipids, a contribution to total lipids of olive oil and a relatively low proportion of milk and dairy products». However, Ferro Luzzi and Sette observed that «meat products have a much larger share in the diet than previously reported and that cereals are relatively less important».

This absence of the «universality» of the Mediterranean diet was also confirmed by Giacco and Riccardi (1991) who note that, although some nutritional characteristics could be common to all or most of the Mediterranean area, «it would not seem correct to extrapolate the eating habits of Greece or S. Italy to all other Mediterranean countries».



Stamler (1985) and Riccardi *et. al.* (1988) point out that the nutritional features of this Mediterranean diet «confirm its adequacy for preventing cardiovascular diseases and other chronic degenerative diseases typical of industrialised countries». But, as several researchers have already observed, there is a tendency towards a progressive «northernisation» of the Mediterranean diet (Ferro Luzzi and Sette, p. 23). This is not only a phenomenon limited to the Mediterranean region, but a general trend around the world.

This «westernisation» process has spread further with foreign aid, communications and inter-cultural contacts besides increases in disposable income and international trade.

Evidence supporting the existence of this process is also presented by Padilla and Oncuoglu (1990). They place the European Mediterranean countries, with the exception of France, in an intermediate zone, midway between the countries of the Southern Mediterranean region including Turkey and the so-called «opulent» countries «however, they are similar to the glut model (Malassis) in the high levels of final consumption». Blandford (1984), using cluster analysis, concludes that «there is a general tendency for dietary structures to become increasingly similar across the majority of the OECD countries». Referring to the Mediterranean countries — Italy, Portugal and Spain — he notes that «per capita food consumption has increased by the greatest percentage» but this was expected to fall considerably with a rapid fall in income elasticities.

These «intermediate» Mediterranean countries moved further towards the «glut» countries as a result of the rise in the proportion of total food calories obtained from animal products. Thus for example, the author shows that in Italy the proportion rose from just under 20 per cent in 1960-61 to almost

28 per cent in 1979-80, while in Spain the increase was more dramatic - 15.7 per cent in 1960-61 compared to nearly 30 per cent in 1979-80.

On the basis of Blandford's analysis, the main differences between the dietary structures of countries like Italy, Spain and Portugal (Group 2 and Group 3 countries) and Group 1a countries (Canada, Australia, Benelux, USA, Germany, France) was the intake of cereals and starchy foods (higher in the former), sugar, meat and dairy products (higher in the latter).

Padilla (1992), quoting Segre (1990), outlines that in the case of Italy one could notice, as from 1985, a fall in meat consumption, revived interest in milk products, fresh fruit and vegetables, preserved fish and fruit and vegetables and non-alcoholic beverages. In Spain, consumption of pork, full cream milk, bread, sugar, potatoes, oils and fats and tables wines fell while lamb and veal consumption, fish products, whole grain, pasta and olive oil consumption increased. Although one can safely infer that there is a convergence of eating habits across Europe, we have also seen that differences still exist between countries and within countries in the Mediterranean area. For a recent comprehensive overview of food consumption patterns in the Mediterranean region and, in particular, within Spain *cf.* Serra-Majem and Helsing (1993).

An analysis of the food consumption model in Malta will confirm further the point that it is difficult to define a «typical» Mediterranean model.

### Food consumption patterns in Malta

Citing Vuksan (1982), Helsing (1991) highlights that «although Mediterranean, the Maltese diet has for historical reasons many traits in common with that of Northern Europe».

**Table 1 Malta: per capita intakes of main food categories.**

	kg/capita/yr
Beef	24.4
Pork	21.4
Poultry	10.2
Sheepmeat	1.8
Other (mainly rabbit)	4.7
Meat preparations	9.6
Fish	15.2
Eggs	20
Fresh milk	64
Cheese incl. rikotta/halloumi	15.5
Bread	83
Butter	1
Sugar	50.4
Oranges	21
Lemons	0.1
Grapefruit	0.8
Other citrus	4.8
Bananas	8
Tomatoes	21.8
Potatoes	55

Source : Own estimates based on Agrostat FAO.

