

## The fishing industry

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## The Fishing Industry

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**Charles Busuttil**

Department of Agriculture and Fisheries, Fisheries Division, Valletta

**Abstract.** *The contribution of the fisheries sector is less than might be expected of an island economy. The fishing fleet is principally composed of traditional small fishing boats and dependent on species that lie immediately offshore. Local legislation stipulates that all fish caught locally has to be marketed by public auction through the sole wholesale fishmarket. Most fish is still sold by fishhawkers but in recent years fish shops have been opening all over the island, though most are still concentrated in major urban and tourist centres.*

**Titre. L'industrie de la pêche.**

**Résumé.** La contribution du secteur de la pêche à l'économie maltaise ne correspond pas à ce que l'on peut espérer d'une situation insulaire. Il s'agit d'une pêche côtière s'effectuant dans de traditionnels petits bateaux de pêche. La législation locale stipule que le poisson pêché sur place doit être vendu à la criée uniquement au marché de gros. La quasi-totalité du poisson est cependant encore vendue par des marchands ambulants. Au cours des dernières années les poissonneries se sont multipliées partout dans l'île, bien que la plupart d'entre elles soient concentrées dans les principaux centres urbains et touristiques.

**Keywords.** Fisheries – Bottom trawling – Aquaculture – Consumption.

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The Maltese Archipelago is situated in the centre of the Mediterranean Sea, about 90 km south of Sicily and 320 km north of Libya. Fishing around the Maltese Islands has supported the local and Sicilian fishing communities for ages. Since Malta is an island, it is a natural consequence that the Maltese are fish eaters and in fact a fish diet is so diffused in these islands that landings by local fishermen very often do not meet the demand, and particularly during the spring and summer months when thousands of tourists converge on the islands, fresh and frozen fish has to be imported in very large quantities.

*Table 1* highlights fish per capita supply and consumption levels for a selected group of Mediterranean countries including Malta. The levels reached in Malta in the second half of the eighties indicate that they are still considerably below the levels reached in the majority of the northern bound Mediterranean countries but higher than the Maghreb countries and Turkey. Maltese per capita supply figures are closest to Cypriot levels.

The Maltese fishing industry itself hardly makes a ripple as regards its contribution to GDP. In 1991, its contribution was a mere 2.2% of the agriculture and fisheries subsector. This is because the fishing community and the fleet are very small. In fact, out of a population of 360,000 there are only 1,389 registered fishermen (see Appendix). Of these only 245 are full-time fishermen, which means that they earn their livelihood solely from fishing, whilst the rest are considered as part-timers and their contribution to the industry is only felt during the *lampuki* season.

The fishing fleet consists of 10 bottom trawlers, 75 launches, 344 *luzzus*, 619 *caiques* and 281 other craft (*Table 2*). The bottom trawlers, launches and some of the bigger *luzzus* undertake fishing trips away from the island, but the rest are only suitable for inshore activities. The larger vessels are all equipped with the latest navigational and operational instruments and also include refrigerated fish holds, but most of the smaller boats carry only an echo-sounder and a VHF radio (see Appendix for the fishing craft by size).

**Table 1. Supply and Consumption in Selected Mediterranean Countries (kg/head/annum)**

	1985	1986	1987	1988	1989
<i>Malta</i>					
Per Capita Supply (FAO)	17.0	15.1	15.2	14.9	15.7
<i>Cyprus</i>					
Per Capita Supply (FAO)	11.1	11.5	13.7	12.9	n.a.*
<i>Italy</i>					
Per Capita Supply (FAO)	19.3	18.5	21.0	19.4	20.4
OECD Food Consumption Statistics	11.9	11.3	13.5	12.5	n.a.
<i>Spain</i>					
Per Capita Supply (FAO)	33.0	34.1	36.1	37.5	37.8
OECD Food Consumption Statistics	25.5	26.6	29.0	32.8	n.a.
<i>Portugal</i>					
Per Capita Supply (FAO)	52.0	55.8	57.3	57.9	57.8
OECD Food Consumption Statistics	52.3	51.7	52.0	48.9	n.a.
<i>Greece</i>					
Per Capita Supply (FAO)	17.2	17.8	18.5	17.7	18.4
OECD Food Consumption Statistics	5.0	5.5	5.7	5.7	n.a.
<i>France</i>					
Per Capita Supply (FAO)	26.2	27.7	28.9	30.6	30.7
OECD Food Consumption Statistics	17.9	19.8	20.7	21.7	n.a.
<i>Turkey</i>					
Per Capita Supply (FAO)	6.5	6.3	7.2	7.9	6.1
OECD Food Consumption Statistics	6.2	6.1	6.3	5.9	n.a.
<i>Morocco</i>					
Per Capita Supply (FAO)	7.8	8.5	6.3	8.0	n.a.
<i>Algeria</i>					
Per Capita Supply (FAO)	3.6	3.7	4.5	4.9	n.a.
<i>Tunisia</i>					
Per Capita Supply (FAO)	10.8	10.9	10.9	11.0	n.a.
<i>Egypt</i>					
Per Capita Supply (FAO)	6.9	7.4	7.5	7.3	n.a.
<i>Israel</i>					
Per Capita Supply (FAO)	17.0	19.0	20.5	21.0	22.5

