

## COUNTRY NOTE ON NATIONAL FISHERIES MANAGEMENT SYSTEMS -- TURKEY

### 1. Fisheries Sector in Turkey

1. Fisheries being one of the four sub-sectors of the agricultural sector of Turkey, it has a vital importance in contributing beneficial nutrition for human beings, providing raw material for the industrial sector, creating the employment possibilities and high potential for export.

2. Turkey, with its favourable geographic position between the Black Sea and Mediterranean Sea, has access to the fish resources of both of these water bodies. The country is also endowed with rich inland waters and river systems with significant capture fishery and aquaculture potential. Tables 1 and 2 describe marine and freshwater resources in Turkey.

3. Marine capture fisheries have an important share in the total fisheries production as the country is bounded by four seas: the Mediterranean to the south, the Aegean to the west, the Sea of Marmara between the European and Asian landmasses, and the Black Sea to the north. The entire coastline spans more than 8 333 kilometres (approximately 5 000 miles) in length.

4. However, it is not easy to say that the fisheries sector, with a share of 0.3% in GNP (Gross National Product) and 2.7% in the agricultural sector, has played its expected role in agriculture and national economy.

**Table 1. Marine Resources of Turkey**

Marine Resources	Coastal Line Length (Km.)	Surface Area (Hectare)
Black Sea, Aegean Sea and Mediterranean Sea of Marmara , Istanbul and Dardanelles	7 144	23 475 000
<b>TOTAL</b>	<b>8 333</b>	<b>24 607 200</b>

*Source:* Ministry of Agriculture and Rural Affairs.

**Table 2. Total Surface Area of Freshwater Resources in Turkey**

Fish Producing Sources	Number of Resources	Surface Area (Ha)	Length (Km)
Natural Lakes	200	906 118	-
Dam Lakes	159	342 377	-
Ponds	750	15 500	-
Rivers	33	-	177 714

*Source:* Ministry of Agriculture and Rural Affairs.

5. Although there are 170 000 species in the aquatic environment as fishery resources, only 500 of them are economically important. As a result of geographic and climatic variations, marine and inland waters offer a wide variety of production on different species by both fishing and aquaculture in Turkey. It

is known that there are 247 species in the Black Sea, 200 in the Sea of Marmara, 300 in the Aegean Sea and 500 in the Mediterranean. Only 10-15 of them have an economic importance.

6. The total catch can be divided into three main groups; pelagic and demersal fish species, shellfish, molluscs and others. Total production is 627 000 tons according to the 2002 fishery statistics. Of the total, 83% is obtained from the marine fisheries, 7% from inland, 1 % comes from aquaculture. (Table 3)

**Table 3. Fish production in Turkey from 1996 to 2002**

Years	Inland		Marine		Aquaculture		Total
	Ton	%	Ton	%	Ton	%	
1996	42 202	7.68	474 243	86.28	33 201	6.04	549 646
1997	50 460	10.09	404 370	80.83	45 450	9.09	500 260
1998	54 500	10.02	432 700	79.56	56 700	10.42	543 900
1999	50 190	7.88	510 000	80.08	63 000	9.89	636 824
2000	42 824	7.35	441 690	75.84	79 031	13.57	582 376
2001	43 323	7.28	484 410	81.42	67 244	11.30	594 977
2002	43 938	7.00	522 744	83.26	61 165	9.74	627 847

Source: Prime Ministry, State Statistics Institute.

7. Turkey's marine production showed a steady increase until 1988 when the total catch amounted to 676 000 tons. However, catches started to decline thereafter, and dropped to 300 000 tons as a result of collapsing pelagic fisheries in the late 1980s (mainly anchovy stocks collapsed). From 1992 to 1995, the amount of marine production has gradually increased again and reached the level close to that observed just before the crisis in 1988. It is assumed that marine production reached a stagnation level of around 550 000-- 650 000 tons.

8. Besides marine capture, the catch from the inland waters is important, especially for rural areas in terms of fish supply and employment. According to the data of the last 10 years, it consists of 7-10% of total production. This fishery also seems to reach a stagnant level. The major catch is obtained from Lake Van (Eastern Anatolia Region) by *Chalcalburnus tarichii*, which is the endemic species of the basic (soda) waters of the lake. Production from inland waters is considerably less comparing to the rich inland water potentials.

