Small Grants – Final Completion and Impact Report

Organization Legal Name: Qendra per Menaxhimin Agro-Mjedisore dhe Ekonomik (Agro-environmental and Economic Management Center, AEEM- center)

Project Title: Ecological and economical assessment of ecosystem services in Lake Ohrid catchment

Grant Number: CEPF-110833

Date of Completion of this Report: 28 February 2022

CEPF Hotspot: Mediterranean Basin Biodiversity Hotspot

Strategic Direction: Strategic Direction 2; Support the sustainable management of water catchments through integrated approaches for the conservation of threatened freshwater biodiversity

Grant Amount: USD 29,900$

Project Dates: From 1 June 2020 -31 January 2022

PART I: Overview

1. **Implementation Partners for this Project** ***(list each partner and explain how they were involved in the project)***

2. Summarize the overall results of your project

This project raised the awareness of local stakeholders, agencies, local and national government on Ohrid's lake biodiversity and threats to ensure an efficient and sustainable management of the lake. Data on biodiversity, threats and services of Ohrid Lake was collected. We informed about this initiative 200 representatives of the relevant stakeholders including the representatives and members of Fisheries Management Organization, the representatives of medicinal plants companies, local farmers collecting medical plants, the representatives of Protected Areas Administration in Pogradec and the representatives of Tourism, Culture and Youth Directorate in the Municipality of Pogradec whose activities are directly related to Ohrid lake.

With the collected data, a database has been created and the following report has been prepared: Biodiversity of Ohrid Lake, threats and the role of the local stakeholders, private sector and local and central government.
To raise the awareness of the local government on lake biodiversity and threats we published an article in the environmental information magazine "Mjedis Sot" [1],went live on a TV documentary in Sot 7 TV (TV of Pogradec), and showcased the activities carried out during this project on our Facebook page[2].

During this project we have designed the methodology for ecological assessment of Ohrid lake; Chemical, Fish and diatoms monitoring. AEEMC experts, based on the results of the 2 sets of analysis (2 Ohrid Lake survey of Biological component in 2 different seasons), studies and international standards, interpreted the parameters of lake's water:

- the level of chemical pollution in the lake water and sorrounding soils;
- evaluation of water ecology and ecologial status of Ohrid lake based in Diatoms;
- species composition and abundance of fishes;
- confirmed the important biological linkages among lake habitats and the coexistence of fish species that lies exactly on biotic interactions and relationship offering shelter for different biological features;
- discovered that in case of Lake Ohrid the conservation of the littoral habitats at its combined state is a crucial element for lake functioning and securing species survival since offers fish shelter, space for reproduction and feeding.

150 representative of key stakeholders were informed and trained on the conservation of ecological assets of the area, during 5 participatory workshops for the conservation of biodiversity and aquatic ecosystem functions..

[1] https://www.mjedisisot.info/articles.php?id=611
[2] https://www.facebook.com/Zhvillimi-i-qendrueshem-i-serpentinave-297004243677196

The relevant stakeholders of the region where the project implemented were informed about the ecological state of lake (pollution, biodiversity, endemic and threatened species) through publications:

- All the information in relations with ecological value of Ohrid Lake is uploaded on the website.[3]
- Report about the biological monitoring: Evaluation of water ecology in Ohrid lake based in diatoms.
- Report "Ohrid Lake survey of Biological component with focus to fish biodiversity.
- Reports on ecological values of ecosystem services of Ohrid lake, Albanian area
- The project team presented results of chemical and biological monitorin of Ohrid lake on 2 scientific article; for the *17th International Conference on Environmental Science and Technology CEST202, Athens, Greece, 1 to 4 September 2021* and International Conference on Agriculture and Life Science ICOALS3 1-3 November 2021, Agricultural University of Tirana. [4] [5]
- Article published in the daily environmental informative journal on the topic: "Biomonitoring of fresh waters on the shores of Lake Ohrid with benthic diatoms as a new technique applied to assess water[6]"

During the Economical asseessment of Ecosystem's services in Ohrid lake catchment AEEMC experts Determined the **Total Economic Valuation (TEV**) of goods and services produced in the Lake Ohrid region. We published and delivered to the relevant stakeholders, policymakers, and students the following:

- -Brochure on "Economic and ecological values of ecosystem services of Ohrid Lake".
- Report on economical assessment of ecosystem services.
- 2 Article published in daily journal and TV Documentary. [7][8]
- TV Documentary: Pogradec/ Vlerësimi ekonomik dhe ekologjik i liqenit, TV SOT 7 (regional TV of Pogradec). [9]

During this project also 92 representatives of key stakeholders trained to apply the basic operations for the continued exploitation of the goods and services of the Lake Ohrid catchment area without damaging the environment.

