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The Changing Eating Habits of the Maltese

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Abstract. *The wide diffusion of non-communicable diseases in the most advanced societies within the western world as well as within industrialising nations, including Malta, has induced governments to step up efforts to re-evaluate food and nutrition policies. Awareness about food consumption patterns and their use in policy development is a relatively recent phenomenon in Malta and dates only since the eighties. The major recommendations which emerged from the first two Conferences on Nutrition in Malta (organized by the Department of Health and the WHO Regional Office) emphasized the need for the gradual reduction in meat consumption (particularly beef) to be compensated by fish and poultry, the substitution of high dairy products with low fat alternatives and an increased consumption of fruit and vegetables and whole grain cereal products. In order to achieve the desired targets, various measures are being taken to influence consumers' awareness about food and health, monitor availability and guarantee food safety. Food labelling standards were launched in July 1992. Finally results ensuing from the Malta Case Study, which is a detailed analysis of the food and health status in Malta, should serve as a blueprint for future medium and long-term actions in this area.*

Titre. Les changements des habitudes alimentaires maltaises.

Résumé. La grande propagation de maladies non contagieuses dans la plupart des sociétés occidentales les plus avancées aussi bien que dans les pays en voie d'industrialisation (dont Malte) a amené les gouvernements à intensifier les efforts en vue d'une réévaluation des politiques alimentaire et nutritionnelle. L'attention portée aux modèles de consommation alimentaire est un phénomène relativement récent à Malte, datant seulement des années 1980. Les principales recommandations des deux premières Conférences sur la nutrition (organisées par le Département de la santé et le bureau régional de l'OMS) insistent sur : la nécessité de réduire la consommation en viande (de boeuf en particulier) pour la remplacer par du poisson ou de la volaille, la substitution des produits laitiers au lait entier par des produits à matières grasses réduites, et une consommation accrue en fruits et légumes et céréales complètes. Afin d'y parvenir, différentes mesures ont été prises en vue d'influencer la prise de conscience par le consommateur concernant l'alimentation et la santé, de contrôler les disponibilités et de garantir la sécurité alimentaire. L'étiquetage des normes alimentaires a commencé en juillet 1992. Les résultats finaux de l'Etude du cas maltais, qui est une analyse détaillée de la santé et de l'alimentation dans l'archipel, serviront de référence pour les futures actions à moyen et long termes.

Keywords. Non-communicable diseases – Diet – Nutrition policy – Consumption – Food safety – Food labelling.

I. – Introduction

Non-communicable diseases (NCD), that include circulatory diseases, (such as heart disease and stroke), cancers and diabetes, are now the leading causes of premature death and disabilities in Malta. Other conditions such as obesity, high blood pressure, high blood cholesterol, smoking and low physical activity are highly prevalent among the Maltese increasing the risks for NCD (Bellizzi, 1989). Together, these conditions inflict a substantial burden of illness on the Maltese bringing about disability, loss of productive years and a drain on resources.

The important role of diet in the prevention of some of these diseases and predisposing conditions is now recognised by the international scientific community (James, 1988; US Department of Health and Human Services, 1988). The Maltese Government too has been aware for some years of the adverse effects on health arising from the eating habits of the people and of the need for preventive actions (Malta. Ministry of Trade and Economic Planning, 1986; Malta, Department of Health, 1990). Indeed, this awareness led to the organisation of the First Conference on Nutrition in Malta in 1986 which recommended *inter alia*, the reduction in total fat, especially saturated fats, sugar and salt and an increase in dietary fibre (WHO, 1986).

Shortly after the Second Conference on Nutrition was held in 1988, Government endorsed a National Food and Nutrition Policy which has a set of nutrient goals and dietary guidelines as main objectives. These goals, together with the dietary guidelines, continue to be the basis of nutrition-related information given by the departments of Health and Education. Increasingly they are also serving as a guide to food supply policies in the agriculture, industry and trade sectors.

Six years have passed since the Maltese eating habits were reviewed and the nutrient goals established. Some data was not available at the time, for instance the average per capita salt intake in Malta. This chapter re-examines the Maltese dietary guidelines in the light of more recent and additional information. First of all it describes the changes in Maltese eating habits over the last thirty years in terms of major foods and macro-nutrients. Secondly, the “current” eating pattern is described and comparisons are made with other countries. The current average national nutrient levels are then compared with the national nutrient goals and the recommendations given in 1986 are reviewed. In conclusion, some of the actions in the field of food and nutrition that have been undertaken or are planned will be described.

Maltese Nutrient Goals

The agreed set of nutrient goals for the average Maltese diet are:

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

Maltese Dietary Guidelines

To achieve the above nutrient goals the Maltese people are advised *“to eat less meat and have fish and poultry in preference to beef; substitute high fat dairy products with low fat alternatives; and eat fewer eggs, more fresh fruit and vegetables and whole grain cereal products”*.

Source: *Formulation of a Nutrition Policy. Report of the First Conference on Nutrition in Malta*. WHO Regional Office for Europe, 1986, p. 7. Also published in the *Food and Nutrition Policy for Malta*. Department of Health, 1990, p. 9.