9. Aquaculture is the third component of fisheries production. Aquaculture in Turkey started with rainbow trout culture in the early 1970s and little had happened in terms of sea farming until 1985 beginning with gilthead sea bream and sea bass culture in Aegean Sea. Today both freshwater and sea farming play an increasingly important role in the production of fishery products. The sector can be characterized by mainly three species: rainbow trout, sea bass and sea bream. The number of farms, of different sizes in each sub-sector, their capacities, and production figures of species is summarised in Table 4.

**Table 4. The number of fish farms licensed by MARA, production capacities and actual production by September 2002**

Freshwater			Marine		
Species	No.	Capacity (t/yr)	Species	No.	Capacity (t/yr)
Trout	1 301	38 726	Sea bream	20	1 149
Mirror carp	133	12 259	Sea bass	13	1 760
Wells	1	10	Trout	14	1 676
Eel	1	250	Trout & Sea bass	1	30
Aquarium	11	14 550 000 fish/yr	Sea bream & Sea bass	186	16 160
			Mussel	4	2 341
			Bluefin tuna	2	1 840
<b>TOTAL</b>	<b>1 447</b>	<b>51 245</b>		<b>240</b>	<b>25 196</b>

*Source:* The Ministry of Agriculture and Rural Affairs.

## 2. Fisheries Management Regime in Turkey

10. The Ministry of Agriculture and Rural Affairs (MARA) is the main state organisation responsible for fisheries (including aquaculture) administration, regulation, protection, promotion and technical assistance through four General Directorates. All activities in fisheries and aquaculture are based on the Fisheries Law No. 1380, enacted in 1971. With this law, and its related bureaucracy, definitions were codified. Based on this law, regulations and circulars are prepared to regulate fisheries. The Fisheries Law No. 1380 of 1971 as amended by law 3288 of 1986. According to Laws 1380 and 3288 and Continental Waters Law No. 2674 of 1982, foreigners are not allowed to take part in commercial fishing activities. In accordance with the Laws, every year commercial fisheries and sport fishing circulars are published and announced in the official Journal about the restrictions for stock control.

11. The main duties of MARA on fisheries are;

- to perform and to assign the duties specified in the Laws No. 1380 and 3288,
- to determine and implement the major fisheries policies (including aquaculture),
- to assist the services such as the provision, supply and distribution of the fisheries (including aquaculture) credits and other inputs that fish farmers and fishermen use),
- to establish and operate the quality control systems and organisations required to ensure and regulate that fish and other fishery products are captured, processed, stored, marketed and exploited in accordance with the international quality standards,
- to establish and operate research activities on the improvements, controlling, production, processing units, agencies, laboratories and establishments, and to provide technical assistance to private sector organisations desiring to establish and operate such kind of institutions,
- to prepare and implement extension and training systems, programs and projects for farmers and fishermen,
- to collaborate with the private agencies, universities, research institutions and international organisations to increase the productivity, conservation of natural stocks and to protect them from biotic and abiotic hazards,
- to promote and support to fishery organisations (associations and co-operatives)

12. The Ministry undertakes its duties in fisheries management through four General Directorates, as well as the District and 81 Provincial Directorates. The General institutional structure of the fisheries sector in Turkey is shown in Figure 1.

13. Control Sections of 81 Provincial Directorates of MARA are responsible for implementing fishing regulation arrangement and control the fishing stated in the annual ministerial circulars. Additionally, Coastguards from the Ministry of Internal Affairs also have the responsibility of controlling the fishing in some defined areas.

14. The fisheries laws give the major responsibility of fisheries to the MARA, and during 1980's, significant effort was devoted to preparing laws and by laws which are related to the management of coastal and inland resources. A significant part of legislation prepared in this period deals with protection and conservation issues. These include laws on environmental protection, national parks and the protection of cultural and national wealth, which may limit some fisheries and aquaculture activities. As a result, a number of ministries and institutions established in the 1980s such as the Ministry of Environment and Forest, Under Secretariat of Maritime etc. is involved in the decision making process regarding fisheries and aquaculture.

