

The implementation of the “Constructed Wetlands” systems in Albania

The mission to Albania of Beatrice Pucci and Marco Gardenti from ARPAT
12th to 19th February 2006

Foreword

The mission was carried out in the framework of the IDEASS activities for the promotion of “Constructed Wetlands” in Albania, in collaboration with the GEF/UNDP MedWetCoast (Conservation of Wetland and Coastal Ecosystem in Mediterranean Region) project.

The innovation is represented by an innovative natural water purification process developed in Italy by the Regional Agency for the Environmental Protection of Tuscany (ARPAT) and the Tuscany Region. “Constructed Wetlands” is a technique for wastewater treatment based on the self-depurative capacity of complex ecosystems, like natural wetlands, that are reproduced in artificial environments in an engineered way.



At the end of 2005, Albanian national and local authorities expressed their interest in implementing the IDEASS innovations in order to improve the environmental situation. In particular, the Albanian Municipalities surrounding the Lagoon of Narta, northwest of Vlora, and the GEF/UNDP MedWetCoast (Conservation of Wetland and Coastal Ecosystem in Mediterranean Region) project, submitted a letter of interest to the IDEASS International Secretary for the implementation of initiatives aimed at the improvement of the Lagoon environment. In fact, wastewaters coming from the villages of Narta and Zvernec and from some areas of Vlora, have a highly negative impact on the quality of the Lagoon water, especially in summer,

when the pollution concentration is very high due to the low-level of the water. This situation is worsened also by the insufficient supply of fresh waters and by the malfunctioning of the channels which flow into the sea. The Lagoon area is also intended to be transformed in a protected natural area, which could also represent a significant income for the inhabitants, if effective policies of environment-friendly and sustainable tourism will be implemented.

Following these requests, the IDEASS Initiative - in collaboration with the GEF/UNDP MedWetCoast Project, the Albanian Ministry of Environment and the Narta Lagoon Local Authorities - decided to organize a mission to Albania of two Wetlands experts from ARPAT: the biologist and expert in natural water depuration systems, Beatrice Pucci and the environmental engineer Marco Gardenti. The mission to Albania of the two experts was held from 12th to 19th February 2006. The main objective of the mission was to provide the competent Albanian actors with technical assistance in order to identify, design and implement a pilot system for the natural depuration of waters in the Narta Lagoon area.



A Local Economic Development Agency LEDA, named Auleda, operates in this area. The environmental sector represents one of the LEDA’s main fields of interest, for sustainable tourism, organic cultivation and fishery

projects. For this reason, the “Auleda” Director offered his cooperation to manage the “Constructed Wetlands” project in the Vlora region and to carry out further projects in related fields.



Meetings in Tirana

On the first day of the mission, the agenda was presented to the UNOPS/PASARP Programme in Tirana.

Two meetings were organized in the morning with the two main National institutions involved in the project: the Ministry of the Environment, Forests and Water Administration and the Ministry of Agriculture, Food and Consumer Protection. In both meetings, the UNOPS/PASARP CTA, Luigi Cafiero, joined the ARPAT-IDEASS delegation, composed by the two ARPAT experts, the IDEASS Coordinator for Albania, Piero D’Onofrio and by the UNOPS Programme Assistant, Mrs. Pano.

At the Ministry of Agriculture, the delegation met with the Deputy Minister Ndue Preka and the General Director of Water and Lands Esat Hasani. The delegation presented the mission’s objectives and the natural water depuration systems currently implemented in Italy and in other EU countries. The Deputy Minister stressed the importance for Albania to implement sustainable development policies in agriculture-related fields and illustrated the Ministry’s strategy for a close collaboration with the Ministry of the Environment. The Deputy Minister and the General Director appreciated the decision to implement the pilot project in the Vlora Region and in the Narta Lagoon area and wished a further extension of this system to other 5 similar areas, where the improvement and protection of local biodiversity is highly needed. At the end of the meeting, the Deputy Minister assured all the possible support to the initiative, both during and after the mission.

