

ALBANIA AQUACULTURE SECTOR

Mimoza Cobani
Aquaculture specialist
Directorate of Water & Fishery
Resource Management

**Ministry of Environment, Forestry &
Water Management**
Tirana, ALBANIA

Summary

<i>1. Total land</i>	<i>28,748 km²</i>
<i>2. Coastline (length)</i>	<i>470 km</i>
<i>3. Lagoon area</i>	<i>100 km²</i>
<i>4. Natural Lakes and reservoirs</i>	<i>500 km²</i>

- ◆ *Albania has a population of 3.4 million with highest population growth rates in Europe.*
- ◆ *Albania is a rich country in water resource, natural inland waters, and artificial lakes for hydroelectrically power purposes, a number of rivers, abundant agriculture reservoirs framework and coastal lagoons along the western part of country. with a largest lakes in Balkan Peninsula*

History and general overview

- ◆ *Albania experience in aquaculture field start in the early 60ies in carp family species in intensive and semi-intensive way.*
- ◆ *Bivalve mollusk cultivation (*Mytilus galloprovincialis*) mainly concentrated in Butrinti lagoon in Saranda were constructed around 80 mussel cultivation facilities.*
- ◆ *First intensive aquaculture of marine species started in the middle of 90ies, growing out of shrimps, and marine species cultivation in floating cages..*
- ◆ *Cold water salmonides, principally *Oncorhynchus mykiss* and *Salmo letnica* are another important group amongst the intensive/semi intensive aquaculture production in Albania.*

Aquaculture policy

- ◆ *Is included in the Fishery Sector Development Strategy, as part of GREEN STRATEGY, approved by the Government.*
- ◆ *The Aquaculture Action Plan (AAP), being part of the Fisheries Management Plan, represents the first step for aquaculture development based on a pragmatic approach elaborated by Fishery Directorate.*
- ◆ *The Albanian law N. 7908 "On Fishery and Aquaculture" and Regulations in law application assumes all the principles of the FAO Code of Conduct for Responsible Fisheries as well as UE directives, but not yet the separated Aquaculture Law.*

Distribution and characteristics

Lakes

- ◆ **Shkodra Lake (trans boundary)**
 - ◆ Is the largest of the Balkan Lakes, with 37 species belongs to 15 family, the most important are cyprinids with about 90 % of the fish biomass.
 - ◆ Fish production varied from 650 to 815 ton/year, actually, not more than 300 tons/year.
- ◆ **Ohrid Lake (trans boundary)**
 - ◆ Is the deepest Lake of Balkan Lakes, largest biological reserve in Europe, by 17 species of fish (10 of which are endemic). Fish catch varies from 90 to 150 ton per year.
- ◆ **Prespa Lake (trans boundary)**
 - ◆ It drains into **Ohrid Lake** by an underground stream. The fish catch is mainly of cyprinids. Average production varied from 300 to 500 ton per years.

Distribution and characteristics

- ◆ **Extensive aquaculture inside Coastal lagoons has been traditionally developed in Albania. The total surface of coastal lagoons is about 10,000 ha.**
- ◆ **Karavasta, the largest of Albanian lagoons (3800 ha), proclaimed part of Ramsar convention due to its particular qualities from naturalistic point of view, Butrinti 1600 ha, Velipoja 180 ha, Merxhani 300 ha, Ceka 800 ha, Patoku 300 ha, Narta 2800 ha, Orikum 120 ha.**
- ◆ **Artificial lakes and reservoirs**
*Are considering integrated extensive aqua production systems because of their multi purpose using (electrical power/fishing or agriculture/fishing). The total surface of artificial lakes is about 7000 ha. The most important fish species are cyprinids, like bleak (*Alburnus albidus*), Common & Chinese carps, Pike perch *Stizostedion lucioperca* and perch *Perca fluviatilis* etc.*
- ◆ **Agriculture reservoirs** *are about 600 covering a total surface of 2700 ha, where extensive aquaculture of carp family species is practiced (poly culture, with a production of 800 t/year).*

Aquaculture farms

- ◆ *Marine cage culture is concentrated in the Ionian sea by of 24 private subjects with a total water surface of 521,650 m² and 451 installed cages. The total production is estimated in more than 1,114 t.*
- ◆ *Shell fish cultivation is concentrated in the Butrinti lagoon although some activity is exercised also in Lezha. The total production for Mediterranean mussel in 2009 for Butrinti lagoon is estimated in 950 t.*
- ◆ *Trout cultivation: 22 private subjects exercised this activity with an annual production of 376 t.*
- ◆ *Koran Cultivation: The cultivation of koran (*Salmo letnica*) is restricted only in the area near lake Ohrid (9 subjects)*
- ◆ *Carp hatcheries: There are 4 hatcheries for the cultivation of common carp and Chinese carp which subsequently are used for restocking in lakes (artificial and natural), reservoirs and other water bodies.*