II. – Data sources used in the analysis of the Maltese eating habits

The main trends and features of the Maltese eating habits have been identified from a number of sources and are documented in detail elsewhere (Bellizzi, 1992). Trends traced from 1961 to 1988 have, for the most part, been based on food supply data in the form of National Food Balance Sheets (FBS) available from the Food and Agriculture Organisation (FAO). These figures are based on import, export and production data sent to FAO by the countries themselves. Adjustment is made for food not available for human consumption—such as seed, animal feed and harvest losses. In Malta's case, a correction is made by FAO to take into account the estimated amount of food which is consumed by tourists. The supply figures represent the average supply of the primary commodities—such as wheat, meat and vegetables, that are available for consumption. The amounts available, expressed either in kilogrammes per head per year (kg/h/y) or in grammes per head per day (g/h/d), include the weights of the inedible proportion of the food. FAO gives the calorie, fat and protein content against the primary commodities. These figures are arrived at by the application of the appropriate composition factors which take into account the inedible proportions. FBS are useful in tracing the trends in the supply of the primary food commodities. FBS, together with additional data described below, have also been used to discern the "current" pattern of the Maltese diet.

The 1989-1990 Household Budget Survey (HBS), carried out by the Central Office of Statistics in Malta, was the second set of data used in this analysis. The survey included 1,302 households covering 4,810 persons. It was conducted over a period of a year among a randomly selected wage earners group falling within pre-specified income ranges. Sub-groups in the population, such as persons above 60 years and persons on social assistance were excluded. Usually HBS data are expressed in terms of expenditure; however, the HBS data used in this analysis have, for the first time, been expressed in terms of "quantity". The quantity data provided was expressed for all the sample over the whole of the study period. This meant that a number of calculations had to be made to finally arrive at the daily per capita amount of food purchased. Furthermore, in some cases the quantity was expressed in numbers, for example number of milk bottles. In such cases, the standard equivalent amount of weight or volume was used to estimate the quantity in grammes or millilitres. Overall the HBS data are useful in tracing broad food preferences within households, providing interesting and new insight into the Maltese eating habits.

The HBS data were kindly made available to the Department of Health by the Central Office of Statistics of Malta to be used for the Malta Case Study, prepared for the WHO and FAO International Conference on Nutrition held in December 1992 in Rome.

The general characteristics and trends of the Maltese diet, but based on food expenditure, have been derived by Delia (1992). Expenditure on food by the Maltese population, starting from 1973 to 1989 was obtained from data on Private Consumption Expenditure which appear in the National Accounts and is representative of the population. Some of his findings have been used to further support this work.

Contemporary eating patterns have been described by using the FBS (1989) and HBS data supported by qualitative and quantitative population representative data from the 1984 MONICA baseline survey (Cacciatolo, 1992) and the 1982 Diabetes Programme Survey. Other small studies, such as the 1986 Intersalt study and a consumer health awareness study (1990) have been used.

III. – Maltese Eating Habits over the Years

The changes that have occurred in the Maltese diet are summarised in two statements, one made in 1839 and the other in 1986. In 1839 a report about the health of the troops in Malta was made to the British Government stating that *"the Maltese use very little animal food; bread, with the vegetables of the country, and occasionally a little fish, forms their principal sustenance"* (Statistical Report, 1839). In 1986, the World Health Organisation said, *"the average Maltese diet is not a healthy one. It is especially rich in fats and sugar and low in fibre"* (WHO, 1986).

This section traces the trends of the main food groups over the last thirty years. Three year moving average supply figures from 1961 to 1988 of the Food Balance Sheets have been used for this purpose.

Table 1. Changes in Supply from Major Food Groups between 1961 to 1988

Food Group	1961–63 g/h/d	1970–72 g/h/d	1979–81 g/h/d	1986–88 g/h/d	Percent change (1986–88/1961–63)
Cereals	443.7	426.6	369.9	383.8	-13.5
Pulses	65.8	50.1	10.9	15.1	-77.1
Potatoes	92.5	44.5	65.1	52.4	-43.4
Fruits and vegetables	356.5	429.2	490.0	573.7	60.9
Sugar	105.8	115.1	132.9	126.9	19.9
Meat	78.9	123.0	149.6	154.6	96
Eggs	23.8	34.0	38.3	44.6	87.4
Milk and products	353.4	451.9	542.8	588.9	66.6
Fish	30.0	30.0	52.2	44.1	47
Separated fats	35.9	44.6	51.5	59.5	65.7
• Vegetable oils	23.6	28.2	32.3	46.6	97.7
• Animal fats	12.3	16.4	19.2	12.9	4.5
Alcohol	38.9	81.9*	115.6	146.9	277.6

* 1972–1974 MEAN
Source: Derived from AGROSTAT FBS (Bellizzi, 1992).

Table 1 shows the following: The supply of cereals, which includes wheat products such as bread and pasta, rice, maize and oats, and dry pulses fell steadily from 1961 but appear to be stabilizing and even rising slightly in the last few years.