15. The State Planning Organization prepares long-term development plans and annual programs conforming to the targets of the sector determined by the government, and coordinates activities of the ministries and public institutions concerning economic, social and cultural policies, to ensure efficient implementation and advise the government regarding fishery policy issues,

16. Fisheries Production data are gathered and evaluated by the State Statistics Institute in collaboration with the Ministry of Agriculture and Rural Affairs. The institute uses a complete technique for large scale fishermen, and sub-sampling for small scale fishermen.

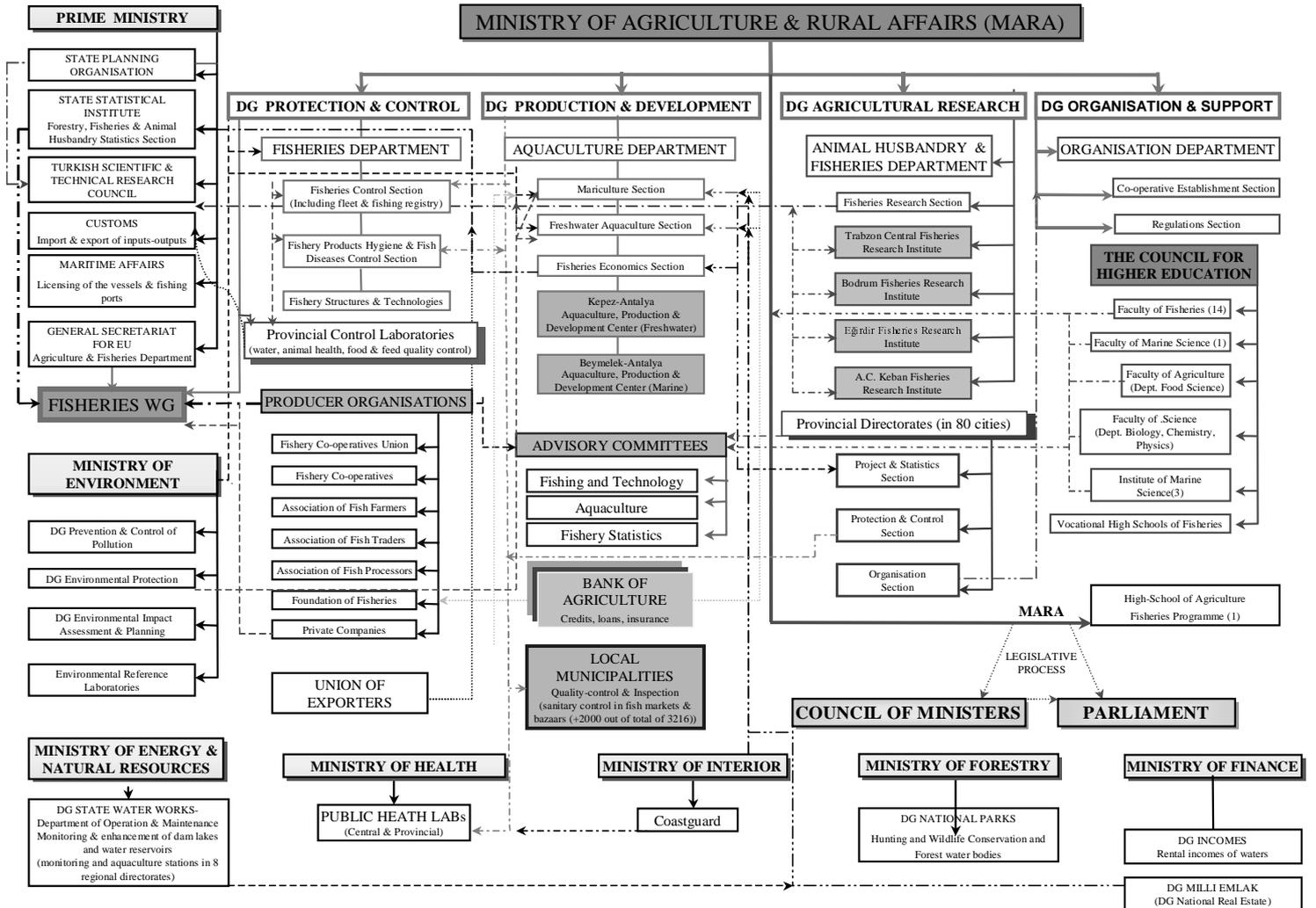
17. The Under Secretariat of Foreign Trade of the Prime Ministry is the other public organisation which regulates fish exports and imports regime.