Whereas in 1960, 38 per cent of total private final consumption expenditure was allocated to food products, the proportion fell to 29.9 per cent in 1981 and reached 28.5 per cent in 1991 (fig. 1).

In Malta, the bread and cereals component fell over the period 1960-1980, but subsequently increased, probably reflecting a switch away from traditional cereal-based products, namely bread, towards higher quality pasta and cereal-based confectionery. The meat budget share was relatively stable until 1985, but declined between 1985 and 1991. Expenditure on dairy products and oils and fats declined at a rather steady rate. Expenditure on fruit and vegetables fluctuated rather erratically, while consumption of «other food» seems to be on an upward trend after a steady decline during the 1970s (fig. 2).

On a per capita basis (see table 1), the main features of the Maltese diet are clearly discernible - a rather high consumption of cereals, still dominated by the traditional Maltese bread and pasta, dairy products, especially cheese and eggs, (consumption of eggs is one of the highest in Europe), and sugar. Sugar consumption is not only in direct form (with confectionery products), but in indirect or «hidden» form, namely non-alcoholic beverages.

Meat consumption is still dominated by red meats. The red meats to white meats ratio during recent years stood at around 2.0 (1) with processed by-products - corned beef, luncheon meat and hams constituting an important portion. Poultry meat and fish consumption are still low, while rabbit meat consumption is the most popular «other meat». Rabbit is mainly consumed on Sun-

(1) The computation of the red meats to white meats ratio is made as follows:- (red meats = beef, pork, horse-meat, sheepmeat, goatmeat) / white meats (chicken, rabbit meat, fish).

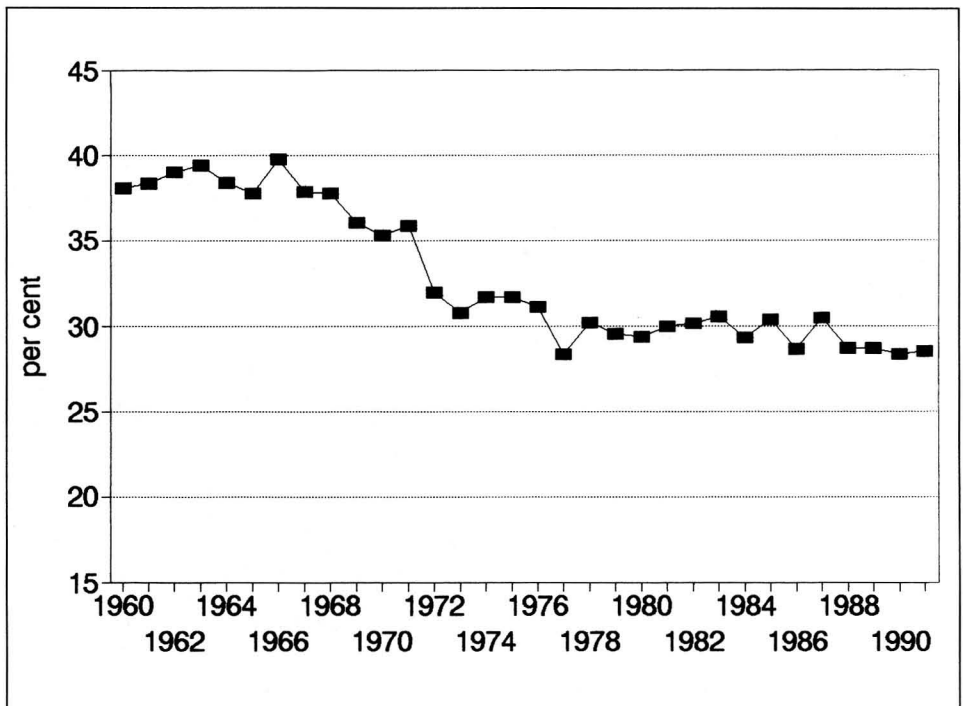


Figure 1 - Food budget share (% total private cons. expenditure).

days and festive occasions and produced only in limited quantities on a semi-commercial basis.