At the Ministry of the Environment, the delegation met with the Deputy Minister, Taulant Bino and the Director of Nature Protection Policy, Zamir Dedej. After the presentation of the ARPAT mission activity, the Deputy Minister stressed the importance of the ARPAT collaboration with the Albanian specialists and the interest of his Ministry to receive further information from the Tuscany Environmental Agency about the recently approved Italian Guidelines for the management of Natural Depuration Systems, in order to prepare a similar document in Albania. The Deputy Minister also expressed the intention of his Ministry to fully collaborate with the IDEASS Constructed Wetlands/Albania project and asked to be kept informed on every further step of the Initiative. The Director Dedej assured his participation in the final meeting of the mission, in order to discuss the project technical and political details more exhaustively.

Both Ministries have been provided with material and publications about the ARPAT activity and programmes and about the IDEASS/Albania initiatives and innovations.

In the afternoon, an important technical-scientific meeting took place at the UNDP/GEF MedWetCoast Project Office in Tirana. The IDEASS-ARPAT delegation met with the Project Coordinator Violeta Zuna, the Project expert Eno Dodbiba and with the UNDP/GEF National Coordinator, Arian Gaçe. During the meeting, the ARPAT experts were provided with scientific information and material about the Vlora-Narta area, such as maps, GIS layers, hydro-geological data, etc. A technical discussion followed, in which the ARPAT experts provided data on the different natural depuration systems currently implemented in Italy and on their effectiveness, compared to the so-called “technological” systems. The Albanian experts suggested involving the Faculty of Engineering of the University of Tirana in the



project from the very beginning, in order to provide students and professors with up-to-date information on Environmental Engineering matters and to start a formative process that should accompany the project itself. At the end of the meeting, the mission work plan was integrated and approved by MedWedCoast.

1st field visit on the Narta Lagoon area

On the second day of the mission, the IDEASS-ARPAT delegation moved to the Vlora Region. Late in the morning, a presentation meeting was organized with Mr. Petrit Dervishi, Director of the UNDP/GEF MedWetCoast Project Local Office in Vlora. A specialist in Forestry also attended the meeting, where the field trip plan was discussed and coordinated. On the occasion, the ARPAT experts received the available monitoring data on the Narta Lagoon pollution level and other technical information on the territorial organization and utilization of the interested area. All participants stressed the necessity for a continuous monitoring of the Narta Lagoon water, especially in summer, when the pollution situation is more critical due to water evaporation and to other simultaneous factors.

In the afternoon, the 1st field trip to the Narta Lagoon took place. The delegation visited Narta and Zvernec, the two main Villages looking onto the Lagoon. The wetland experts collected field data on the sewage waters situation of the two villages and took direct vision of the environmental impact of the urban settlements facing the Lagoon.

The field trip was followed by a wide tour around the Lagoon west side. During the tour it was possible to visit an old industrial basin inside the Lagoon, the two communication channels between the Lagoon and the Adriatic Sea, the waste water channel coming from the Narta village that was recently deviated. At the end of the tour, it was possible to visit the Narta Fishermen Association and to see the numerous problems of the area, mainly concerning lack and bad quality of fish, due to the Lagoon high water pollution.



Meetings in Vlora and 2nd field visit on the Narta Lagoon area



Two meetings took place in the morning at the Vlora Region Administration Office and at the Local Administration of the Narta village. In the first meeting, the IDEASS-ARPAT Delegation met with the Chief of Planning & Tourism Director of the Region Council of Vlora, Vladimir Haxhi, the Vlora Municipal Administration Specialist of Environment, Janulla Diamanti and the "Auleda" Director, Hasan Halko. The meeting was aimed at presenting the "Constructed Wetlands" Narta project to the Vlora authorities and at identifying collateral projects in the field of sustainable tourism, which could become possible following the environmental improvement of the area. At the end of the meeting the local participants totally agreed with the mission objectives and asked to be informed about every mission activity progress, in order to provide a complete local support.

In the second meeting, the Delegation met with the Head of the Narta District, Ferun Xhindolly, who ensured the logistic collaboration of the local administration and the availability of the local personnel for the pilot-project implementation, in case it will be decided to locate the initiative in the Narta District territory.