18. The Agricultural Bank of Republic of Turkey and Under Secretariat of the Treasury operate credit and incentive schemes to support the fisheries and aquaculture sectors.

19. The Scientific and Technical Research Council also plays an important role organising and subsidising research activities.

20. The Export Promotion Centre of Turkey, which is the only public organisation in this field, acts as an intermediary in establishing business contacts between foreign importers and Turkish exporters to develop and to promote Turkish fisheries exports.

**Figure 1. The Institutional Structure of the Fisheries Sector in Turkey**



21. Governmental policy towards the fisheries sector has traditionally focused on stimulating production and has included both fisheries management and fisheries development measures. The development of fisheries in Turkey is decisively linked to the economic and social strategy outlined in the National Five Years Development Plan and the National Annual Programme. Management of fisheries in Turkey has been under the jurisdiction of the Ministry of Agriculture and Rural Affairs which is responsible for the formulation of fisheries regulations and development programmes.

22. In 2002, a study on the Turkish fisheries sector and legislation was undertaken as part of an EU Project titled "Support to the Turkish Authorities in Charge of Legislative Alignment to the Acquis in the Fisheries Sector" After this study, a project Fiche was prepared. The overall objective of the project is to enhance the sustainable contribution of the fisheries sector to the national economy and prepare the sector for Turkey's accession to the European Union.

23. The main purpose of the project is to implement the relevant legal, institutional and structural policy reforms identified in the Fisheries Sector EU Alignment Strategy developed by the Fisheries Working group (which includes officials of the Fisheries Department of the Ministry of Agriculture and Rural Affairs, the Coastal Guard, the State Statistics Institute and other stakeholders).

24. The project's immediate objectives are reflected as three different components:

- Sector management, including conservation, inspection and control, resource management and structural adjustment practices.
- Common Market Organizations and Producer Organizations, adoption of market standards (including quality control) and market statistical information system and design of an intervention system.
- Development and implementation of a computerized fisheries vessel registration, vessel monitoring and statistical information system in compliance with current relevant EC legislation.

25. The Government of Turkey's development policy and action plan towards EU accession is guided by the findings and recommendations of the National Plan for Adoption of the *Acquis*.

26. According to the Fisheries Law of 1971 and 1986, licensing both fishermen and their vessels has become compulsory. During the fishing season fishermen can fish in all waters any species by any amount with fewer exceptions as closed areas and gear type in the specific areas which are identified in the annual circular.

27. Fishing regulation is based on the following criteria;

- 1) Minimum mesh size (i.e. trawl net 20 mm. in the Black Sea and 22 mm. other seas),
- 2) Minimum fish size (length (cm.) and/or weight (g.)),
- 3) Closed area and terms for specified gears and/or vessels,
- 4) Closed season and area,
- 5) Ban on catch to some species such as dolphin, seal, salmon, sea turtle, a kind of sponge, corals and sturgeons,
- 6) Wholly forbidden fishing techniques, nets,
- 7) Gear restriction for identified species,
- 8) Gear or fishing method restrictions,
- 9) Some restrictions concerning pollutants.

28. Seasonal prohibition protects spawning stocks as it bans the use of trawl and purse seines between May and September. Zone restriction refers to the law against fishing within three miles from the coastline.

29. There are no other management measures such as landing quotas, exclusive regional or sub-regional fishing permits. Almost half of the fisheries regulations are targeted trawls and similar fishing gears. But the current regulations and arrangements which are using ineffective methods and insufficient prohibitions and inspection do not support the fish resources to recover.

30. There are basically four kinds of fishing operations in the Aegean and Mediterranean waters of Turkey. By far the largest numbers of fishermen are employed in the small-scale fishery sector. A typical two-man operation uses a 8 m open boat with a 10-25 HP inboard diesel engine. The larger unit may use 10 m boats with three fishermen. A few are equipped with depth recorder/fish finders. The vessel design varies from region to region, all traceable to sail and row boats as used prior to mechanisation in the 1950s.