Consumption of fresh fruit and vegetables remains low and this is principally due to the limited production capacities and the high demand from the tourist industry. Consumption of potatoes is not exceptionally high for a country whose main export crop is Spring potatoes. Lower yields (for potatoes) and a contraction in the area under production have induced the Department of Trade to resort more to importation. Fi-

nally, olive oil consumption is the lowest in the Mediterranean.

Thus it can be concluded that the Maltese model is quite detached from the early 1960s «Mediterranean model». Probably the principal common feature is the symbolic value of bread. In the case of all other Mediterranean products — fruit, vegetables, olive oil — Maltese consumption levels are rather low. The following section will discuss the role of food and nutrition policy in Malta in influencing consumption patterns.

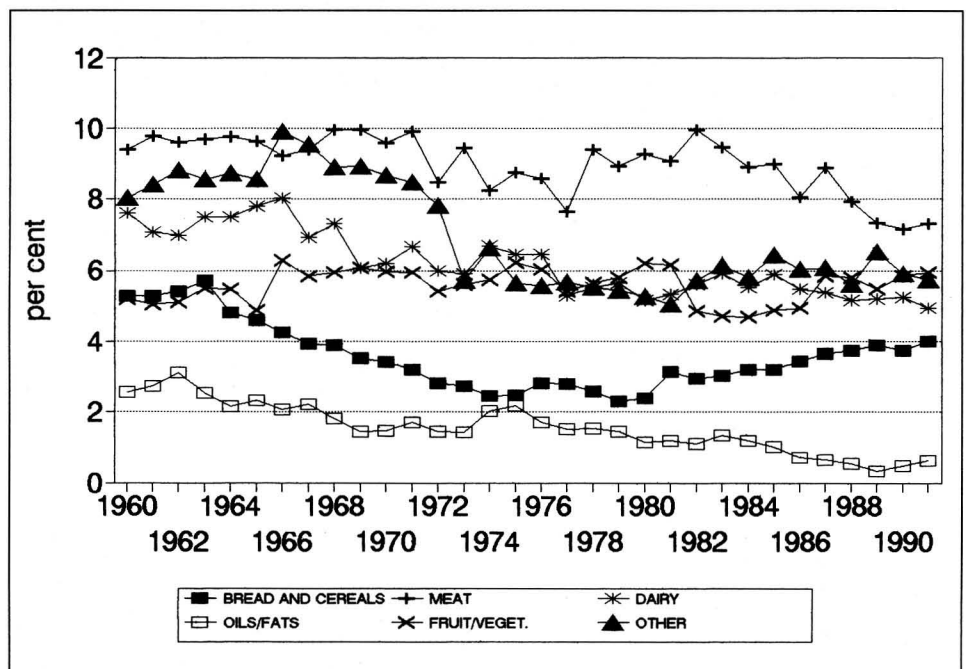


Figure 2 - Budget shares (% total private cons. expenditure).



