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A Model Study on the Role of Istanbul Fish Co-operatives at Turkish Fisheries

Türk Balıkçılığında İstanbul Su Ürünleri Kooperatiflerinin Rolü Üzerine Bir Model Çalışma

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Abstract

In Turkey, the total fish catch was about 580.000 tons, of which 86 per cent came from the marine environment in 2000. It is observed that considerable amount of fish catch have been performed via fishery co-operatives.

The first co-operative of fisheries was established in 1949 in Istanbul. There are 34 fish co-operatives in the vicinity of Istanbul and the total number of the members is 2.427 and vessels 2.170 in 2002. The catched fish is sold in Istanbul fish market. The total marketing capacity was about 40.000 tons in 2002.

This paper primarily focuses on the working and potentials of the Istanbul Fish Co-operatives.

Key words: Istanbul Fish Co-operatives, Model study, Turkish fisheries.

Introduction

Turkey, as a peninsula has, 779.452 square kilometers surrounded by the Black Sea, Marmara Sea, Aegean Sea and Mediterranean Sea. The Black Sea has been one of most productive sea of the world in the past 2-3 decades (Acara and Okuş, 1996, Çelikkale *et.*

al. 1998). Turkey gets her 86.3 per cent of fish from the Black Sea (Çelikkale *et. al.* 1999). Regarding the present production level, Turkey is the 30th largest fish producer in the world (Acara *et. al.* 1998., Anon, 2001).

In 2000, the total catch was 582.376 tons and 86 % of sea fish was obtained from the marine environment, and the rest of the fish (approximately 8 %) were obtained from the inland waters (Çelikkale *et. al.* 1999; D.İ. E., 2000).

In Turkey, aquaculture has an increasing importance both for marine and freshwater species (Anon, 2000 a, b). There was a steady increase from 1960 to 1988 due to planned development strategies applied as a State policy and Fisheries Law that was acted in 1971 (Timur, 1999). The Marmara Sea provides 10.5 % of the total Turkish sea production (D.İ.E., 2000). However this proportion should be higher than 10.5 per cent. The Marmara Sea is located between Dardanelles and Bosphorus connecting the Aegean Sea and the Black Sea. The two big seas demonstrate variable water temperature throughout the year (Pektaş, 1953; Artüz, 1962; Albek 1987; Öztürk, *et. al* 2002). Therefore, there are regular fish migrations between the seas (Artüz, 1962; Artüz and Baykut, 1987; Meriç, *et. al* 1997). There are 200 different fish species and most of them have economic value in the Marmara Sea. However, it must be stressed that total fish catch from the Marmara Sea has not been at sufficient level yet (Anon, 2000 b).

In Turkey, the first fishery co-operative was established in 1949 as an element of effort to increase food production during the war time years (Anon, 1997; Timur, 2002). This development was intensified around 1950's when the Marshall Plan promised fishermen monetary and technical aid if organised into co-operatives (Knudsen, 1998). But in Turkey with erroneous organisation and insufficient members have blocked their development up to date. Whereas in European Community the fish co-operatives are organized as fish federations. The distribution of co-operatives and unions in Turkey is shown at (Table 1).

Table 1. The fishery unions and co-operatives in Turkey (Timur, 2002)

Names of Fisheries Union	Number of within the Union Co-operative	Number of Members
S.S. İstanbul Region	25	2427
S.S. East Black Sea Region	9	1003
S.S. Izmir Region	11	427
S.S. Marmara Region	17	2867
Total	**62**	**6724**

Material and Methods

This study was carried out in Istanbul city related to fish co-operatives and its unions at Bosphorus surrounding a high fishing potential. A questionnaire form was forwarded to the fish co-operatives and its unions to get information on their location (Figure 1), distribution (Table 2, 3, 4) and the number of members, fishing capacity, fishing nets, fish species and their opinion on the problems of in the Istanbul region.