Most fishermen use to basic gears, trammel nets and longlines. Trammel nets are modified gillnets set on the bottom within the shelf area; they catch fish by entanglement. Depending on the area, fishermen use different meshes of trammel nets, usually one small-mesh net for small species such as red mullet, and one large-mesh net for others. Longlines consist of a series of baited hooks on a main line attached to a float. Both of these two types of equipment are used in exploiting a diverse fauna of demersal (bottom-living) species dominated by sea breams, basses, mullets, groupers and snappers. Boats normally return to home ports within a day, and the catch is marketed locally.

31. The larger-scale operations include trawlers, purse seiners and beach seiners. Aegean-Mediterranean trawlers are 15-25 m wooden boats of schooner type design, with a usual crew complement of seven or eight. Trawlers drag a bag-shaped net equipped with otter-boards and catch demersal fish. By law, trawlers are not allowed in bays and in the area within three miles of the coast. In contrast to the small-scale sector, trawlers are not restricted to waters in the immediate area of the fishing community but range up and down the coast, sometimes spending months away from home port.

32. In Turkey, which has coastal and beyond coastal fisheries systems, the fishing boats show some kind of coastal or near coastal fishing boat characteristics in great scale. After 1980, some developments have been observed in the fishing fleets of Turkey in terms of the capacities and engine powers, but still there are not any fishing fleet on the open seas and oceans. However, this positive development has brought to problems of over-fishing, therefore additional licensing of over 12 m fishing boats was stopped in 1991. In 1997, all licensing was stopped for new fishing vessels.

33. Effective control of fishing effort might be achieved by a development of the current system for licensing of fishermen and boats. Licenses might specify not only a simple permission to fish but also more detailed control measures such as the gear to be used, the areas and periods to be fished, or even the ports at which fish should be landed.

34. The registration of fishing vessels and fishermen has been conducted in accordance with the FAO standards by Provincial Directorates. The Ministry (MARA) is currently founding a central registry system of vessels at General Directorate of Protection and Control in Ankara. This system is using visual basic database software and it can only be updated manually.

35. By 2002 there are 17 696 fishing vessels registered (Table 5). Fishing activity is mainly coastal, based on daily fishing trips. Major vessel types are seiners, trawlers and carriers (Table 6). These vessels can be classified as industrial fishing vessels and main operation areas are the Black Sea and the Sea of Marmara whilst those in the Aegean Sea and the Mediterranean are as the small-scale types.

**Table 5. Number of fishing vessels by region and grouped by length in 2002**

Region	<5m	5-9.9 m	10-19.9 m	>20 m	Total
Eastern Black Sea	251	3 660	314	76	4 301
Western Black Sea	50	1 990	493	180	2 713
Marmara	41	2 390	639	168	3 238
Aegean Sea	10	4 481	478	54	5 023
Mediterranean	20	2 050	307	44	2 421
<b>TOTAL</b>	<b>372</b>	<b>14 571</b>	<b>2 231</b>	<b>522</b>	<b>17 696</b>

Source: Prime Ministry, State Statistics Institute.

**Table 6. Number of fishing vessels by regions and operating type**

<b>Sea products regions</b>	<b>Total</b>	<b>Trawler</b>	<b>Purse seiner</b>	<b>Trawler- Purse seiner</b>	<b>Carrier vessels</b>	<b>Other</b>
<b>Total</b>	<b>17 696</b>	<b>566</b>	<b>448</b>	<b>416</b>	<b>53</b>	<b>16 213</b>
East Black Sea	4 301	130	62	80	15	4 014
West Black Sea	2 713	170	74	203	6	2 260
Marmara	3 238	88	194	106	22	2 828
Aegean	5 023	62	72	8	10	4 871
Mediterranean	2 421	116	46	19	-	2 240

*Source:* Prime Ministry, State Statistics Institute.

36. According to Fishery Statistics of 2002, the number of fishing licences has reached 64 029 for fishermen, 120 for legal personnel and 17 696 for vessels. Only licensed fishermen may carry out fishing activities as the Fisheries Law enforces. Izmir, Istanbul, Trabzon, Zonguldak, Samsun and Hatay are most popular provinces having both fishermen and vessel licences. In general fishermen are the members of the co-operatives or associations. There are 407 fisheries co-operatives founded with a membership of 20 385.