



Biological Treatment of Lana River

about project



Budget

ALL 38.304.000 (ex. VAT)



Municipal contribution

Project designation and monitoring



Municipal sectors/ directorates

Environmental Department

PROJECT DESCRIPTION

This project is based on the BioTechnology of water purification. Referred to All European directives, recommendations and regulations on the treatment of waters, we decided to implement this project using a substance called Biopromotor.

What are BIOPROMOTORS?

They represent mixtures of selected microorganisms, enzymes, plant extracts and mineral catalysts which, being released into the ecosystem, are activated and start working for:

- Combating the phenomenon of eutrophication (typically are critical levels of dissolved oxygen that often cause the killing of fish).
- reduce the concentration of nitrogen and phosphorus (which are always the main cause of eutrophication) that resulting in reduced risk of abnormal growth of algae (macrophytes as well as algae planktonic, which cause significant fluctuations in dissolved oxygen from day to night; reduce regulate the concentration of algae and oxygen concentration during 24 hours).
- Mineralize and stabilize the organic matter in the sediment (by increasing availabilityoxygen).
- Increase the transparency of water (when transparency is conditional on the organic material in the extinction by unicellular algae, if confusion is caused by inorganic materials such as sand or mud the water clarity is not increase, but it even changes the color of the water).
- Improve the bacteriological water quality (biopromotors do not kills any organism, but they mineralize organic materials wich will be dispersed, isolate harmful microorganisms side, reducing so the risk of contamination).
- Eliminate bad odors (because they are often caused by anaerobic decomposition of organic matter, by mineralizing and stabilizing this matter, raising so the availability of oxygen to optimize conditions for aerobic decomposition in the environment without the formation of toxic gases and bad odors as sulphide acid and methane). Biopromotors work in synergy with the biotic ecosystem (trophic chains) and stimulate growth of the indigenous microorganisms.

What does BIOPROMOTORS contain?

Microorganisms used in the mixture are those enshrined in international law, not genetically modified; in specific products for aquatic ecosystems are featured many of microorganisms capable of working with biodegradable substances (oils, fats, hydrocarbons, cellulose, etc.); These actions can be individually inforced (by ranging prescriptions phase product realization) based on the problems to be solved. All bioactivators have been tested for toxicity and are not dangerous to the environment and people contact.They are used in a number of countries with high environmental value and nature (parks, Ramsar areas, etc.) after they have passed the tests of scientific committees. They are commonly used on the fish farms to improve zootechnic performance.

Products used:

- Microorganisms used in basic formulas BELONGING TO CLASS 1 by definition of COUNCIL DIRECTIVE 93/88 / EEC of 12.10.1993.
- bacterial mixtures used in the preparation of our products, are not included in the list of Biological agents classified in Schedule XLVI Legislative Decree 81/2008.
- They do not contain genetically modified organisms.





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Are tested for acute skin irritation, acute oral toxicity tests, acute immobilization test, drilling skin test, which classify them as non-toxic products for the environment and for operators. For these special protocols we will use the technique of treating of solid matrix (sediment) looking to have in any case important results in the water column (regardless of water flow).

Joint immediate goal is to reduce the formation of unpleasant bad odors in both ecosystems

Surface	200.000 m ² (20 ha)
Projects intervention sector	7 km
The width of river pedestal	5 m
Product used	Bioactivators
Treatment timeframe	32 weeks
Number of product deliveries	32
Frequency of deliveries	Weekly bases
Dosage of deliveries	62 kg
Total product amount	2.000 kg

OVERALL OBJECTIVE

Creating a clean and friendly environment, eliminating bad odors, urban waste and general purification of Lana River waters.

PROJECT IMPLEMENTATION MODALITY

The product is distributed on a weekly basis in a uniform manner over the whole length of the river specified. Will be distributed 62 kg of Biological Bioactivators in tablet forms for a period of 32 weeks. Will be used small boats for the periodic distribution and collection of all wastes guided by local staff that will handle the cleaning and manual distribution. This type of intervention will accelerate the biodegradation of substances dispersed resulting in Immediate elimination of bad odors and improve water quality

Will be implemented the collection of all possible waste sludge that underlie at the end of the riverbed and any floating debris such as bottles, flasks up garbage and waste boxes, remains of dead animals which often causes the smell that often is unbearable. The material collected will be then transported to centers established by the municipality. Cleaning the canal will be on a weekly basis, taking the possibility to keep it clean by giving a great contribution to the water depurification phase, giving so an impact at the area's tourist development since this river passes through the center of Tirana.

PRELIMINARY IMPACTS

- ⇒ Lana River purification
- ⇒ Elimination of bad odors
- ⇒ Clean environment
- ⇒ Tourism activities impact
- ⇒ Healthy community