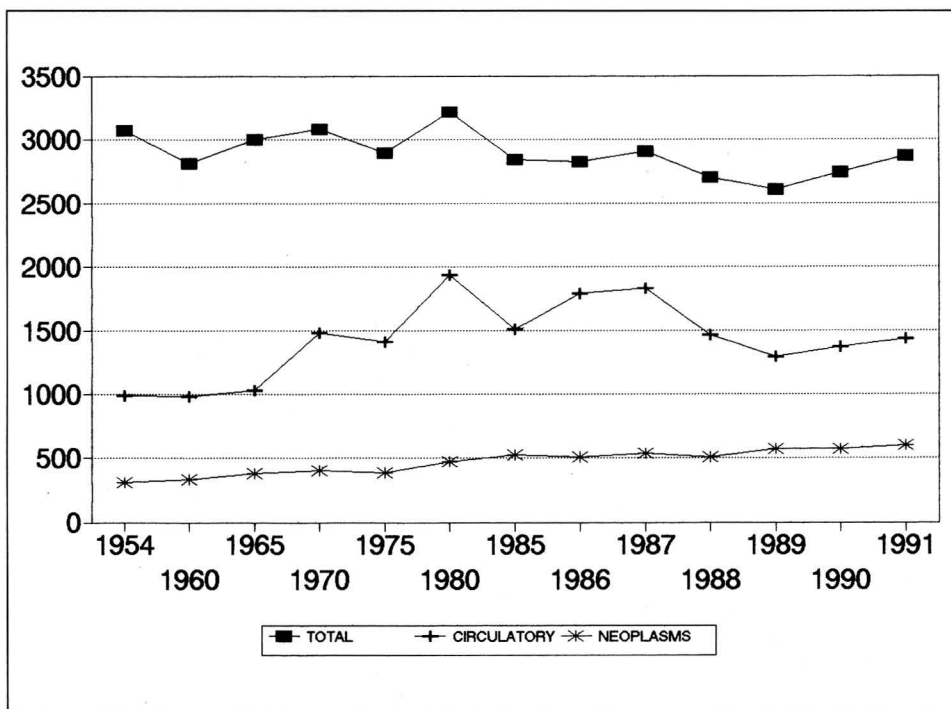


Figure 3 - Total deaths in Malta, by main cause.

#### Food and Nutrition Policy formulation

Concern about the eating habits of the Maltese population is quite recent, the foundations for a Nutrition Policy being laid only after the 1986 Nutrition Conference (joint conference organised by WHO and the Maltese Department of Health), which concluded that «the Maltese should consume less fats, sugars and salt and eat more fibre» (WHO, 1986). To achieve this target, it was recommended that the population «eat less meat, have fish and poultry in preference to beef; substitute high fat dairy products with low fat alternatives; eat fewer eggs and more fresh fruit and vegetables and whole grain products» (Bellizzi, 1989 p. 73). The agreed set of nutrient goals are outlined in **table 2**.

From data published in the Demographic Review and other information supplied by the Health Education Unit, it is clearly evident that over recent decades there has been a rapid increase in premature mortality from cardiovascular diseases (namely ischaemic heart diseases) and the diffusion of neoplasms. Other related problems include high blood pressure, high blood cholesterol and obesity (as measured by the Body Mass Index - BMI) <sup>(2)</sup> (**fig. 3**).

Over 50 per cent of all deaths in Malta are from cardiovascular disease. Cacciatolo (1990) indicates that «coronary heart disease (CHD) results from complex interactions between the genetic constitution of an individual and several environmental factors». In fact existing medical evidence is still not sufficiently clear about the link between diet and heart disease.

Beverages, such as alcohol and coffee, have

also been associated with the risk of CHD. Referring to results obtained from the MONICA Project baseline survey and subsequently the INTERSALT study, there is sufficient evidence to indicate that hypertension is not simply an individual problem, but also a widespread disorder at community level amongst the Maltese <sup>(3)</sup>.

Malta has the highest rate of diabetes in Europe, with an incidence rate of one in every ten; the prevalence of impaired glucose tolerance is 13 per cent (Schranz, 1989). Cardiovascular disease represents the leading cause of death for diabetic patients and amongst the recommendations to counter this problem is the decrease in fat consumption, especially saturated fat.