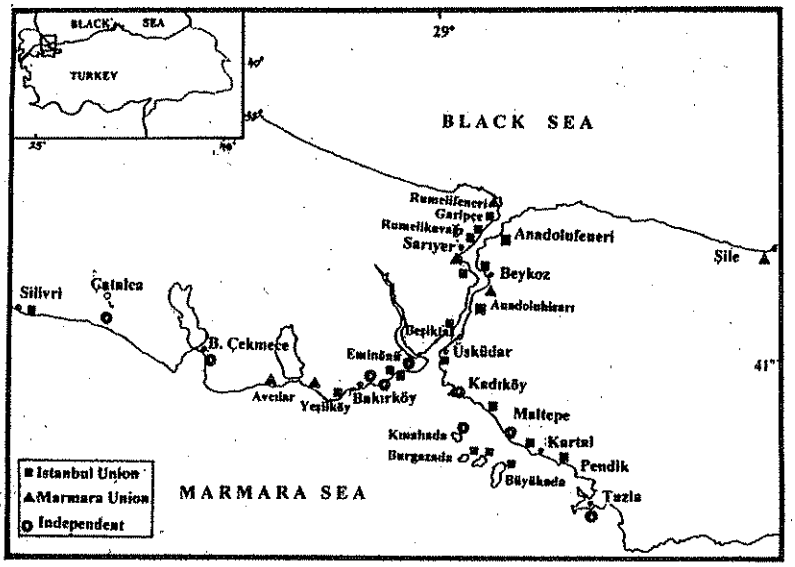

Figure 1. Location of the fish co-operatives in Istanbul city

Table 2. Names and locations of the fishery co-operatives at Asian Side of the Istanbul city.

No	Name of the fishery co-operatives	Location district	Year of foundation
1	S.S. Anadoluhisarı	Beykoz	1978
2	S.S. Anadolukavağı	Beykoz	1972
3	S.S. Beykoz Fishery	Beykoz	1993
4	S.S. Bostancı	Bostancı	1988
5	S.S. İstanbul Örnek	Beykoz	1960
6	S.S. Kadıköy	Kadıköy	1982
7	S.S. Kartal	Kartal	1985
8	S.S. Küçükyalı	Maltepe	1999
9	S.S. Pendik	Pendik	1979
10	S.S. Şile	Şile	2000
11	S.S. Tuzla	Tuzla	1995
12	S.S. Üsküdar	Üsküdar	1982

Table 3. Names and locations of the fish cooperatives at European Side of the Istanbul city

No	Name of the fishery co-operatives	Location district	Year of foundation
1	S.S. Avcılar	Avcılar	1999
2	S.S. Büyükçekmece	B. Çekmece	1973
3	S.S. Eminönü	Eminönü	2001
4	S.S. Fatih	Yedikule	1997
5	S.S. Garipçe	Sarıyer	1971
6	S.S. İstanbul Balık Mühtassilleri	Kumkapı	1949
7	S.S. İstanbul Numune	Sarıyer	1959
8	S.S. Karaburun	Çatalca	2001
9	S.S. Kireçburnu	Sarıyer	1999
10	S.S. Küçükçekmece	K.Çekmece	1965
11	S.S. Ortaköy	Beşiktaş	1978
12	S.S. Rumelifeneri	Sarıyer	1971
13	S.S. Rumelikavağı	Sarıyer	1971
14	S.S. Silivri	Silivri	1978
15	S.S. Yeniköy	Sarıyer	1999
16	S.S. Yenimahalle	Sarıyer	1971
17	S.S. Yeşilköy	Yeşilköy	1991
18	S.S. Zeytinburnu	Yeşilköy	1999

Table 4. Names and locations of the fish cooperatives at Marmara Sea of the Istanbul city

No	Name of the fishery co-operatives	Location district	Year of foundation
1	S.S. Adalar	Heybeliada	1978
2	S.S. Burgazada	Burgazada	1997
3	S.S. Büyükada	Büyükada	1995
4	S.S. Kınalıada	Kınalıada	1979

Results

Tables 2, 3, and 4 show that total 34 fishery co-operatives are located within in Istanbul. Eighteen of them are located at European Side of Istanbul and the rest Asian and Marmara parts. At the co-operatives numeral increase and the date of foundation are shown at (Table 5). In Istanbul the first fishery co-operative was established at Kumkapı in 1949 (Anon 1997; Timur, 2002).

By the examination of Table 6 and Figure 2, the total number of the fish co-operative members are 2.427 persons total number of the vessels are 2.170 of which 1.748 are small (Maximum 75 H.P.) and the rest are big vessels (greater than 75 H.P.). The fishing equipments of the co-operatives are purse seine (called in Turkish, Gırgır), trawl (Trol), long line (Paraketa), trammel net (Fanyalı ağ), run-around gill net (Voli) set net (Dipten uzatma ağı), drift gill net (Sürükleme ağı), bag shaped fishing net (Torbalı ağ) and extended net (Uzatma ağı) (Karakulak and Oray, 1999).