Culture Species

- | | |
|----------------|-----------------------------------|
| ◆ Trout | <i>Onchorhyncus mykis</i> |
| ◆ Sea bass | <i>Dicentrarchus labrax</i> |
| ◆ Sea bream | <i>Sparus aurata</i> |
| ◆ Common carp | <i>Cyprinus carpio</i> |
| ◆ Silver carp | <i>Hypophthalmichtys molitrix</i> |
| ◆ Bighead carp | <i>Arystichthys nobilis</i> |
| ◆ Grass carp | <i>Ctenopharyngodon idella</i> |
| ◆ Shrimp | <i>Penaeus japonicus</i> |
| ◆ Mussel | <i>Mytilus galloprovincialis</i> |
| ◆ Koran | <i>Salmo letnica</i> |

Culture practices

- ◆ **Carp farming** traditionally developed in Albania based on the rearing of Chinese and common carp, and is the most widespread aquaculture practice in extensive way of artificial inland water bodies. The carp family species are extended in centre and north of inland part of country, mainly in poorest areas. Except of common carp, the others are introduced from China. In such rural areas, the government is influenced by stimulating this species which are of low cost and in the same time is an important link of alimentary chain.
- ◆ **Trout farming** The trout centers are developed in south east part of Albania, which is highland, becoming a good alimentary source for the population as well good incomes for the cultivators of this area. The favorable climate characteristics and variability of water sources as well as relatively higher economic level of inhabitants of this Albania part make possible the investments in this field .From 2003 are built up about 25 trout fish farms (generally private familiar activity) in Saranda, Tepelena, Pogradec, Librazhd, Diber and other regions.
- ◆ **Shrimp farming** The farming of marine species started in the beginnings of '90. by Kavaja enterprise (now is out of function). There is only one extensive shrimp culture farming at Narta, Vlora with a -total surface of 4ha

Culture practices

- ◆ **Bivalves farming**
Has been developed since the beginning of the '60 in the coastal lagoon of Butrinti, by using fixed structures for the production of the mussels (*Mytilus galloprovincialis*, (80 units). The production of the mussels was growing up year by year, up to a maximum of 5000 tons/year in the last of '80. Last years, mussel breeding was practically stopped, both for internal organizational reasons, but above all because of the block on exports imposed by the EC for sanitary reasons, in October 1994. Until now are under production about 59 equipments (fixed concrete units), by total production of 1200 Ton, also by floating units (32ha ,2000 tons).
- ◆ **The floating cage farming of marine finfish**
Started from twenty years in Albania. The last years about 25 private entrepreneurs are licensed to begin the cage farming of marine finfish (Sea bream - *S. Aurata* and sea bass - *D. Labrax*) in the 401 units in marine waters) occupying about 322.050.000 m². Eeven not yet artificially reproduced, but imported in fingerling stage, the marine cage culture is blooming in south west part of Albania, Ionian Sea which offers much more possibility in expanding of this activity. There are identified a lot of good places for this activity along the littoral zone of Ionian Sea.

Contribution to the economy

- ◆ *The development of aquaculture, these three last years was directed in such forms that our fish market have more requests, Albanian market request for these productions brought the necessity of increasing of investments in cage culture and trout culture. Marine aquaculture is developed in southern part of the country, which offers much more possibility in expanding of this activity.*
- ◆ *The lack of hatcheries that produce fingerlings of Sea bass and Sea bream is remaining the critical problem for fish farmers.*
- ◆ *High prices of the fish products and the lack of wholesale fish markets (necessary to be in every fishery area) creates to the farmers a big problem in their fish yield trading.*
- ◆ *In order to protect fishery reserves of inland waters as well as reduce poverty, a special restocking program of natural and artificial lakes is being implemented from the state budget for production and purchase of fingerlings in order to restock Ohrid, Prespa as well as Fierza and Uleza lakes.*

Promotion & Management of the sector

- ◆ *The Ministry of Environment, Forestry & Water Management develops the policy of the fishery and aquaculture.*
- ◆ *Stocking every year the natural lakes with millions of fry and fingerlings, Albanian government have taken into consideration genetic diversity conserving. So, breeders taken from the each lake respectively produce the fingerlings of common carp, stocked every year in Shkodra, Ohrid, and Prespa Lakes by government support.*
- ◆ *There are two public property aquaculture farms under the Ministry of Environment, Forestry & Water Management . By the government support, there is a special fund for restocking program in the bigger inland waters :*

Promotion & Management of the sector

- ◆ **Lini hatchery:** produces about 1 million larvae and fingerlings of autochthon salmon (Koran, *Salmo letnica*) to restock Ohrid Lake.
- ◆ **Zvezda hatchery:** produces about 600.000 autochthon carp larvae and fingerlings to restock Prespa Lake.