Helsing (1991, op.cit) describes how the two national conferences on nutrition held in Malta in 1986 and 1988 stimulated considerable political awareness, which brought about the adoption of a «multisectoral nutrition policy». The Malta Case Study presented for the FAO/WHO International Conference on Nutrition in 1992 has also provided an updated situation assessment of the health of the Maltese nation and the present and future strategies in nutrition education. It is important to outline the main points raised in each of the documents presented during the three conferences and any policy actions which have emerged therefrom. Besides setting nutrient goals, the 1986 Conference suggested measures and strategies which were necessary in order to achieve such targets. Bellizzi (1989) outlines that these could be categorised into three separate areas: (1) those influencing knowledge and awareness about food, (2) food availability, and (3) food quality and safety.

Table 2 Dietary recommendations in Malta.

Total fats: 30% of total energy intake
Saturated fats: 10% of total energy intake
P/S ratio: not less than 0.5-1.0
Cholesterol: < 100 mg per 4.18 MJ (1000 Kcal)
Complex carbohydrates: > 45% of total energy intake
Sugars: < 10% of total energy intake
Dietary fibre: > 30 g per day
Salt: < 5-8 g per day
Proteins: 12-15% of total energy intake
Fluoride: 0.7-1.3 mg/l (in water supplies or the equivalent from other methods of fluoride intake, application etc.)
Iodine: Not considered a problem
Alcohol: Not more than 2 units per day

Source: The Malta Food and Nutrition Policy.

A National Advisory Committee on Food and Nutrition (NACFN), constituted of representatives from the Departments of Health, Agriculture and Fisheries, Trade, Industry and Education, Consumers' Associations, the Chamber of Commerce and the Federation of Industries was set up. Two of its main terms of reference are (1) providing the scientific basis for the food and nutrition policy and (2) evaluate the progress of such a policy. The Nutrition Unit (Department of Health) was identified as the Secretariat of NACFN.

The role of the Nutrition Unit is basically concentrated in «the planning and production of educational programmes on nutrition». (Bellizzi, 1989 p. 74). The Unit has been very instrumental in increasing the awareness of Maltese consumers towards healthy eating.

The second Conference was «aimed at influencing and obtaining the support of policy makers in the public and private sectors» (Bellizzi, 1989 op. cit). Indeed support materialised with the endorsement by the Maltese Cabinet in December 1988 of a «Proposal for a National Food and Nutrition Policy».

The main conclusions of the Malta Case Study (1992) in areas related to the implementation and surveillance of food and nutrition policy are rather positive notwithstanding limited financial and human resources which inevitably confront a small country like Malta. The most urgent priorities identified were (1) a more active role of the NACFN, (2) continuous surveillance of risk factors and vulnerable groupings of the Maltese population (principally schoolchildren and the aged) and (3) coordination between different government and private agencies.

<sup>(2)</sup> The Body Mass Index is (weight in kg)/(height in metres) squared. A BMI of 25 is considered to be «normal», 25-27.9 (moderate overweight) and > 28 marked by overweight and predisposing to diabetes.

<sup>(3)</sup> The WHO MONICA survey is a major international collaborative study which has the objectives to measure the trends in cardiovascular mortality and coronary heart disease and cerebrovascular disease morbidity and to assess the extent to which these trends are related to changes in known risk factors, lifestyles and socio-economic factors. The baseline MONICA survey was carried out in Malta in 1984.

Unfortunately a major constraint to the effectiveness of food and nutrition policy in Malta is lack of coordination between such agencies. The inferred INTERSECTORALITY of the Maltese nutrition policy, involving education, agriculture, industry and the Health Department, is in actual fact not operating smoothly as most of the important policies are fragmented between the Finance Ministry, the Health Department and the Ministry responsible for Food and Agriculture.

Since March 1992, the Agriculture and Fisheries Ministry has also monitored matters relating to food policy and consumer protection. But due to limited importance accorded to matters relating to agriculture and fisheries at a Cabinet level, several related policies are not being regulated and monitored by this Ministry.