The catching species by the fishermen are Atlantic bonito (*Sarda sarda*), blue fish (*Pomatomus saltator*), turbot (*Scophthalmus maximus*), horse mackerel (*Trachurus* spp.) anchovy (*Engraulis encrasicolus*), blue whiting (*Micromesistius poutassou*), striped red mullet (*Mullus surmuletus*), grey mullet (*Mugil* spp.), sand mussel (*Chamelea gallina*), snail (*Rapana thomasiana*), sea bream (*Sparus auratus*), shrimp (*Penaeus semisulcatus*), black scorpionfish (*Scorpaena porcus*), garpike (*Belone belone*), shore rockling (*Gaidropsarus mediterraneus*). The types of fishing and per cent of catching in the Istanbul strait (Bosphorus) is shown in Fig. 3 and Table 7. Finally, in Istanbul fish market the amount of caught fish weight was $40x10^6$ kg. in 2002 (Anon, 2002).

Table 5. Numbers of the fish cooperatives, their foundation years and the unions

No	**Asian Side (Fishery Co-operative)**	Year of foundation	Name of the Union
1	S.S. Anadoluhisarı	1978	Istanbul
2	S.S. Anadolukavağı	1972	Istanbul
3	S.S. Beykoz	1993	Istanbul
4	S.S. Bostancı.	1988	Istanbul
5	S.S. İstanbul Örnek	1960	Marmara
6	S.S. Kadıköy	1982	Independent
7	S.S. Kartal	1985	Istanbul
8	S.S. Küçükyalı	1999	Independent
9	S.S. Pendik	1979	Istanbul
10	S.S. Şile	2000	Marmara
11	S.S. Tuzla	1995	Independent
12	S.S. Üsküdar	1982	Istanbul
No	**European Side**		
1	S.S. Avcılar	1999	Marmara
2	S. S. Büyükçekmece	1973	Independent
3	S.S. Eminönü	2001	Independent
4	S.S. Fatih	1997	Independent
5	S.S. Garipçe	1971	Istanbul
6	S.S. İstanbul Balık Müstahsilleri.	1949	Istanbul
7	S.S. İstanbul Numune	1959	Marmara
8	S.S. Karaburun	2001	Independent
9	S.S. Kireçburnu	1999	Istanbul
10	S.S. Küçükçekmece	1965	Marmara
11	S.S. Ortaköy	1978	Istanbul
12	S.S. Rumelifeneri	1971	Marmara
13	S.S. Rumelikavağı	1971	Istanbul
14	S.S. Silivri	1978	Istanbul
15	S.S. Yeniköy	1999	Istanbul
16	S.S. Yenimahalle	1971	Istanbul
17	S.S. Yeşilköy	1991	Istanbul
18	S.S. Zeytinburnu	1999	Independent
No	**Islands (Marmara Sea)**		
1	S.S. Adalar	1978	Istanbul
2	S.S. Burgazada	1997	Istanbul
3	S.S. Büyükada	1995	Istanbul
4	S.S. Kınalıada	1979	Independent

Table 6. Number of members and fishing capacity of the co-operatives.

No	Asian Side (Fishery Co-operative)	Members	Capacity
1	S.S. Anadoluhisarı	36	35
2	S.S. Anadolukavağı	41	41
3	S.S. Beykoz	38	90
4	S.S. Bostancı	38	27
5	S.S. İstanbul Örnek	74	50
6	S.S. Kadıköy	108	107
7	S.S. Kartal	122	60
8	S.S. Küçükyalı	32	160
9	S.S. Pendik	60	60
10	S.S. Şile	16	16
11	S.S. Tuzla	52	45
12	S.S. Üsküdar	74	55
No	**European Side**		
1	S.S. Avcılar	110	75
2	S. S. Büyükçekmece	132	80
3	S.S. Eminönü	22	60
4	S.S. Fatih	28	25
5	S.S. Garipçe	26	26
6	S.S. İstanbul Balık Mühtassilleri	185	100
7	S.S. İstanbul Numune	235	210
8	S.S. Karaburun	25	24
9	S.S. Kireçburnu	16	15
10	S.S. Küçükçekmece	116	100
11	S.S. Ortaköy	28	14
12	S.S. Rumelifeneri	205	209
13	S.S. Rumelikavağı	61	38
14	S.S. Silivri	40	40
15	S.S. Yeniköy	30	35
16	S.S. Yenimahalle	50	45
17	S.S. Yeşilköy	80	80
18	S.S. Zeytinburnu	146	85
No	**Islands (Marmara Sea)**		
1	S.S. Adalar	35	28
2	S.S. Burgazada	58	50
3	S.S. Büyükada	32	25
4	S.S. Kınalıada	76	60
Total		**2.427**	**2.170**