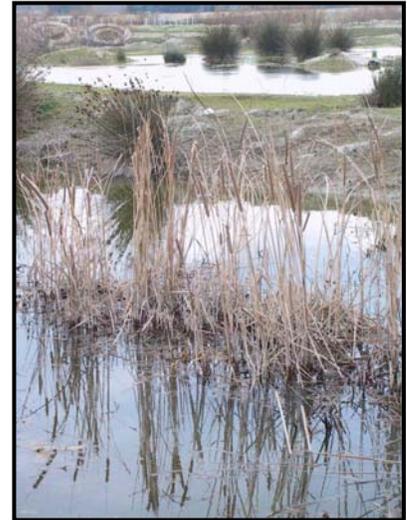


In the second part of the day, the Delegation - accompanied by the MedWetCoast Local Office Director - completed the field visit in the Narta Lagoon territory, mainly in the east side. It was possible to visit the Panaja village the third important urban settlement facing the lagoon. A detailed tour around the lagoon was also carried out. During the tour, the Delegation had the opportunity to see the various factors that contribute to the water pollution: non-depurated sewage waters entering the Lagoon; lack of fresh water due to the not functioning existing draining pumps; bad conditions of the channels flowing to the sea; human exploitation of the lagoon water for industrial use, and more. The ARPAT experts also collected data on the existing local flora and ascertained the high concentration of plants that can be used for the “constructed wetlands” technique.

A further visit to the Narta village was carried out in order to identify a possible location for the “constructed wetlands” pilot system. During the visit, Nasho Zoica, Head of the Narta Community, joined the Delegation and provided the ARPAT experts with more data concerning the local settlement and state of the land.

Field visit at Orikum Lagoon, meeting at MedWetCoast in Vlora, visit at Narta Primary School

The hydrographical basin where the Narta Lagoon is located also includes another lagoon, which is smaller than the first one but still significant for the territory organization. It is located near the Orikum village, in the Vlora gulf elbow, about 25 Km south of the Narta Lagoon. The IDEASS-ARPAT delegation visited this site in order to get a complete overview of the geographical elements of the area and to gather further data to identify the more appropriate location for the pilot project.



The mission activity in the Vlora Region was concluded by an important scientific meeting at the MedWetCoast Project local office in Vlora. The objective of the meeting was to meet with local environmental specialists in order to illustrate the first results of the ARPAT experts’ investigation in the area and to establish an inter-disciplinary scientific Committee that will supervise the project at a local level. The meeting was attended by the following specialists, who will constitute the project’s scientific Committee:

It was decided that the Committee works will be coordinated by the Director of the MedWetCoast Office of Vlora, Petrit Dervishi, supported by the local staff.

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| • Petrit Kotorri (Chemist, Vlora University) |
| • Denada Kasemi (Biologist, Vlora University) |
| • Meme Abazi (Hydrologist, Vlora Water Directory) |
| • Arqile Mocka (Agronomist, MedWetCoast Vlora) |
| • Simon Ranxha (Expert on geology, Fieri geology institute) |
| • Xhemal Shehu (Chemist) |
| • Evelina Bazini (Expert on tourism, Vlora University) |
| • Engjell Bimo (Forestry expert, Vlora Service Forestry) |
| • Thoma Mone (Expert on zootechnique, Qender District) |
| • Niko Dumani (Biologiste, Environment Regional Agency Director) |
| • Hektor Harizaj (Zootechnique, Environment Regional Agency) |
| • Rajmonda Stefa (Environment expert) |
| • Besnik Zyberi (Agronomists, Directorate of Waters) |
| • Fani Hyso (Chemist) |
| • Fatmir Xhema (Construction engineer) |
| • Llazar Gjonca (Forestry expert MedWetCoast Vlora) |



The ARPAT experts highly appreciated the multi-disciplinary composition of the Committee. They illustrated the investigations which were carried out in the Narta and Orikum areas and a scientific discussion took place, in which the Italian and the Albanian experts shared their knowledge of water purification systems and proposed possible solutions to improve the critical environmental situation of the area. The objectives of the pilot system were also discussed and all participants agreed to bring a formative aspect to the initiative directed to Albanian local technical and scientific personnel. As for the possible locations for the pilot system, it was suggested to take different hypothesis into account, also considering that all the urban settlements surrounding the Lagoon are not provided with sewerage systems. For this reason, after the meeting the ARPAT experts decided to visit another location in

the Narta village: the local Primary School. At the end of the meeting it was decided to bring the discussion's results to the attention of the participants in the mission final meeting which was held in Tirana the following day.