Fruits and vegetables supply has increased steadily with supply in 1986-88 being over 60% higher than that in 1961-63.

Potato supply is more erratic with the trend exhibiting peaks and troughs. However there has been an overall fall of 43% in supply over nearly thirty years.

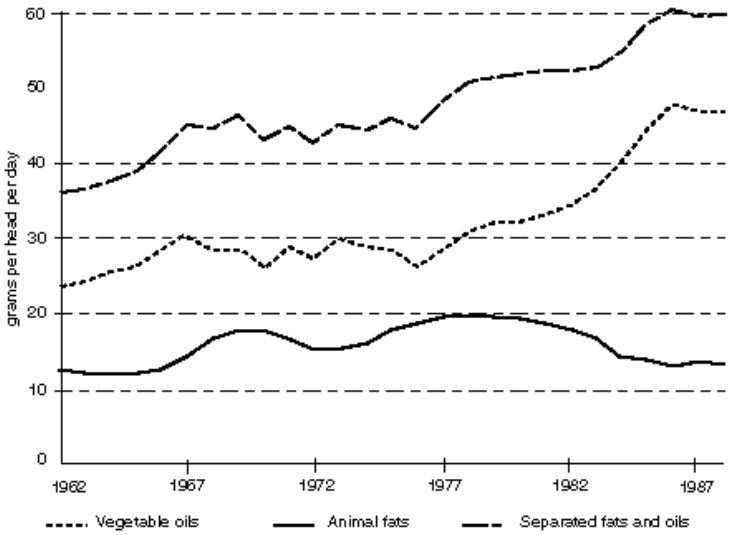
There was a 20% increase in the supply of sugar over the time period under consideration. In terms of amounts this increase is equal to nearly 20 g per person daily.

The supplies of meat, fish, eggs and milk and dairy products have increased steadily since 1961—some more sharply than others. In 1986-88 meat supply was nearly twice that in 1961-63. The supply of milk and dairy products showed an increase of 67% in thirty years while that of eggs nearly doubled. The

supply of fish has been increasing steadily since 1961 to date, but is still low when compared with that of meat.

The supply of total separated fats, that include vegetable oils and their margarines, butter and lard, increased by 66% in thirty years. *Figure 1* illustrates interesting changes that are taking place within the separated fats group. Animal fats, mainly butter, increased from the sixties until the late seventies. Supply then started to fall, nearly reaching the same level observed in the sixties. On the other hand the supply of vegetable oils, including margarines, rose steadily, with consumption in 1986-88 being nearly double that in 1961-63. These trends suggest an overall increase in separated fats and oils and a substitution of butter with margarines and vegetable oils.

Figure 1. Changes in Supply of Separated Fats and Oils in Malta



Source: Derived from AGROSTAT FBS Malta (Bellizzi, 1992).

IV. – Meaning of Trends in Terms of Nutrients

The energy, protein and fat corresponding to the supply of the primary food commodities are estimated by FAO and presented in the FBS. The changes in the supplies of the main food groups discussed in the previous chapter have therefore been translated into nutrients. FAO does not give the carbohydrate values so these have been estimated by difference. The changes in the supply of the macro-nutrients (protein, fat and carbohydrate) are shown in *Figure 2* and are summarized in *Tables 2 and 3*.