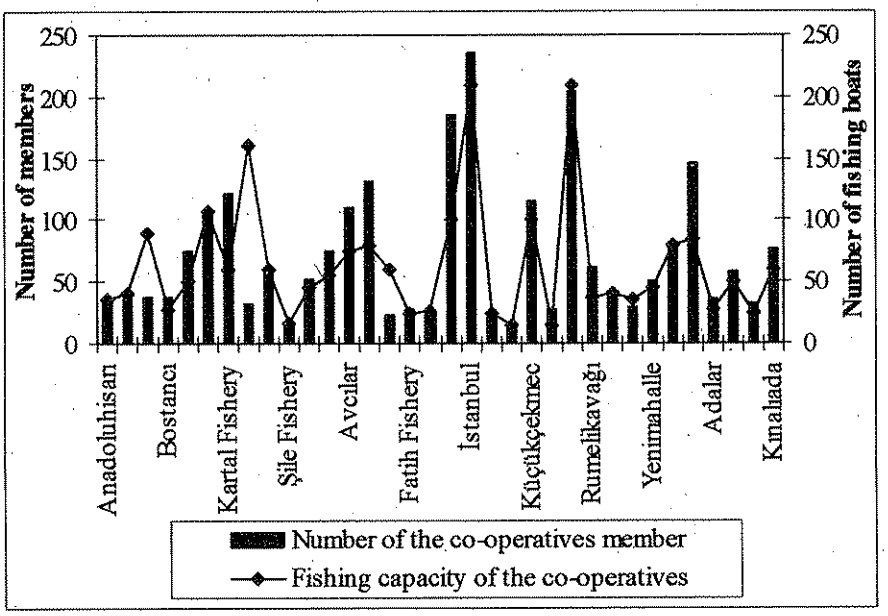

Figure 2. Number of members and fishing capacity of the fishery co-operatives in Istanbul strait.

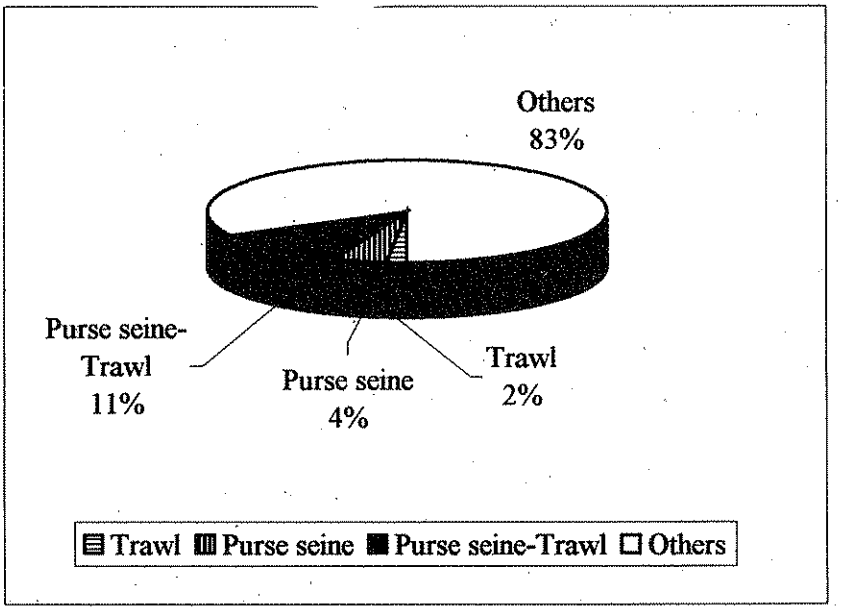

Figure 3. Registered fishing vessels and types of fishing in the Istanbul strait

Table 7. Some important fish species and types of fishing in the Istanbul strait.