A last visit was carried out at the Narta Primary School. The School Director met the ARPAT experts and provided them with the requested data on the institute. The ARPAT experts considered the site interesting for the development of a sewing water purification pilot project and decided to include this possibility in the ones already identified.

National work-meeting in Tirana

A National Work-meeting on the "Constructed Wetlands" IDEASS Initiative in Albania was held in Tirana on February 17th. The meetings were attended by representatives of the following institutions: the Albanian Ministry of Agriculture, Food and Consumer Protection; the Ministry of the Environment, Forests and Water Administration; the UNDP/GEF Albania; the European Commission Delegation in Tirana; the MedWetCoast Project Albania; the University of Tirana; the Italian Cooperation UTL Office in Tirana; the Credins Bank; the Academy of Science of Albania. The World Bank and the European Bank for Reconstruction and Development replied to the invitation requiring a further meeting to discuss the project operative plan. The media (TV and Newspapers) also attended the event, and a press conference was organized during the meeting break.

At the beginning of the meeting, the IDEASS “Constructed Wetlands” project in Albania was presented by Piero D’Onofrio. Afterwards, Pucci and Gardenti introduced the ARPAT’s activity and illustrated the typologies and characteristics of the different natural water purification systems with the help of a detailed power-point presentation. The participants promptly replied asking numerous specific questions and - at the end of the discussion - it was possible to paint a wide picture of the existing sustainable water management systems and of their implementation both in Italy and abroad. The ARPAT experts particularly stressed the significant advantages of these systems in terms of effectiveness, costs, sustainability and environmental impact, compared to the so-called “technological” traditional systems.



During the second part of the meeting, the results of the ARPAT-IDEASS mission to Vlora were presented. An exhaustive report of the sites visited was submitted to all participants. The ARPAT experts focused on assessing the opportunity to implement a “Constructed Wetlands” pilot project in the region. After ruling out some locations, due to their problematic conditions, three site proposals were finally presented: the Panaja village, the Narta village and the Narta Primary School. The three locations have different characteristics, which were exhaustively illustrated by the ARPAT experts. It was underlined that both Panaja and Narta lack a sewerage system. For this reason, the pilot project plan must also include the construction of a sewerage system for the houses that will be incorporated in the project. On the contrary, the Narta School doesn’t need any sewerage system, since the School’s waste waters are at the moment collected in a septic tank. The Ministry of the Environment representatives asked the ARPAT experts for a technical project description for all three solutions - including

cost information - in order to take a final decision on which system to implement. UNOPS PASARP and IDEASS ensured their collaboration to the Ministry in order to carry out an effective fundraising activity. The different donors attending the meeting also considered the three hypotheses and stated their availability to discuss a possible project funding. The ARPAT experts committed to provide - in the following weeks - the IDEASS Albania Office with the three project drafts, which will be presented to the actors involved. At the end of the meeting, all national participants expressed their will to maintain - also in the future - a close relationship with the Italian Agency in order to follow with the IDEASS project and to receive technical and scientific support for other initiatives of environmental improvement to be implemented in Albania.



Published articles

The IDEASS Constructed Wetlands Initiative in Albania was reported by national newspapers and TV channels, which provided information also on the mission activity.

Newspaper articles:

- **PANORAMA Newspaper**, February 19, 2006 – “Projekt pilot per pastrimin e lagunes se Nartes”
“Pilot Project on the cleaning of Narta Lagoon”

- **KOHA JONE Newspaper**, February 19, 2006 – “Pastrimi i Lagunes se Nartes ne nje projekt pilot”
“Cleaning of Narta Lagoon presented in a Pilot Project”
- **BALLKAN Newspaper**, February 19, 2006 – “UNDP: Projekt pilot per pastrimin e lagunes se Nartes”
“UNDP: Pilot Project on the cleaning of Narta Lagoon”
- **ALBANIA Newspaper**, February 19, 2006 – “IDEASS, Projekt pilot per pastrimin e lagunes se Nartes”
“ IDEASS, Pilot Project on the cleaning of Narta Lagoon”

TV and radio broadcasts reporting the event. February 17, 2006.

- TOP Channel TV + Radio,
- Koha Jone TV + Radio
- RTSH
- News 24 TV
- Klan TV
- Antena TV