\* Data furnished by the Cyprus Planning Bureau put consumption estimates for 1989-90 at 14.4 kg/capita.

Source: FAO (1991). *Food Balance Sheets of fish and fishery products in live weight.*

OECD (1991). *Food Consumption Statistics 1979-1988.*

Table 2. Fishing Craft Statistics as on 31.12.91

District	Trawler	Power Propelled						Rowing					Total
		M.F.V.	Luzzu	Caique	Firilla	Others	Total	Luzzu	Caique	Firilla	Others	Total	
Valletta/Marsa	8	2	2	4	1	6	23	-	-	-	-	-	23
Misda/Pieta	-	4	17	41	7	30	99	-	-	-	-	-	99
Gzira/Sliema	-	4	17	41	7	30	99	-	1	-	-	1	48
St. Julians	-	2	20	18	-	10	50	1	2	-	1	4	54
Kalkara/Senglea	-	3	11	11	1	8	34	-	-	-	-	-	34
Gnejna	-	-	8	59	1	8	76	1	3	-	-	4	80
St. Paul's Bay	-	7	41	105	2	55	210	-	3	-	-	3	213
Mellieha	-	1	4	62	-	10	77	-	1	-	1	2	79
MScala/Ramla	-	4	16	47	3	19	89	1	1	-	1	3	92
Ghar Lapsi	-	-	-	15	-	4	19	-	-	-	-	-	19
B' Bugja	-	1	11	26	-	39	77	-	2	-	-	2	79
Marsaxlokk	-	32	116	71	8	46	273	-	4	-	1	5	278
Wied Iz-Zurrieq	-	-	3	1	1	-	5	-	1	-	-	1	6
<b>Total Malta</b>	<b>8</b>	<b>57</b>	<b>264</b>	<b>481</b>	<b>25</b>	<b>144</b>	<b>1079</b>	<b>3</b>	<b>18</b>	<b>-</b>	<b>4</b>	<b>25</b>	<b>1104</b>
<b>Gozo</b>													
Mgarr	2	17	48	62	1	18	148	-	3	-	2	5	153
Xlendi	-	1	16	28	-	7	52	-	2	-	-	2	54
M'Forn/ Qala/ Nadur	-	-	13	24	-	6	43	-	1	-	-	1	44
<b>Total Gozo</b>	<b>2</b>	<b>18</b>	<b>77</b>	<b>114</b>	<b>1</b>	<b>31</b>	<b>243</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>2</b>	<b>8</b>	<b>251</b>
<b>Total Malta &amp; Gozo</b>	<b>10</b>	<b>75</b>	<b>341</b>	<b>595</b>	<b>26</b>	<b>275</b>	<b>1322</b>	<b>3</b>	<b>24</b>	<b>-</b>	<b>6</b>	<b>33</b>	<b>1355</b>

Source: Fisheries Department .

The species that are mostly fished for, due to their commercial value, are: swordfish, tuna, stone-bass, king prawns, prawns, grouper, bream, red mullet, hake, *lampuki* and pilot fish. Other species such as bogue, horse mackerel, mackerel, dogfish, skate and similar species, which are less valuable commercially, are also caught in fairly large quantities.

The total amount of fish landed annually varies only slightly (*Table 3*) and on average about 1,000 metric tonnes are landed each year though there has been a noticeable decline since 1989. Some of these catches are exported to nearby Italy as well as other countries and 1991 figures were: 23,297 kg swordfish, 66,932 kg of other species (stone bass, red mullet, grouper) and 23,765 kg tuna.