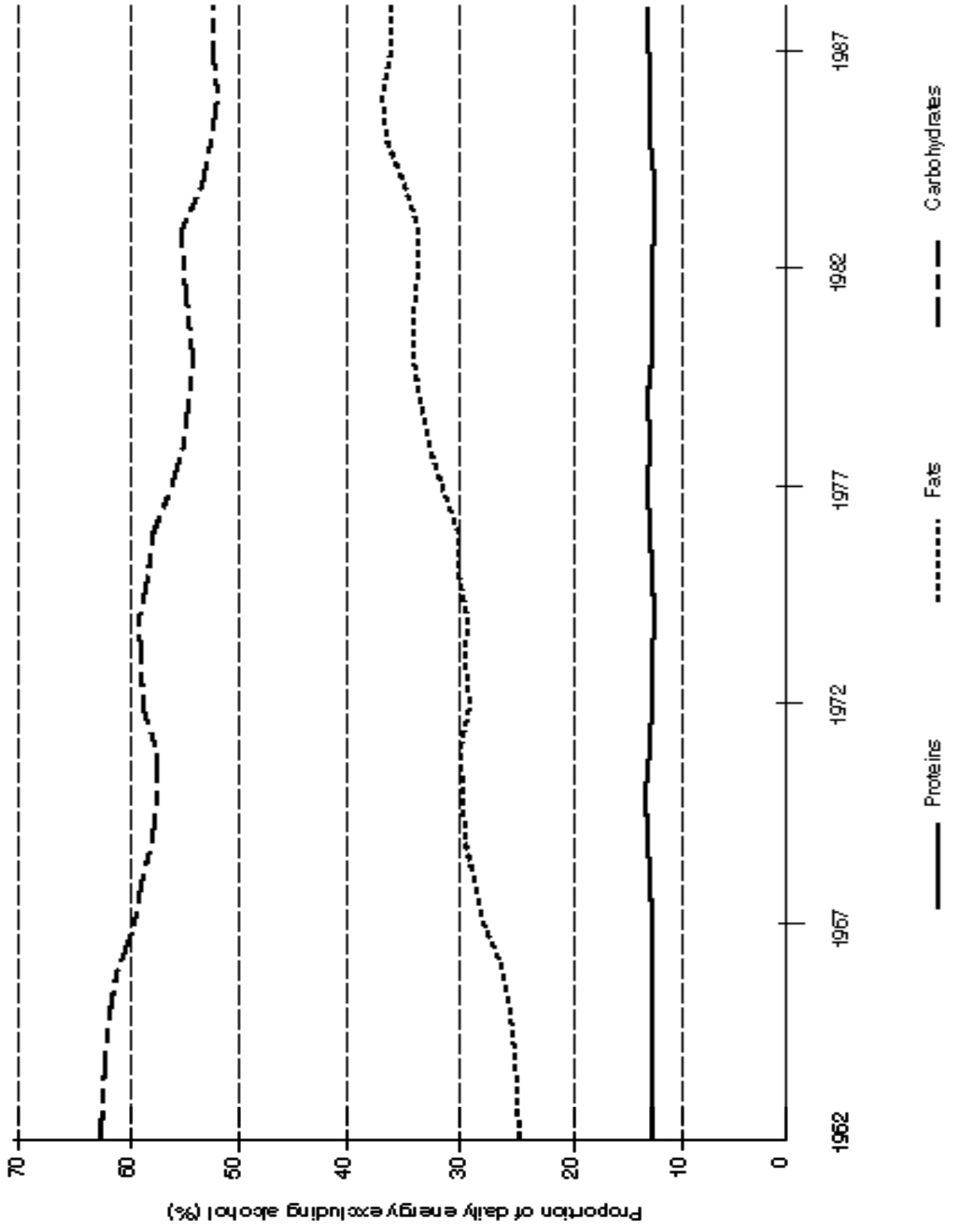
Table 2. Changes in the Nutrient Supply in g/h/d

Nutrient	1961-63	1970-72	1979-81	1986-88
Proteins	91.3	95.8	91.9	97.4
- Vegetable	60.8	57.8	43.0	46.2
- Animal	30.6	39.0	49.4	51.7
Fats	77.8	99.5	110.9	126.0
Carbohydrates*	441.6	428.2	395.4	408.3

* Carbohydrates estimated by difference

Source: Derived from AGROSTAT FBS Malta (Bellizzi, 1992).

Figure 2. Changes in Supply of the Macro-Nutrients



Source: Derived from AGROSTAT FBS Malta (Bellizzi, 1992).

Table 3. Changes in the proportion of energy supply (excluding alcohol) (in %)

Nutrient	1961-63	1970-72	1979-81	1986-88
Proteins	12.9	12.8	12.5	12.3
Fats	24.7	29.9	33.9	35.9
Carbohydrates	62.4	57.2	53.7	51.7

Source: Derived from AGROSTAT FBS Malta (Bellizzi 1992).

1. Proteins

Although the overall protein supply remained nearly unchanged, providing between 12 and 13 percent of total energy, the type of proteins consumed changed *(Tables 2 and 3)*. In the sixties more than three fifths (67%) of the total protein was provided by foods of vegetable origin. In the late eighties less than half (47%) of the proteins were from vegetable origin, the larger proportion of proteins (53%) provided being of animal origin. The switch from vegetable proteins to animal proteins is due to the fall in the supply of cereals and pulses which has been counteracted by the increase in supply of meat, fish, eggs and dairy foods.

2. Carbohydrates

The proportion of energy from all carbohydrates fell from 62% in 1961-63 to 52% in 1986-88 *(Table 3)*. This drop, which is due to a reduction in cereal products, dry pulses and potatoes, is partly offset by the small increase in carbohydrates, from fruit and vegetables, and the larger increase in supply of simple carbohydrates from sugar *(Table 1)*.

3. Fats

The supply of total fat, that is, the separated fats and oils and the intrinsic fats found in all the foods which contain fat—such as: milk, meat, eggs and nuts—rose by about 48g per person per day *(Table 4)* in the last thirty years. The national recommendation that fat should not provide more than 30% of energy was exceeded in the seventies, reaching the present level of 36% *(Table 3)*. This increase is mainly due to the rise in supply of separated vegetable oils, meat and dairy products.

Table 4. Changes in Energy Supply (excluding alcohol) from Main Food Groups

	1961–63 %	1970–72 %	1979–81 %	1986–88 %
Cereals	40.8	37.7	33.8	32.7
Pulses	11.7	5.8	1.3	1.7
Potatoes	2.1	1.0	1.5	1.1
Fruits & vegetables	4.3	5.2	5.6	6.2
Sugar	13.0	14.1	16.4	14.7
Meat	6.5	9.8	11.9	12.1
Eggs	1.1	1.6	1.8	2.0
Milk and products	7.7	8.9	10.1	10.2
Fish	0.7	0.8	1.3	1.1
Separated fats	10.0	12.5	14.5	16.2
Vegetable oils	6.9	8.5	9.8	13.3
Animal fats	3.1	4.0	4.7	3.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: Derived from AGROSTAT FBS (Bellizzi, 1992).

