LAGOON OF PATOK

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Along Albanian Adriatic coast, Lagoonary Complex of Patok represents one of the most interesting natural beauties of that coast. Situated between River Mati in the North and River Ishmi in the South, this complex includes a high diversity of habitats: internal lagoon and external lagoon (480 ha), forest (200 ha), agricultural fields (450 ha) and pastures (150 ha). This is what remained from a former area of 4200 ha that has passed an interesting evolution process, due to natural factors and human activity. Created during the Holocene, this area has been characterized by a high geomorphologic dynamism. Its evolution has passed 4 phases, which correspond to the formation of 4 lagoons, separated by littoral cordons. The fourth one is the actual Lagoon of Patok. A fifth lagoon (the actual external lagoon) is under an active formation, influenced by a quick development of a littoral cordon in the western part. The whole area is flat, characterized by an intensive tectonic process and abundant underground waters. Natural process of the lagoon development owes to 3 main factors: regime of Ishmi River, regime of Mati River and thalasographic regime. Until the years ’50 of the XX century spontaneous developments have dominated and natural elements of the habitats dominated in the whole area. During the second half of the last century human activity played an important role in the changes of that ecosystem through drainage, dams, deforestation etc.

Its physical - geographical characteristics are the key factor for the development potential of that area and make it very attractive in many aspects. Relatively mild winter and fresh summer, 2479 sunny hours per year, average annual temperature 15.5°C and average rainfall 1463 mm show a high climatic potential, what reflects a high effect in the intensive development of the ecosystem.

Those characteristics and high diversity of habitats are closely linked to the rich biodiversity of Lagoonary Complex of Patok. Diversity of vegetation types is one of the most remarkable characteristics of that Complex. From the marine vegetation, in the western part, the most common is *Fucus virsoides* and *Posidonia oceanica* meadows. Water vegetation of the lagoon is characterized by an abundance of microalgae, because the trophy often increases as a consequence of nitrogen and phosphorous increase. High mass of diatoms is an indicator of that situation.

Macroalgae found in the lagoon belong mostly to green algae (Chlorophyta) and brown algae (Pheophyta). Meadows of phanerogams cover almost 40% of the lagoon bottom. They consist in *Zostera noltii*, but in shallow and calm water there is also *Ruppia spiralis*. That phytocenosis has a very important role in the lagoon.

Hygro and hydrophilic vegetation covers considerable areas in the peripheral parts of the lagoon. They are dominated by 3 main associations of Phragmites, Thypha and Scirpus. Halophilic vegetation is more present in the northern and southern part of the lagoon. That vegetation belongs to several associations, whose most common are those of Arthrocnemum and Juncus. Vegetation of dunes is mostly found in the western part, with a high number of species. Shrubs in the lagoon coast are mostly presented by Tamarix, Vitex and Rubus.

The most important forest area belongs to the Fushe-Kuqe forest, in the eastern part of the lagoon. Actually, it has remained only the half of the surface of the former famous forest, dominated by *Alnus glutinosa*, *Fraxinus angustifolia* and less *Ulmus campestre*, *Quercus robur*, *Populus alba*, *Pinus pinea*, *Pinus halepensis*. Small areas of Populus and Robinia species are artificially forested since some decades.

Invertebrate fauna of the Lagoonary Complex of Patok and its catchments area, including fresh water, channels, marshes, estuaries and coast around the lagoon is characterized by a high variety of groups and species, from molluscs (mussels and snails) to crabs and insects. Ichthiofauna is one of the most appreciated values of the lagoon, with many fish species of economic interest, such as gray mullets (*Mugil cephalus*, *Liza ramada*, *Liza saliens*), eel (*Anguilla anguilla*), mullet (*Mullus barbatus*), common sole (*Solea vulgaris*), gilthead sea bream (Sparus auratus), sea bass (*Dicentrarcus labrax*) etc. Amphibians and reptiles (Herpethofauna) are mostly present in the forest, marshes and channels around the lagoon. It is interesting to emphasise the high abundance of loggerhead turtle (*Caretta caretta*) in the coast close to lagoon and the presence of green turtle (*Chelonia mydas*).

Favourable position and diversity of habitats around the lagoon have created suitable conditions for a rich ornithofauna. Bird inventory has recorded a high species number, belonging to waterfowls, shrub areas, forest, pastures, dunes and agriculture fields. In the Lagoonary Complex of Patok it has been recorded a high number of globally threatened bird species, such as *Pelecanus crispus*, Phalacrocorax *pygmaeus*, *Ciconia ciconia*, *Platalea leucorodia* and *Numenius tenuirostris.*

Mammalofauna of the complex of Patok is characterized by a low species number and a degraded community structure. This is mostly linked to the draining of swamps and deforestation of the area. The most common of carnivorous are jackal (*Canis aureus*), fox (*Vulpes vulpes*), outer (*Lutra lutra*), badger (*Meles meles*), weasel (*Mustela nivalis*) and polecat (*Mustela putorius*).

In administrative aspect, Lagoonary Complex of Patok belongs to Fushe-Kuqe Commune, with 5 villages: Adriatik, Patok, Gorre, Gurrëz and Fushe-Kuqe. It has a population of about 7600 inhabitants, with a density of 206 inhabitants/m2. Its natural conditions favour traditional development of the area through agriculture, fishing and tourism.

Fushe-Kuqe commune has high energetic potential and suitable temperature for many agricultural plants. Another favour is the abundance of freshwater. Its agriculture has a rich genetic fund. Traditional agriculture is based mainly on cereals, potatoes, white bean, watermelon, vineyard etc. There is also an old tradition of cattle breeding, especially sheep and horses.

Fishing is another priority for the development of the area. Seacoast, lagoon, and 2 river moths are suitable natural conditions for the high economical interest from fishing development. Complex of Patok is characterized by a high diversity of fish species. Geographical position of that area enables an easy communication with the market, what is another factor for the good perspective of fishing development.

Ecologic tourism is one of the most important potentials for the development of the area. Its natural characteristics with the high diversity of habitats (sea, lagoon, forest, rivers, agricultural land), rich biodiversity with many groups of flora and fauna, existence of traditional agriculture and fishing are the key factors for the development of eco-tourism. Position of this area close to Tirana and national road make it easy reachable for tourists, if the infrastructure will improve in a near future.

If natural resources will be managed in the proper way and traditional methods for increasing economical situation will continue being applied, this area will have a good development perspective, based on the sustainable development.

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