Small-scale fisheries in Albania

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Abstract
Artisanal fishery in Albania has developed remarkably since the 1990s as an alternative to unemployment and low income in costal areas. A first field survey exercise, carried out by the Fishery Department in summer 2003, recorded 462 fishing units (363 with engines and 99 without), performing (either full or part-time) small-scale coastal fishing with an estimated number of more than 900 fishers, most of them part-time fishers, primarily employed in agriculture.

Keywords: artisanal fishing; data collections; fishing vessels statistics; socio-economic aspects; MED, Adriatic Sea; Albania

1. Introduction

Small-scale artisanal (traditional) fishery is a category which includes the fishing activity carried out with small boats with/or without an engine, along the coast up to 12 miles offshore with no commercial purposes, but for the fisher's own consumption; it is a sector that has a low level of investment.

Artisanal fisheries is a term used to describe low-capital ventures where the fisherman is often the owner of the vessel, in contrast to industrial fisheries involving major investments by companies or financial groups. This fishing is often associated with the notion of "coastal fishing"; that is to say that fisheries are located on the continental shelf and very close to a coastal zone. Fishing grounds can be reached in a limited time from the ports (or beaches). The target species are usually of high commercial value.

Historically, from the Illyric times, artisanal fishery in Albania was very important in the coastal zones. Coastal people were occupied mostly with fishing; this activity became one of the most important food sources. Researchers of ancient culture have called those inhabitants "fisherman people"; the remnants of fishing activity have been found in the dwellings of Illyric tribes. Fish bones, fishing tools, boned or bronze hooks, iron or boned harpoons, boats made of tree trunks and similar items have been discovered. The fishing net, although not preserved from the times, was widely used as a principal fishing tools. Some tools have been found along the coastal zones. A wooden tool with a hole in the middle of it, which was for hanging nets on the surface of the water, the weights created from terracotta used in the bottom part of the nets, needles for net stitching or knitting which, by their shape are identical to those that are in use nowadays. All of this shows the importance of fishing activity in Illyric people, from whom the Albanians descend.

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This tradition has been handed down over the years, generation by generation. The fishing boats nowadays have various shapes depending on the physical characteristics of the coastal zones where the fishermen operate (the water depth, water flow etc.). We can mention the typical boat of Shkodra called "take" or another boat called "Patogu boat"; the former has a thin and long shape, the latter is relatively short and wide in the middle of the boat axes (like a nut shell) they also have a different draught. Artisanal, traditional fisheries in Albania nowadays are expanding along the coast (427 km). This fishing category exploits the shallow area of the sea in a range comprised within 12 miles (central and northern Albanian coast) and 6 miles (southern Albania) from the coast, according to the structure of the zone. This is because the Albanian Adriatic Sea represents the so-called area "batlla" which lies between Drini Bay and Buna Bay.

This area has a square shape (10 miles by 5 miles) with a depth that varies from 39 to 51 m. It is rich in fish but is not possible to catch them by trawl nets ("batlla" means obstacles caused by different levels of reefs). Therefore fishermen who use selective fixed gears, which belong to the artisanal fishing category, frequent this area. In Albania human settlements are mostly concentrated along the coast. Recent political and economic changes brought about important demographic movements. The coasts became much more populated while the interior of the country less so. Furthermore, given the opening up of Albania, an increase in tourism has provided the fishing community with a good opportunity for better income through small-scale fishery. In the light of the responsible fishery issue, in application of the Albanian fishing law, which is relatively recent (1995) and in the current context resulting from a long political and economical transition, fisheries management entails a significant work load.

2. Monitoring of small-scale fisheries

In the reorganization process of the national fishery sector, it is natural to start with data collection on the semi-industrial marine and inland fishery sectors as an important part of the fisheries management. A recent field survey on national small-scale artisanal fishery provided a first insight on the importance of this sector in terms of species caught and quantities, socio-economic aspects and relations with other fishing categories, and the legislative aspects.
Where Albania is concerned, around 85% of the small-scale fishing category consists of illegal, unreported fishing. Therefore, not only for its quantification, but also to set up a reporting structure, this sector should be included in management plans by the relative administrative body. Socio-economic and scientific aspects as well as interactions with other fishing categories need to be covered. Such monitoring should also improve the frequency of data collection and maintenance in the fishery sector. Systems recently implemented by FAO in other countries should also be applied in Albania.
Data collection is based on the Law 7908 dated 05/04/1995 as well as on the Regulation No. 1 dated 26/03/1997. The declaration of statistical data is one of the fundamental conditions for the renewal of fishing licenses. In the context of the further improvement of the data collection system on fisheries and of approaching Albanian legislation to that of the EU, preparatory work has begun on the improvement of the data collection system in the fisheries sector. It consists in the consideration given to the EC Regulations No. 1543/2000 dated June 29 2000 which determines the "Community structures for the collection and