4. Alcohol

Consumption data suggests that the intake of alcohol in Malta increased over these last thirty years by over three times *(Table 1)*. Other findings from the 1986 Intersalt study show that the intake of alcohol in Malta was higher than in other countries where alcohol intake is perceived to be high. Alcohol intake was found to be about 150 ml per person per week at Dingli, Malta. Comparable findings for Birmingham and South Wales in the UK and Heidelberg in Germany were 125, 116 and 147 ml per person per week respectively (Amato Gauci, 1992).

V. – A Look at the Present Eating Patterns

The elucidation of the present eating patterns enables the comparison of the "current" average nutrients supply in the Maltese diet with the nutrient goals and dietary recommendations. Such comparisons are useful in policy making, progress evaluation and decision-making regarding actions needed to reach the nutrient goals and dietary guidelines.

1. Cereals

Cereals, which include the wheat products (such as bread and pasta), rice, oats and barley, are the major sources of energy in the Maltese diet, contributing a third (33%) to the total daily energy supply, (excluding alcohol), in 1986-88 *(Table 4)*. From *Table 5* it is evident that the staple cereal in Malta is wheat, predominatly processed as bread (78%). Pasta is the second common wheat product eaten in Malta, contributing 11% to the total purchase of cereal products. Within the bread group over 99% of the bread purchased by the Maltese is the local white type of bread. Wholemeal and brown bread contribute about 0.1% of the total bread purchases. Such a choice may be the result of a combination of taste and price. On an equal weight basis, brown bread costs nearly twice as much as the sliced white bread and more than three times the Maltese bread.

Table 5. Pattern of Intake of Cereal Products

Type of cereal food	Proportion of total weight purchased (%)	Approximate price in 1992 per 500 g (cents)
Maltese bread	77.9	7
White sliced bread	0.3	14
Brown bread	0.1	25
Fancy bread	0.2	14
Pasta	11.3	34
White flour	5.4	12
Rice	3.1	18
Breakfast cereals	1.7	97
Total	**100.0**	

Source: Derived from the 1989-90 HBS data provided by the Central Office of Statistics, Malta (Bellizzi, 1992).

2. Fruit and vegetables

Supply of fruit and vegetables has increased as indicated by the time trends discussed earlier *(Table 1)*. However, supplies in Malta are still below those of our Mediterranean neighbours—Italy, Greece and Spain. The proportion of energy from fruit and vegetables stood at 6% in 1986-1988 compared with 9% in Greece *(Table 6)*.

Table 6. Variability of Fruit and Vegetables (expressed as the percentage energy contributed to the daily total energy supply)

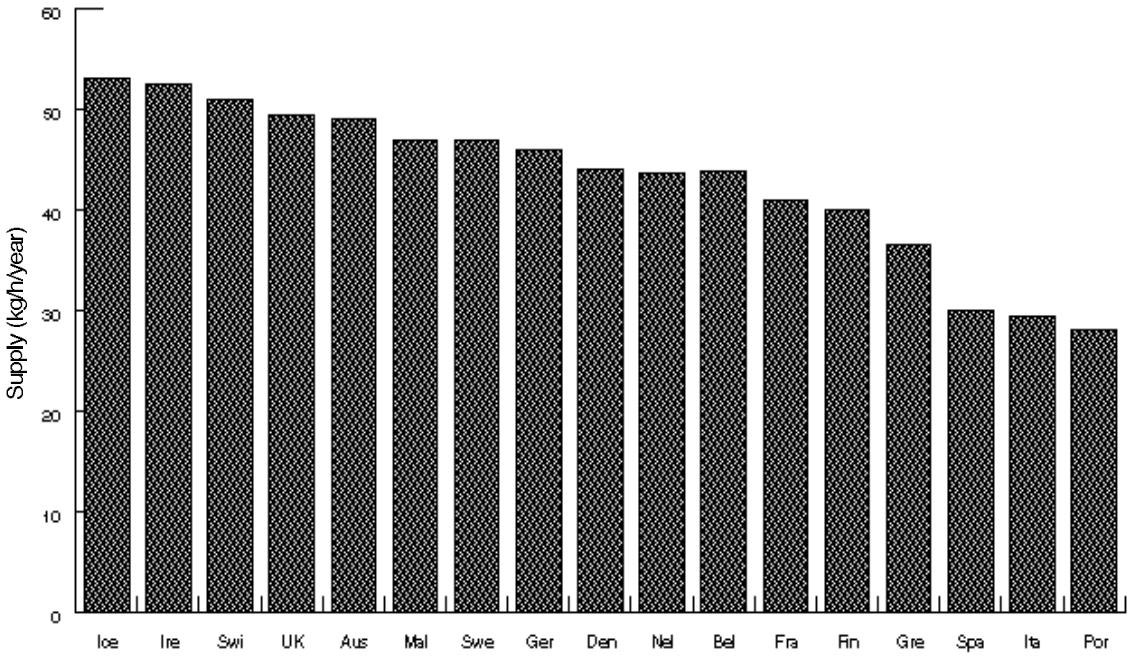
Country	%
Malta	6.2
Italy	7.4
Greece	9.0
Spain	7.2

Source: Derived from FAO FBS 1986-1988 (Bellizzi, 1992).