Fish species	Purse seine	Trawl	Set net	Long line	Fishing line
Anchovy (*Engraulis encrasicolus*)	+				
Atlantic bonito (*Sarda sarda*)	+				+
Atlantic mackerel (*Scomber scombrus*)	+				
Big-scale sand smelt (*Atherina boyeri*)	+	+			
Black-bellied angler (*Lophius budegassa*)			+		
Black scorpionfish (*Scorpaena porcus*)			+		
Blue whiting (*Micromesistius poutassou*)		+	+		
Bluefin tuna (*Thunnus thynnus*)	+				+
Blue fish (*Pomatomus saltator*)	+	+			+
Chub mackerel (*Scomber japonicus*)	+				
Common pandora (*Pagellus erythrinus*)		+	+	+	+
Common sole (*Solea vulgaris*)		+	+		
Garpike (*Belone belone*)					+
Grey mullet (*Mugil* spp.)			+		
Horse mackerel (*Trachurus* spp.)	+	+			
John dory (*Zeus faber*)		+			
Picarel (*Spicara smaris*)	+				
Red mullet (*Mullus barbatus*)		+	+		
Round sardinella (*Sardinella aurita*)	+				
Saddled seabream (*Oblada melanura*)		+	+	+	
Sea bass (*Dicentrarchus labrax*)		+	+		+
Sea bream (*Sparus auratus*)			+	+	+
Smooth-hound (*Mustelus* spp.)		+		+	
Striped red mullet (*Mullus surmuletus*)		+	+		
Thornback ray (*Raja clavata*)		+			
Twaite shad or rock herring (*Alosa fallax*)	+				
Turbot (*Scophthalmus maximus*)		+	+		
Young blue fish (*Pomatomus saltator*)	+		+		

Discussion

It was observed that fish co-operatives in the developed countries had an important role in organising various activities within the fishery sector. However fish co-operatives received less attention and most of them are disintegrated in Turkey. Beside that the co-operatives have had not insufficient financial help, and suffered

from so many legistlation, insufficient number of boat shelter and unqualified management system.

As it is shown in Fig. 2 and Table 6, there is a positive correlation between the member of the co-operatives and the numbers of vessels ($r = 0.78$, $n = 34$).

Fishing and its marketing in a mega metropol, Istanbul city is a model of Turkish fisheries. In 1996, amount of sold fish in Istanbul fish market was 23×10^6 kg. and 40×10^6 kg. in 2002.

In Istanbul, the fish species which were sold more than 15 tons/month in the fish market were; Octopus (*Octopus* sp.), striped red mullet (*Mullus surmuletus*), young blue fish (*Pomatomus saltator*), sea bream (*Sparus auratus*), common sole (*Solea vulgaris*), john dory (*Zeus faber*), black-bellied angler (*Lophius budegassa*), shore rockling (*Gaidoropsarus mediterraneus*), big-scale sand smelt (*Atherina boyeri*), anchovy (*Engraulis encrasicolus*), horse mackerel (*Trachurus* spp.), picarels (*Spicara smaris*), sea bass (*Dicentrarchus labrax*) shrimp (*Penaeus kerathurus, P. japonicus, P. semisulcatus, P. longirostris*), turbot (*Scophthalmus maximus*), chub mackerel (*Scomber japonicus*), smooth-hound (*Mustelus* sp.), common pandora (*Pagellus erythrinus*), hake (*Merluccius merluccius*), blue fin tuna (*Thunnus thynnus*) round sardinella (*Sardinella aurita*), striped red mullet (*Mullus surmuletus*), twaite shad or rock herring (*Alosa fallax*), atlantic mackerel (*Scomber scombus*), saddled seabream (*Oblada melanura*) and thornback ray (*Raja clavata*). In Istanbul, 73 fish species are sold at fish markets (Timur and Doğan, 1999).

This study indicates that the fish co-operatives in Istanbul do not operate efficiently. Moreover the fishermen and managers are certain extent desire to co-operate and entering into dialogue with various authors. As a consequence, major changes in the co-operation on fish and fisheries management in the Istanbul strait (Bosphorus) are likely to be necessary. Any attempt to reform fisheries management towards sustainability must start with a clear idea of what is to be achieved.

Özet

Türkiye'de 2000 yılında toplam su ürünleri üretimi yaklaşık 580.000 tondur. Bunun % 86'sı denizlerden sağlanmaktadır. Yakalanan su ürünlerinin önemli kısmının su ürünleri kooperatifleri aracılığıyla sağlandığı gözlemlenmiştir.

Türkiye'de ilk su ürünleri kooperatifi 1949 yılında İstanbul'da kurulmuştur. Bugün İstanbul da 34 su ürünleri kooperatifi vardır. Bu kooperatifler 2.170 balıkçı teknesine ve toplam 2.427 üyeye sahiptir. Dolayısiyle avlanan balık ve kooperatif üyesi yönünden bir Türkiye modeli oluşturmaktadır. Yakalanan balıklar İstanbul Su Ürünleri Hali'nde pazarlanmaktadır. Halin 2002 yılında toplam balık satış kapasitesi 40.000 tondur.

Bu çalışma İstanbul Su ürünleri Kooperatiflerinin yapısı ve potansiyelinin ortaya konması üzerine odaklandırılmıştır.

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