**Table 3. Local Fish Catches and Exports**

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Local Catch (MT)	921	1197	993	1217	1219	1067	1015	803	891	726	685
Exports	59	69	6	–	78	43	296	62	35	81	114
Main Species Caught in metric tonnes:											
• Stone Bass	16.4	20.0	31.1	34.0	32.8	31.2	23.3	19.9	50.6	30.2	24.4
• Pilot fish	55.1	205.8	81.0	35.8	130.3	213.6	239.3	61.9	43.0	6.8	17.6
• <i>Lampuka</i>	177.2	401.7	441.0	565.6	464.2	360.9	285.6	263.7	306.4	259.6	304.2
• Swordfish	171.6	158.0	52.8	83.4	95.4	65.7	114.9	140.5	100.1	108.9	105.6
• Tuna	32.2	39.8	31.7	20.6	21.3	35.4	36.3	23.9	29.3	48.7	63.3
• Bogue	142.9	101.7	107.6	132.4	124.9	92.5	101.7	128.3	106.5	81.9	36.6
% Coverage of Total Catch											
	65	77	75	72	71	75	79	79	71	74	81

Source: *Annual Abstract of Statistics* (various).  
Fisheries Department.

Up to a few years ago fishing in Malta was seasonal since the local population was content with eating the limited variety of fish that was available namely, *lampuki*, pilot fish, bogue, mackerel, horse mackerel, dogfish, skate and rays, octopus and other small species that were landed regularly. Any other species such as prawns, red-mullet, hake, swordfish, tuna, stone bass, groupers, bream, etc., were virtually unknown. The small amounts that would be available whenever Italian vessels were forced to shelter in Valletta harbour during inclement weather would be snapped up by the catering industry; but with the upsurge in tourist arrivals these species suddenly found a ready market and the local fishermen started experimenting with new methods of fishing and had to start buying larger boats.

Before this small revolution in fishing boats and methods began, fishing in Malta, as stated before, was mainly seasonal and inshore which meant that during the winter months, January–March, almost all fishermen would be employed on fishing with bottom longlines for dogfish, skate, rays plus the occasional grouper and bream, whilst some would fish with trammel-nets and gill-nets near the shore or on some nearby reef, or use traps for bogue and horse mackerel. From April to July, most fishermen would go out on day trips for pelagic species by means of small drift-nets when catches would include frigate-mackerel, bronze bream, bonito and small tunas whilst others would fish at night for mackerel, bogue and horse-mackerel by using strong lights to attract the fish and then catch them by purse seining. By the end of July almost all fishing activities would stop except for the smaller boats which fished with traps for bogue, etc., and trammel nets for bottom fish, and the fairly larger *luzzus* which fished by longlines for swordfish and tuna. During late July and early August all fishermen would take their boats ashore for engine maintenance and hull cleaning in preparation for the impending *lampuki* season which starts from late August to the end of January, weather permitting.

## I. – The Lampuki Season

The *lampuka* (*Coryphaena Hippurus*), commonly known in English as coryphene or dolphin fish, arrives in Maltese waters in early August and stays until January. During this period catches are so plentiful that to local fishermen, success or otherwise during this season may mean the difference between a good and a lean year. The way local fishermen fish for *lampuki* is rather unique, and Malta, up to a few years ago was the only country which actually had a *lampuki* season and only lately have Sicilian fishermen started adopting the local method of luring this fish to their shores.

During August, floats, previously made of cork and presently with any floating material (for economic reasons) are laid out at sea. Such floats, which have palm fronds attached to them, are anchored to the bottom by means of large stone slabs so that they do not drift away. The reason why local fishermen lay these floats is because the cone of shadow which they make attracts the *lampuka*. It is believed that this fish gathers underneath the float to shelter from its mortal enemy, the dolphin which in turn is afraid to venture into the dark area. When enough fish have gathered around the islands, and their size makes them commercially viable, the fishermen go out and catch the *lampuki* by means of a net which is very similar to a purse seine. Any fisherman may lay as many of these floats as he deems necessary and these span out fan-like all around the islands. To ensure that no fishermen encroach on anybody else's floats, the Fisheries Department controls the way these floats are laid and issues licences to their owners. In fact, every fisherman is given a compass bearing along which to lay his floats so that each one may have his own particular fishing area. This type of fishing has been known to local fishermen since time immemorial and has only started losing some of its importance now that new and more profitable species are being caught in large quantities. 304,208 kg of *lampuki* were caught in 1991 and these fetched Lm 278,825 (wholesale value).