3. Sugar

Sugar supply in Malta is one of the highest in Europe and is the highest in the European Mediterranean region *(Figure 3)*. Annual per capita expenditure figures for 1989 show that very little was spent on sugar when compared with sugar containing products such as chocolates, cakes and non-alcoholic beverages. In 1989 the per capita annual expenditure on sugar on its own was Lm1.35, while that on confectionery was Lm19.2 and on non-alcoholic beverages Lm 15.28 (Delia, 1992). It is also estimated that Malta is the second highest per capita consumer of soft drinks. This suggests that “hidden” sugar is a major source of sugar in the Maltese diet.

Figure 3. Sugar Supply in Western Europe in 1986-88



4. Meat

Meat, fish, milk and derived products and eggs together provided a quarter of the total daily energy supply in 1986-88 *(Table 4)*. Beef and pork are the most popular types of meat amongst Maltese households, followed by poultry *(Table 7)*. Other meats, which largely comprise rabbit, rank fourth in the list. HBS data show that pork, processed as ham, luncheon meat and bacon, contributes up to 60% of all the pork purchased (Bellizzi, 1992). National figures show that expenditure on meat constitutes over a third of the money spent on food.

Table 7. Meat Supply Patterns in Malta

Type of meat	Supply in 1984-86* FBS in g/h/d	Proportion of total weight in %
Pork	50.7	31.4
Beef	57.5	35.6
Poultry	25.8	16.0
Other (mainly rabbit)	15.2	9.4
Offals	8.7	5.4
Mutton	3.6	2.2
Total	**161.5**	**100.0**

*Inedible portions, such as bones included.
Source: Derived from FAO FBS, 1984-86 (Bellizzi, 1992).

5. Fish

A positive trend is that of fish supply which is rising slowly *(Table 1)*. However, despite the fact that Malta is an island, fish consumption is low compared to meat. According to the HBS figures, the average per capita amount of fish purchased in 1989-90 was 52 grams, accounting for only about 7% by weight of the total fish and meat consumption. On the other hand, according to FBS data for 1984-86, fish supply provided 22% of the total meat and fish weight. There are large discrepancies between the HBS and FBS data especially in the meat and fish groups.

Table 8. A Detailed Subdivision of Meat and Fish Consumption Patterns

	g/h/d	Weight %
Beef Fresh	81.1	11.6
Beef Frozen	95.5	13.6
Corned Beef	25.3	3.6
Pork	117.4	16.8
Processed	175.2	25.0
Poultry	95.2	13.6
Mutton Fresh	7.3	1.0
Mutton Frozen	6.0	0.9
Rabbit	1.7	0.2
Other Meat	20.3	2.9
Offals	23.7	3.4
Fresh Fish	44.9	6.4
Frozen Fish	1.7	0.2
Preserved Fish	5.5	0.8
Total	**700.8**	**100.0**

Source: Derived from HBS 1989-90 (Bellizzi, 1992).

6. Eggs

In 1986-88 the average supply of eggs per person was 44.6 grams in a day, (weight includes the shell). This is estimated to be equivalent to about 5-6 eggs in a week (Bellizzi, 1992). If the average national figure for egg consumption of 3 to 4 eggs per week is to be reached, egg production should be rationalised.

7. Milk and Dairy Products

Milk and dairy products are the second highest energy providers in the animal foods category *(Table 4)*. Within this group, fresh milk, having a fat content of 3%, is the most popular type of milk consumed in Malta *(Table 9)*. The other type of milk consumed is evaporated milk with a fat content of 9%. Malta is one of the few remaining countries where evaporated milk having this high level of fat is used. So far fresh skimmed or semi-skimmed milk is not available on the market although skimmed milk powder is.

Table 9. Patterns of Milk Purchases in 1989-90

Type of milk	Amount purchased in ml/h/d
Fresh milk	940.7
Evaporated milk	4.5

Source: Derived from 1989-90 HBS data provided by the Central Office of Statistics, Malta (Bellizzi, 1992).

According to the HBS data *(Table 10)* nearly two-fifths of the cheese consumed is the high fat Cheddar cheese. This type of cheese is inexpensive compared with the other cheeses and preference for this cheese may be price-linked as well as taste-linked.

Table 10. Pattern of Cheeses purchased by Maltese households in 1989-90

Type of cheese	Purchase (g/h/d)	Proportion of weight (%)	Price per 200 g (cents in 1992)
Cheddar	63.7	38.7	20
Grating/romano	16.6	10.1	33
Portions/cartons	22.3	13.5	30
Edam/emmenthal/dutch/ blue/swiss type	49.0	29.7	25
Cheeselets	13.2	8.0	50 *
Total	**164.8**	**100.0**	

* price quoted is of the peppered cheeselets made from pasteurised milk.
Source: Derived from the 1989-90 HBS data, provided by the Central Office of Statistics, Malta (Bellizzi, 1992).