Promotion & Management of the sector

- ◆ The lack of hatcheries for production of marine fingerlings obliges Albanian farmers to import those, mainly from Greece. To this aim, parallel with the support politics of fingerlings production initiatives are decreasing the custom tasks of the fingerling imports.
- ◆ The administration of the fishery and aquaculture sector is centralized and based in article 9 in the Albanian law "**On fishery and aquaculture**", **Regulation No 1** date 29.03.2005, for application of the legislation on fishery and aquaculture
- ◆ By the Pilot Fishery Development Project Component which has supported the government's efforts to re-develop the aquaculture sector in Albania. It aimed to:

Restore the original capacity of fresh water aquaculture through support to fishery management organization in inland reservoirs.
- ◆ Supported the governments program to restock Koran fish in Ohrid Lake, by restructuration of Lini hatchery.
- ◆ Supported the government's initiatives to explore the aquaculture potential toward new, high value species through demonstration programs

Promotion & Management of the sector

- ◆ *The aquaculture licenses are given from the license board, in Fishery Directorate, signed by Minister. One important point of license criteria is the compatibility with environment.*
- ◆ *The right to use private land for undertaking aquaculture activities is free of license obligation.*
- ◆ *The right to use state controlled lands for undertaking aquaculture activities is permitted by the same license, taking into consideration recommendations and the consensus of local competent authorities of the proposed area.*
- ◆ *The right to use waters of Republic of Albania for undertaking aquaculture is determined through the same aquaculture license.*
- ◆ *State controlled land for aquaculture purposes is classified in the same classes with agricultural land according to legislation in force. Based on the law N. 8318, the foreigner investors lease the land for 99 years.*
- ◆ *In Albania there is not a separate law for aquaculture, but it is included in the law NO: 7908 " On fishery and aquaculture ". This law is the same for both central and local government.*

Promotion & Management of the sector

- ◆ *On the other hand there is very clear that aquaculture has not advantage and privileges. In few words, aquaculture is not seen like an agriculture activity. Based on the laws N. 7638 and N. 7764 the attitude to foreign investment in any field of the economy, aquaculture included, has no limit and could arrive 100% of the original share capital*
- ◆ *The presence of three trans -boundary lakes, Shkodra, Ohrid and Prespa made a necessity of promulgating a law Nr.9103 of date 10.7.2003 "For protecting of trans-boundary lakes" which aims environmental protecting of trans-border lakes in their natural situation, to guaranty appropriate conditions in life and ecosystems development on them, stimulating utilitarian activities, conform sustainable development principle forbidding endangered activities.*
- ◆ *In respect of above law technical agreements took place, respectively with Greece and Macedonia for Prespa and Ohrid Lake, especially in regard of stop fishing in a certain period of the year to protect reproduction of autochthonous species Both parts have continued to restock the lake with the advanced fry and fingerlings, taking part at each other sides during the stocking as well as respecting of reproduction period of this autochthonous species.*

Trends, Issues and Development

- ◆ Marine aquaculture has shown a large expansion in production in a number of Mediterranean countries as well as in Albania as an important source of high quality food whose impacts of aquaculture on social conditions have not been studied enough.
- ◆ Last three years and in continuity Fishery Directorate, Fishery Development Pilot Project of World Bank and FMO-s restock inland waters by purpose of growing up the fish production in rural areas and consequently social condition improving, especially the artificial reservoirs.
- ◆ New aquaculture activities, introducing new technologies, new species made blooming such are cage cultures in Ionian Sea coast or suiting of some aquaculture centers in commercial species cultivation.
- ◆ Fishery Directorate has planned to prepare and promulgate Aquaculture Law, as a necessity, seeing the potential of aquaculture development in Albania.
- ◆ Regional collaboration will give a coherence of visions in this field.
- ◆ Preparing the legislative acts together with a strategic plan on aquaculture, based in country reality, because is evident the social and economic importance of this activity, is main goal of Albanian government.

Trends, Issues and Development

- ◆ The challenge of a government is: giving to the aquaculture (like the trends to the other fishing) the possibility to have a sustainable development.
- ◆ In parallel with them, it is necessary resolving the problem of fish trading and marketing to increase the incomes from this activity by the farmers.
- ◆ Another priority has to be the experience exchanging and a new technologies expanding as well as providing the aquaculturists by scientific information, their training etc.
- ◆ Competition for space is one of the most critical factors of the relationships between aquaculture and other activities. Fishing zones, spawning areas, nurseries, artificial reefs, access to harbors, military zones, land reclaiming, protected or reserved zones, dredging, and entertainments activities such as bathing, sailing or sport fishing may be arranged by regulations which limit the possibilities for selecting suitable areas for sea- based aquaculture.

Trends, Issues and Development

- ◆ *The integrated development of coastal areas is now the necessity as long as such bad consequences don't make irreversible phenomenon.*
- ◆ *Together with new Law of Aquaculture is necessary putting in place the instruments of Site Selection and Carrying Capacity as a planning instruments for a sustainable aquaculture.*
- ◆ *As a result we can underline that: the aquaculture in Albania as a human activity that, provide impacts in economic, social, poverty reduction, high quality nutrition, need to be estimated seriously because is a real potential that has a great possibility which need to be ruled and planned for further secure development.*

THANK YOU