processing of necessary data in order to follow common policies in fisheries", as well as the EC Regulation No. 1639/2001 dated July 25, 2001 that establishes a “minimal program and a broad program for data collection in the fisheries sector and determines the ways to apply the Regulation (EC) 1543/2000”. These regulations provide for the establishment of an efficient system of data collection as well as the development and funding of monitoring programs.
In this context, the support of the FAO AdriaMed Project has been obtained as a first step, through the establishment of the ALBFISH Unit. Future efforts will be focused on further expanding this Unit. The database prepared with the assistance of FAO and currently under completion, includes data on industrial fishing. According to FAO, EC and national standards these data are going to gradually generate the national outlook of this fishing category.
Data will be made available over the Internet in the form of official reports. The maintenance of this system is expected to continue and the number of local monitoring experts will be increased in order to cover all categories of fishing. Monitoring experts are supposed to be established under the fishing associations (based on the Law 8870, dated 21.03.2002 ”Some changes on the Law No 7908, dated 5.4.1995, on Fishery and Aquaculture” which establishes the Fishery Management Organizations, FMO, in the four main ports of Albania, and in inland waters).
The funding of research efforts under this program is also an important aspect. This will be implemented through the redesigning of the Fishery Research Institute projects’ funding. Completion of these components will enable the endorsement and implementation of the above regulations. The first survey of artisanal fisheries is considered as an important step.

3. First appraisal of the national small-scale fishery sector

Until the year 2000 artisanal traditional fisheries were disregarded; this was principally due to the small quantity of fish caught and the final destination of the production, which is almost always for consumption by the fisher and his immediate family. Furthermore, sport fishing is included in the same category with artisanal fishery. In recent years this latter has developed due to the low employment that exists in Albania that also affects the coastal communities. On the other hand, the measures taken by the Fishery Directorate to strengthen the application of fishing law along the coasts, especially concerning lagoons, created the necessity for other alternatives for the communities around those areas. Those fishermen who were refused a lagoon fishing license by the fishery administration (license board) found an alternative by switching to small-scale coastal fishing.
In the last months, the Ministerial Fishery Inspectorate begun to consider artisanal fishery in order to know the situation and to start basic monitoring of this fishing category. Taking into consideration the inspectorate body (there are 15 inspectors dispersed in all districts of Albania) questionnaires were prepared to be compiled through interviews to artisanal fishers. For the survey reported in this paper seven inspectors were involved covering the coastal area.

3.1 Data collection system

The coastline of Albania (Figure 1) was divided into nine areas/segments according to geographical occurrence, from north to south as follows:

- Mouth of the River Buna - Vilun (Velipoja).
- Shengjin area.
- Drini Bay.
- Drini Bay - Mouth of the River Mat.
- Mouth of the River Mat - mouth of the River Ishem.
- Area of Durres and Kavaja.
- Area of Lushnja and Fieri.
- Area of Vlora (Himara - Qeparo).
- Area of Saranda.

In preparing the questionnaire (Figure 2), the following aspects which could better outline the artisanal fisheries in Albania were considered: number of fishing boats, fishing tools, fishery production, fishers' problems and socio-economic information.

Figure 1. Map of Albania

Questionnaire

Concerning the Small Scale Fisheries or Artisanal (traditional) Fisheries of the _____area.

Fisher name: _____.