8. Separated Fats and Oils

Vegetable oils, margarines, butter and lard provided 16.2% to the total energy, excluding alcohol, in 1986-88. Of this, 13.3% came from vegetable oils and margarine and 3% from animal fats *(Table 2)*.

The HBS data shown in *Table 11* suggest that the main type of separated fat being consumed in Malta is margarine, therefore being the main source of vegetable oil in the diet.

Table 11: Pattern of Purchase of Separated Fats

Type of separated fat	Purchase in g/h/d	Proportion to total weight %
Oil	10.8	10.7
Margarine	68.9	68.0
Butter	19.3	19.0
Lard	2.4	2.3
Total	**101.4**	**100.0**

Source: Derived from the 1989-90 HBS data, provided by the Central Office of Statistics, Malta (Bellizzi, 1992).

VI. – Current Nutrient Pattern: How Does it Compare with the National Nutrient Goals?

Table 12 shows the national nutrient goals compared with the average "current" nutrient pattern. It may be concluded that the proportion of energy from fat, including saturated fats, is higher than the recommended level. This implies that total fats, especially saturated fats, need to be reduced. No change needs to be made in the protein, except perhaps substitute some of the protein from animal origin to vegetable origin. This may be done by increasing the intake of fruit and vegetables and substituting unrefined cereal products for the refined types. This will also increase the dietary fibre intake. Sugar intake needs to be reduced as also does the salt. These same conclusions were reached during the 1986 Conference on Nutrition in Malta when the dietary guidelines for the Maltese people were established.

Table 12: Nutrient Pattern in Malta compared with the National Nutrient Goals

Dietary elements	Nutrient Goals established in 1986 (1)	"Current" nutrient pattern	
Total fat	30% of TEI	36% of TEI	(2)
Saturated fat	10% of TEI	13% of TEI	(3)
Complex carbohydrates	>45% of TEI	37% of TEI	(2)
Sugar	<10% of TEI	15% of TEI	(2)
Protein	12-15% of TEI	12% of TEI	(2)
Dietary fibre	>30g per day	men: 31g/d	(4)
		women: 25g/d	(4)
Salt	5-8g/d	men: 11g/d	(5)
		women: 9g/d	(5)

Note: TEI = total energy intake

Sources: (1) First Conference on Nutrition in Malta and also published in the National Policy on Food and Nutrition. (2) Estimated from the 1986-88 FAO FBS for Malta. (3) Saturated fatty acids estimated from 1985-87 FAO FBS and taken from ongoing research. (4) Dietary fibre taken from the 1982 survey on Diabetes. (5) Salt derived from the 1986 Intersalt study (Bellizzi, 1992).

VII. – Wise Buys and Consumer Perceptions

The Maltese spend over a third of their earnings on food (in constant prices), with two of the main food products—meat and dairy products—accounting for nearly one half of the food expenditure (Delia, 1992). These food groups also provide 41% of the total fat supply. Statistical analysis suggests that expenditure on food is significantly related to fat intake, meaning that the higher the proportion of expenditure on particular food commodities, the higher is the intake of fat.

Contrary to some beliefs, food such as bread, pasta, rice and pulses are cheap, low in fat and high in complex carbohydrates and protein. On the other hand, meat, although a good protein source, can be a carrier of fat. Confectionery provides very poor returns in terms of nutrient value for money.

Knowing what is in food is key to making the required selections. Simple and clear food labelling can help consumers to make healthy choices if they wish. The trends in food supply observed earlier suggest that the Maltese are becoming more conscious of what they eat and are making efforts to change. Apart from nutritional labelling, consumers are also eager to see the datemarks on food. A study which surveyed consumer attitudes on healthy eating in 1990 showed that 64% of the respondents wanted food to carry a datemark. Such demands were satisfied in July 1992 when comprehensive regulations controlling food labelling were published by the Ministry for Home Affairs and Social Development. These regulations require that the labels provide more information about the food and aim at increasing consumer protection.

Key features of the regulations are the mandatory listing of ingredients by order of concentration and the datemarks. Most food will be required to show the manufacturer's name and address. Nutritional or dietary claims will be controlled. The regulations cover food for special dietary needs, such as that intended for diabetics and for weight control.

VIII. – Impact of the EC on Food Policies

Malta's food producing, processing and packaging industries are in dire need of rationalisation, resource management and investment. Irrespective of whether Malta becomes a full member of the EC or not, the long-term economic survival of agricultural output in Malta demands a programme of action, phased over a somewhat long-term period, of ten to fifteen years, which aims at the restructuring of the sector on cost-efficient, high-quality product and health-conscious output. The agro-industries would likewise have to take stock and make any necessary changes before it is too late.