Given this state of affairs, nutrition policy-making in Malta cannot progress in a satisfactory way. Imports of agricultural products, which constitute an important portion of total domestic food requirements (around 60 per cent), are principally regulated by the Department of Trade (Ministry of Finance).

The labelling and presentation of foodstuffs regulations and issues relating to hygiene standards will be monitored by the Ministry for Home Affairs and Social Development (Health Department Section). These regulations were meant to come into force in October 1993 but now they have been delayed until January 1995 due to pressures from the food industry. A representative of the Malta Federation of Industry stated «local industry should not be made to suffer just because new ideas come up. The regulations can wait, at no great loss for the consumer». (*The Malta Independent*, 5 September 1993 p. 15).

Nutrition policy actually falls under the umbrella of the Department of Health, while nutrition education programmes are either organised by the Nutrition Unit (Department of Health) or the Education Department. Even the NACFN needs to report regularly to the Minister for Social Policy on progress achieved.

The foundation stone of a food and nutrition policy has been laid down in Malta in the late 1980s. Political commitment and endorsement of the policy seem to be present but a lot still has to be done in coordinating and reconciling different, sometimes conflicting, interests.

One of the major «coordination exercises» which will become necessary in the short-medium term relates to the regulations which Malta would be expected to introduce in its efforts to harmonise agriculture and food legislation with EC standards. Malta applied for EC membership in 1990 and the *avis* (opinion) on this application was issued by the EC Commission in June 1993. Whilst generally «positive» the *avis* requested that, prior to negotiations with Malta, a radical restructuring exercise across various sub-sectors of the economy was imper-

ative. On the basis of current developments at an EC level it is not expected that Malta will enter the EC with the Scandinavian countries and Austria.

It is beyond the scope of this research to discuss the possible evolution of food consumption patterns following the gradual adoption of the CAP mechanisms. However it is worth pointing out that although the CAP has never taken nutrition and health into consideration when drawing up or implementing the Policy (Helsing, 1990, p. 130), it is expected that the alignment of Maltese agricultural policy to EC agricultural policy mechanisms will have profound effects on Malta's food consumption model due to the fundamental changes which need to take place at a production level (especially within animal husbandry) and potential trade diversion effects (see Mizzi, 1992 for a detailed overview of Malta's application of the CAP regime).

## Conclusion

The Mediterranean consumption model defined by nutritionists and agricultural economists as being characterised by low intakes of saturated fats, high intakes of complex carbohydrates and moderate intakes of total fat with prevalence of monounsaturated fat is in no way uniform amongst the countries bordering the Mediterranean. Nutritional profiles do not only vary between the southern and northern shores of the Mediterranean, but also between the so-called homogeneous country groupings, like the Iberian peninsula and between regions of the same country, the most evident example being Italy.

In the case of Malta, the food consumption model is still dominated by typically «northern» products - dairy, beef and sugar. In fact this model is quite particular when compared to other Mediterranean islands, or the whole of the Mediterranean region. Some of the possible factors contributing to this specific structure are: British colonial rule spreading over more than one hundred and fifty years (hence some influence of certain aspects of a «northern» diet), the impact of tourism — both inbound and outbound — and the media.

With sustained socio-economic convergence there is a clear tendency for higher intakes of cholesterol and lower intakes of vegetable fibre to become more dominant in the Mediterranean diet. This situation will potentially increase the risk of non-communicable diseases and neoplasms, typical of the Western world, though a lot of research still has to be undertaken on the link between diet and health.

The lack of coordinated initiative and organisation in the Mediterranean region, including Malta, to promote a diet based on whole grains and fruit and vegetables has been mainly due to the view that there is no real concern about dietary habits. With the diffusion of non-communicable diseases

in the Mediterranean region, the degree of indifference at a policy-making level observed until recently is lessening and several countries are putting in place the necessary mechanisms to monitor in a more effective manner food consumption patterns. More resources need to be channelled into this policy area, particularly into specialised personnel training and diffusion of information on healthy eating to the general public. ●

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