Total fishing boats: _____

- Boat size (length, engine power) _____
- Construction material _____
- Auxiliary tools _____
- Number of fishers on board _____
- Family activity (yes/no) _____
- For how many years _____
- Registered (yes/no) _____
- Place and kind of building (industrial, traditional, imported or no) _____

Fishing tools used:

- Kind of fishing gear/tools (mrezha, njica, hooks) _____
- Quantity _____
- Total length/size of the tool _____
- Kind of catch _____
- Time of fishing. _____
- Average fishing days/month. _____

Catch:

- Average quantity per fishing day _____
- Main species _____
- Destination. (Family consumption, sale) _____
- Annual income _____
- Primary or secondary activity _____
- Target species. _____
- Geographical characteristics of the area _____
- Fishers' problems. _____
  _____
  _____

Interviewer: _____
Date: _____

Figure 2. Questionnaire on the small scale fisheries in Albania

4. Results and discussion

Field survey results are compiled by coastal areas in the Tables below (Tables 1, 2, 3, 4, 5 and 6):

Table 1. Total number of small boats and persons employed by coastal area.

Area	Number of boats (< 12 m length)	Fishers employed
Mouth of the River Buna -Vilun	15	23
Shengjin area	19	39
Drini Bay	20	41
Drini Bay - Mouth of the River Mat	11	22
Mouth of the River Mat-mouth of the River Ishem	20	55
Area of Durres and Kavaja	173	346
Area of Lushnja and Fieri	31	104
Area of Vlora (Himara - Qeparo)	151	306
Area of Saranda	22	25
Total	**462**	**961**

Table 2. Boat construction material and propulsion by coastal area.

Area	Wood	Fibreglass	Metal (mostly steel)	Inflatable motor boat	Mix	With engine	Without engine
Mouth of the River Buna - Vilun	3	11			1	13	2
Shengjin area	4	15				19	
Drini Bay	11	9				10	10
Drini Bay- Mouth of the River Mat	3	5	2		1	10	1
Mouth of the River Mat - mouth of the River Ishem	13	3		1	3	20	
Area of Durres and Kavaja	52	87	7	19	8	139	34
Area of Lushnja and Fieri	30	1				9	22
Area of Vlora (Himara - Qeparo)	92	55		4		128	23
Area of Saranda	10	12				15	7
Total	**218**	**198**	**9**	**24**	**13**	**363**	**99**

Table 3. Boat origin and engine power by coastal areas.

Area	Industrial		Artisanal		Engine size (H/P)
	Foreign	National	Foreign	National	Average
Mouth of the River Buna-Vilun	10			5	11
Shengjin area	15			4	15
Drini Bay	12			8	10
Drini Bay - Mouth of the River Mat	7			4	13
Mouth of the River Mat - mouth of the River Ishem	4			16	14
Area of Durres and Kavaja	112		19	42	13
Area of Lushnja and Fieri	1		2	28	0,5
Area of Vlora (Himara-Qeparo)	13		121	17	25
Area of Saranda	10		1	11	30

Table 4. Fishing activity and landing destination.

Area	Fishing days/ month (average)	Fishing method				Product destination (%)	
		Trammel net	Encircling gill-net	Hook	Others	Market	Family and market
Mouth of the River Buna - Vilun	9	15	14	6			100
Shengjin area	10	19	19	10		98	2
Drini Bay	11	20	20	12	12*	65	35
Drini Bay - Mouth of the River Mat	11	11	11	5		45	55
Mouth of the River Mat - mouth of the River Ishem	12	18	18		7*	100	
Area of Durres and Kavaja	13	173	173	149		30	70
Area of Lushnja and Fieri	14	31	22	20	20*	84	16
Area of Vlora (Himara - Qeparo)	13	151	151	138	23*	30	70
Area of Saranda	14	20		2			100

*Fishing tools used in the lagoons such as traps, fixed gillnets, fyke nets, shore or shallow water-operated lift nets and stationary uncovered pound nets.

Table 5. Common species caught by coastal areas.