1. Dismantling of Protective Trade Barriers

Preparation for the accession to the EC accelerates the pace at which reforms would have to be successfully implemented. In particular, the dismantling of protective barriers to trade would have to be speeded up; such a dismantling is long overdue, anyway, considering that it had served no long-term practical purpose: it did not keep the farmers on the land, nor did it save fertile land from building development, nor did it encourage new investors to sink capital in the sector's development.

2. Meeting Food Safety and Labelling Regulations

If Malta joins the EC, the sale of food products will have to meet stringent safety conditions. The EC's food policy aims at ensuring a “high standard of public health protection and that the consumer is adequately informed on the nature and, where appropriate, the origin of the product”. In 1985 the

Commission of the European Communities specified that the following measures should be covered by legislation:

(i) those designed to protect the life and health of humans, as referred to in Article 36 of the Treaty: which concern food additives, materials and articles in contact with foodstuffs, contaminants, manufacturing and treatment processes and dietary foodstuffs; and

(ii) those needed to satisfy mandatory requirements for fair trading and the protection of consumers: labelling, presentation and advertising of products; and those which provide for official checks.

As a future member, Malta would have to adhere to these conditions. But even if Malta does not become a member of the EC, consumers must still be protected. The labelling regulations that have been published are a step in the right direction. The strengthening of those structures that are necessary for the enforcement of food regulations will certainly be necessary. For a more detailed overview of this subject matter reference is made to Delia (1992).

IX. – Summary and Conclusions about Eating Habits

Over the past decades the Maltese diet has changed from one that is high in complex carbohydrates and low in fats, especially animal fats, to one that is high in total fats, especially animal fats, and low in complex carbohydrates. These changes are due to an increase in consumption of meat, milk and dairy, eggs and vegetable oils and a reduction in the consumption of cereals. Fruit, vegetable and fish consumption is increasing steadily. Sugar intake, especially in the form of confectionery and non-alcoholic beverages is high. Salt intake is higher than the recommended levels, as is the proportion of energy from total fats, saturated fats and sugar.

Comparison of the “current” nutrient levels with the National Nutrient Goals indicate that the recommendations made in 1986 are still by and large applicable. The Maltese consumers should therefore be steered away from those foods where the fat, sugar and salt content is high, towards those in which these are low. Specifically, there should be a shift away from fatty meat, full fat dairy products and confectionery towards cereals, fruit and vegetables and low fat meat and dairy products.

Following Cabinet's endorsement of the Malta Food and Nutrition Policy in 1988, several policy actions have been taken: (a) to assist the Maltese population towards adopting a healthy dietary pattern and (b) to take health into consideration in the provision and production of food (Malta. Department of Health, 1990). A detailed account of the events which led to the endorsement of a policy on food and health by government is given elsewhere (Bellizzi, 1989). This final section describes briefly the structures, plans and programmes that aim to reach the nutrition policy objectives.

Basically the nutrition policy is a milestone in the short history of public health nutrition in Malta. The policy provides the mandate for action in this area. It also describes very clearly the structures which are thought to be necessary for the successful implementation of programmes.

The structures outlined in the policy include a multisectoral National Advisory Committee on Food and Nutrition (NACFN). This Committee is constitued of representatives from the Department of Health, Agriculture and Fisheries, Consumers' Associations, Trade, Industry and Education. Representatives from the private sector include the Chamber of Commerce and Federation of Industries. The NACFN is required to provide advice on food and health and on policies that influence the nutritional well-being of the people. The Nutrition Unit of the Department of Health is identified as the secretariat to the NAFCN.

The policy highlights some measures as ways for reaching the objectives. These measures are grouped

into three broad categories, those which influence the awareness of the people about food and health, those that deal with the availability of food that is in line with the dietary guidelines and those that deal with the food safety.

Many activities which aim to increase the awareness about food and health have been implemented, with some positive results, as seen, from some of the food trends. All available media are used to convey health messages. Food labelling that would assist consumers to recognise what is the composition of a particular food was launched in July 1992. The network of individuals and sectors that contribute towards the aims of the nutrition policy is now much stronger and more spread.

Applied research is recognized as being crucial in the planning and evaluation of activities. Serious efforts are being made to implement more effective programmes that are targeted at different age and socio-economic groups in the population. The project embarked upon by the Department of Health in preparation for the International Conference on Nutrition held in Rome in December 1992 is an important step in this direction. This project, called the Malta Case Study (MCS), incorporates within it findings from a series of studies that had already existed before the embarkation of the project. Existing information was supported by original research conducted for the MCS. One study involved the investigation of the weights and heights of children. Preliminary results already suggest that intervention is needed to control the body weight in children since the prevalence of overweight children is high. The MCS includes detailed findings about the dietary patterns of the Maltese people which so far have been poorly researched and documented. An innovative aspect of the MCS is the research that was carried out on the economic implications of the implementation of several measures that are recommended in the nutrition policy. The increase in supply (and hopefully in consumption) of wholemeal bread, fruit and vegetables, low fat milk and dairy products has all been dealt with at some length. The impact on food and health following Malta's entry in the European Community is also discussed. Overall, this study serves as the platform for action in the field of food and nutrition for at least the next five to ten years.

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