## II. – Swordfish and Tuna

Up to a few years ago, fishing for swordfish and tuna was also considered as a season, and local fishermen would lay longlines baited with horse-mackerel between April and July when tuna come into the Mediterranean to spawn, and stop all activity when tuna would no longer be caught (during late summer). Another reason for stopping this activity was to prepare for the *lampuki* season. However, important changes have taken place in recent years and local fishermen have enlarged their boats and adapted their longlines so that they can now fish for swordfish throughout the year. Even the bait used has been changed, and now fishermen use Atlantic mackerel which gives much better results. Due to its habit, tuna can only be caught during Spring and Summer since it leaves the Mediterranean at the beginning of Autumn. It may be pertinent to say that Maltese fishermen have become so flexible at catching swordfish and tuna, and catches are so plentiful during the summer months, that nowadays a considerable amount of these species is exported to various Mediterranean countries and others as far away as Japan and the USA. Of course, this is only allowed after the local market has been saturated. This season has now superseded the *lampuki* season in importance for most fishermen.

## III. – Stone-Bass

Apart from laying surface longlines for swordfish and tuna, local fishermen also use bottom longlines to catch stone-bass in large quantities and these sizeable fish, which may weigh anything from 10 to 30 kg per head, are a very good source of income and can be caught throughout the year. In fact, some fishermen fish only for this species although catches may sometimes include Common Dentex groupers. The fact that these species are caught regularly in fairly large quantities speaks highly of the local fishermen since these are only found in particular fishing zones where the bottom is irregular and contains various reefs.

## IV. – Bottom Trawling

The trawling fleet has been in existence only since the early sixties since tourist arrivals began growing in numbers, because as stated before trawled fish was virtually unknown in Malta and there was no market for prawns, hake, red mullet and similar species. However, at present this fleet has also become inadequate for the island's needs and although catches are encouraging, the owners' main efforts are directed at catching king prawns which fetch a very good price and as a consequence other trawled fish, which are now in demand, have again become scarce. This may, however, serve as an incentive to enlarge this fleet.

## V. – Marketing

Due to the country's small size, there is only one wholesale fishmarket in Malta and this falls under the control of the Fisheries Department. In fact, local legislation lays down that all fish caught locally can only be marketed through the Wholesale Fishmarket, although fishermen are allowed to sell part of their catches direct to the public. The system of disposing of fish locally is by public auction where the highest bidder acquires a particular lot. Most of the fish landed is sold on credit and the Fisheries Department undertakes the task of collecting any money due to fishermen. This system is also unique because Malta is the only country where the Fisheries Department deals directly in collecting money due from the sale of fish from the Wholesale Fish market. This system guarantees that each fisherman is paid for his catch since the same Department issues regular payments to each fisherman concerned. The local fisherman actually undertakes the fishing and then lets the authorities look after his fiscal interests.

As is common in all countries, fish bought wholesale is then marketed by various fish-vendors all over the island. Up to some years ago there were only a few fish shops in Malta and these were all situated at the Valletta Market. In fact most of the fish were sold by hawkers on carts or by means of vans. There are 250 registered fish hawkers and these are licensed to sell their fish in particular areas which means that each hawker has his own particular zone where to dispose of his wares.

However, at present a good number of modern fish shops is sprouting up all over the island and these are all equipped with the latest sanitary facilities where fish can be cleaned and gutted, as well as having the latest in refrigerating equipment so that the public is guaranteed fresh fish in the best possible state. Also most of these shop owners are direct frozen fish importers themselves and, as a consequence, own a cold store of considerable size.

Another important outlet for disposing of fish is the catering industry. Due to the ever-growing demand for fish from locals and tourists, the majority of restaurants and hotels has become specialist at preparing different dishes which appeal to different international tastes. This perhaps makes Malta one of the few countries that can boast of a fishing industry that yields a large variety of fish albeit small in quantity.

## VI. – Prospects

It is an accepted fact that the local fishing industry is facing difficulties. The main reasons are that the work is too hard and that it is not as lucrative as people might think. In fact the only boats that are still economically viable are those owned and manned by whole families with a fishing tradition. Another reason is the dearth of deck hands since most younger fishermen prefer a job on land with a steady income to a hard life which is dependent on the elements. As an aid to the industry aquaculture may have a very important role to play. One way to achieve this would be for the two cooperatives to put their resources together and involve their members in the aquaculture industry. This would ensure a steady

income for the local full-time fishermen and make their life less dependent on the weather. The past year has been a particularly lean one for the smaller boat owner due to the fact that good weather has not been as prevalent as previous years and statistics will surely show a steady downward trend compared with previous years.