Species	**Common English name**	Mouth of the River Buna-Vilun	Shengjin area	Drini Bay	Drini Bay- Mouth of the RiverMat	Mouth of the River Mat-mouth of the River Ishem	Area of Durres and Kavaja	Area of Lushnja and Fieri	Area of Vlora (Himara-Qeparo)	Area of Saranda
Anguilla anguilla	European eel			X	X	X	X	X	X	
Auxis rochei	Bullet tuna									X
Boops boops	Bogue									
Dentex dentex	Common dentex	X								
Dicentrarchus labrax	European seabass	X	X			X	X	X	X	X
Epinephelus spp.	Groupers nei						X			
Galeorhinus galeus	Tope shark						X			
Lepidopus caudatus	Silver scabbardfish								X	X
Lichia amia	Leerfish		X	X	X	X				
Merluccius merluccius	European hake	X	X	X	X	X			X	X
Mugil cephalus	Flathead grey mullet	X	X	X	X			X		
Mullus surmuletus	Surmullet						X	X		
Mullus barbatus	Red mullet			X	X			X		
Octopus spp.	Octopuses nei	X	X	X	X	X	X			
Pagellus erythrinus	Common pandora			X	X				X	X
Palinurus elephas	Common spiny lobster								X	X
Penaeus	Penaeus shrimps nei	X	X	X	X					
Scomber scombrus	Atlantic mackerel	X	X							X
Sepia officinalis	Common cuttlefish		X	X	X	X	X	X	X	
Solea	Sole		X	X	X	X	X	X		
Diplodus spp.	Sargo breams nei	X	X	X	X	X	X	X	X	X
Sparus aurata	Gilthead seabream	X	X	X	X	X	X	X	X	X
Spicara spp.	Picarels nei								X	X
Squilla mantis	Spottail mantis squillid	X								
Umbrina cirrosa	Shi drum						X	X		
	Cartilagineus fishes nei	X								
	Echinoderms		X			X				

Table 6. Average daily and annual catch and income per boat.

Area	Daily fish catch per boat (kg)	Annual fish catch per boat (kg)	Annual income per boat ($)
Mouth of the River Buna -Vilun	10	1080	3240
Shengjin area	5	600	1800
Drini Bay	14	1848	5544
Drini Bay- Mouth of the RiverMat	14	1848	5544
Mouth of the River Mat - mouth of the River Ishem	12	1728	5184
Area of Durres and Kavaja	9	1404	4212
Area of Lushnja and Fieri	15	2520	7056
Area of Vlora (Himara - Qeparo)	10	1560	4680
Area of Saranda	6	1008	3024

Generally, artisanal fishery is not a primary economic activity as fishermen are mainly employed in agriculture. Lagoon fisheries, also included in the survey reported in this paper, make an exception. Lagoon fishermen exploit both the lagoon and the marine coastal zones combining the seasonal lagoon catch by traps with trammel net fishing along the coast. They comply with fishery regulations related to fish stocking of their lagoons as this is considered fundamental for their activity. This category of fishermen proved to be appropriately licensed.

It should be noted that the average income indicated in Table 6 is higher in the coastal areas that include lagoons than in the other areas. Those subjects are users of the stationary uncovered pound nets called "stavnike". This terminology comes from the Russian language as well as the technology which was brought from Russia during the 1950s and 1960s.

According to the survey information, almost all fishermen have carried out this activity for more than 10 years, in some cases for 20 years, following a family tradition.

Among the major constraints reported and problems affecting the small-scale fishery sector is the lack of quality fishing nets (in general low quality Turkish-made nets are used) and the impossibility of having direct access to a source of equipment. Fishing gear imported from abroad does not offer a suitable range of quality and price. Another problem is the illegal inshore trawl fishing which causes damage or loss of small-scale fishing gears. Lastly, the sale of the catch (when sufficiently abundant) to restaurants or fish companies is reported to be negatively affected because of the small quantities sold.

This category of fisher is very poor but is characterised by good expertise in preparing and maintaining the boats in an artisanal way, making the nets, and by the knowledge of the sea to foresee and plan fishing activity. Artisanal fishers know the fish behaviour well and their biological seasonality. This traditional local knowledge would need to be framed and valued by scientific programmes and to be considered by policy makers in a way that this fishing category could be an integral part of management plans. Also, artisanal traditional fisheries may contribute to deter illegal fishing by semi-industrial fishing boats operating in shallow water near the coast. This first simple attempt to monitor the Albania small-scale fishery will help the national fishery management authority as it provided an improved understanding of the situation of this sector. It can contribute to its management and to the establishment of a more regular monitoring scheme. It is hoped that FAO AdriaMed support will be ensured thus allowing this important sector of Albanian fisheries to be taken into due consideration.