The link between industrial fishing and aquaculture may be the blend of natural experience with modern genetic knowhow and exponents of aquaculture training younger fishermen in this new trade.

Apart from problems arising from inclement weather and occasional mechanical faults local fishermen have to contend with three other very serious difficulties.

### 1. *Lampuki* Season

**Lack of hands.** There is an acute shortage of crewmen which makes it very difficult for the bigger boats to undertake *lampuki* fishing since these fish are caught by purse-seining in small quantities but at very short intervals, the crew having to be deployed to do various jobs at once.

For example, while three or four men are employed on actual fishing, *i.e.*, laying and hauling in the net every five or ten minutes, two others will be employed on killing the fish by smothering them in sacks and then placing them in boxes. In the meantime another two (minimum) will have to be present in the fish hold to put ice on the fish and stack the boxes properly. Another one, the master, will be in charge of controls, whilst another would serve as a lookout for any fish that may gather around the floats. This man will spend all the time on top of the cabin and his job is to calculate whether it is viable to set the net around any particular float.

### 2. Swordfish and Tuna

The main hazard arising from this type of fishing is the presence of large Japanese ships in the centre of the Mediterranean during the tuna season in particular. Apart from the competition (they lay longlines that extend for miles thus leaving little or no space for the locals to fish where the tuna is known to migrate) there is the added hazard that such large ships very often lay their lines across the locals' bows even when it is clear that the Maltese fishermen have their own lines set, which very often means loss of gear. Many complain that although they try to raise the ships on the radio, they are never answered and therefore they have to keep constant watch so that serious accidents are avoided.

Incidentally this extremely dangerous and unethical behaviour by the Japanese calls for both local and international diplomatic intervention since this concerns also other countries bordering the Mediterranean. Moreover, the presence of such a large fleet in the Mediterranean may seriously deplete tuna stocks and place the locals' future in jeopardy.

### 3. Bottom Trawling

The waters around the island are known to be replete with fish. In fact some species caught locally, such as John Dory, have disappeared from the Northern Mediterranean and other highly priced species such as red mullet, bream and hake are caught in limited quantities whereas some local zones are very abundant in these species. The problem here is the very real danger arising from war-time relics and bomb dumping sites which are scattered all over the Maltese waters. Many were the instances where boats would lose their whole gear after having been fouled by some warplane or sunken ship which was not always indicated on maps. It is also quite common for some unexploded bombs to be caught in a trawl-net endangering life and limb.

## VII. – Conclusion

The problems confronted by Maltese full-time fishermen are typical of most of their Mediterranean counterparts—small vessels, lack of investment, gradual depletion of wild fish stocks and severe competition from non-Mediterranean fishing fleets. The main strategy which needs to be followed over the coming decade in Malta is the consolidation of efforts through the merging of the two cooperatives (though this may be a Herculean task, at least in the short-term) and the gradual involvement in the aquaculture industry. Though this necessitates a change in the traditional fisherman's mentality, it is an inevitable process and augurs well, given the gradual growing demand for specialised, high value products. On its part, Government must embark, as early as possible, on a restructuring process wherein the local fragmented fishing capacity is adjusted to fish stocks.



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### Appendix

#### Fishing Craft Statistics by Size as on 31.12.91

Type of Craft	Up to 6m	From 6.01m to 9m	From 9.01m to 12m	From 12.01m to 15m	From 15.01m to 18m	Over 18.01m	Total
Trawler	–	–	–	–	–	10	10
M.F.V.	–	15	12	27	13	8	75
<i>Luzzu</i>	142	164	32	6	–	–	344
<i>Caique</i>	601	18	–	–	–	–	619
<i>Firilla</i>	16	10	–	–	–	–	26
Others	132	112	24	13	–	–	281
<b>Total</b>	<b>891</b>	<b>319</b>	<b>68</b>	<b>46</b>	<b>13</b>	<b>18</b>	<b>1355</b>

#### Fishing Population as on 31.12.91

District	Full time	Part-timers	Total
Marsaxlokk	113	89	202
Gozo	74	199	273
Other districts	58	856	914
<b>Total</b>	<b>245</b>	<b>1144</b>	<b>1389</b>