[3] https://aeemclakeohrid.com/
[4] https://www.springer.com/series/15883
[5] https://drive.google.com/file/d/1Nialwl50YjoqRV3tiMyVAeMH6wj_l3xT/edit
[6] https://www.mjedisisot.info/articles.php?id=693
[7] https://www.mjedisisot.info/articles.php?id=822
[8] https://www.mjedisisot.info/articles.php?id=831
[9] https://www.youtube.com/watch?v=LnonCeut5Gg

3. Briefly describe actual progress towards each planned long-term and short-term impact (as stated in the approved proposal)

List each long-term impact from your proposal

a. Planned Long-term Impacts - 3+ years (as stated in the approved proposal)

Impact Description	**Impact Summary**
The project will contribute to ensuring a sustainable biodiversity and conservation of ecosystem function	Trainings of 7 representatives of Administration of the Protected Areas (RAPA Korca / Pogradec), 2 Representatives of the Urban Planning and Environmental Directorate in the Municipality of Pogradec during this project is for us a security for their impact on the sustainable biodiversity management in the future. Representatives of RAPA after being familiarized with publications of the project claimed that it is a valuable publication that will orient them in their work for biodiversity in the lake. A survey made by AEEMC staff shows that after training participant of the regions have more knowledge about biodiversity and water quality of Ohrid lake. This is promising for the future. Reports on ecological values of ecosystem services of Ohrid lake, Albanian area, provides information about status of fish species, the role of fishes and the conservation of the littoral habitats that is fundamental in the energy flow and ecosystem functioning. In this case a none-formal agreement with RAPA and FMO for the use of the report during their work is indicative of long-term contribution.
Gradual reduction of pollution level in the lake after assessment of it and pollution sources.	During this project as a result of cooperation and a non-written agreement between AEEMC and the administrative units of Hudenisht, some mineral damps are in process of cleaning and they promised us to continue cleaning action in the future. Thus, removing such a source of pollution is promising to gradually reduce the level of pollution from heavy metals in the project application region.
Development of ecotourism based on the economic value of this activity and natural biodiversity	There is a non-written agreement between AEEMC and Planning and Environmental Directorate in the Municipality of Pogradec that they will use findings of our project presented in Brochure: Economic and ecological values of ecosystem services of Ohrid Lake".

b. Planned Short-term Impacts - 1 to 3 years (as stated in the approved proposal)

Impact Description	**Impact Summary**
Raised awareness of local stakeholders, agencies, local and national government to the lake biodiversity and threats ensuring an efficient and sustainable management of the lake.	200 representative of the relevant stakeholders of the region where the project implemented have been informed about initiative. Awareness about the lake biodiversity and threat during meetings, presentation of the project results in local TV, 2 articles in a daily journal and leaflet publications, increased attention of the local and central government.
Identification of the ecological assets, that offer Ohrid Lake.	This project identified Fish composition and abundance in the littoral zone of Lake Ohrid, in four different habitats/substrate i.e. submersed vegetation; gravel; emergent vegetation dominated by common reeds (and habitats with dominant substrate of sand and silt. A total number of 1774 individuals belonging to 15 fish species were recorded where the most abundant one were *Alburnus scoranza, Rutilus ohridanus, Pachychilon pictum, Alburnoides ohridanus,* followed by *Barbus rebeli, Gobio ohridanus* and *Squalius platyceps.* This project identified 80 species of siliceous algae (diatoms - *Bacillariophyceae*). The most dominant species are: *Cyclotella ocellata, Fragilaria capucina var. vausceria, Cymbella caespitosa, Achnanthes minutisima* etc., Based on the values of the Trophic Index (TIDIA), it is noticed that the waters near Lini village and Tushemisht have eutrophic tendencies, some contamination of water with nutrients (N and P). Based in chemical analyses this project shows that the Nickel concentrations in Pojska and Iron in the surface water of Lake Ohrid were higher than the basic environmental quality standards for surface water affecting the abundance of fishes found there. This project informed, Fisheries management Organization (NGO), Regional Agency of Protected Area as part of Urban Planning and Environmental Directorate in the Municipality of Pogradec that the conservation of the littoral habitats at its combined state is a crucial element for lake functioning and securing species survival. The findings of this project attract attention for the local government, and the administration of the protected area to care for the protection of water quality.
Key stakeholders better prepared for fishing methods, pollution prevention, tourism development	As a result of the work done during this project, the interest among 4 key stakeholders was increased in how the value of ecosystem services can be used to improve natural resource management in the Lake Ohrid Region and promote economic advancement, Ohrid trout recovery, wetlands reduction, with specific recommendations for decision-makers.

Identification of ecosystem services and economical values of Ohrid Lake	This project identified the main ecosystem services and calculated with modern methods the economic value of ecosystem services in Lake Ohrid; Fisheries, Sand, Hay, Wood and Timber, Minerals, Medical plant, Non-timber forest products, Spawning habitats, tourism. So this project informed Medicinal Plants Company (ALBFrui ShP.K.), Fisheries management Organization (NGO) and Urban Planning and Environmental Directorate in the Municipality of Pogradec about the potential values of the main ecosystem services around Lake Region of Ohrid, their potential and helps to intermediate the right economic policies for all interested groups.

4. Were there any unexpected impacts (positive or negative)?

A positive unexpected impacts was the involvement of touristic operators of the region (hotel and restaurant businesses in Pogradec) in economical assessment of tourism. During application of the contingent valuation method, we had a survey that aimed to establish how much respondents would be willing to contribute (in time and/or money) towards the conservation of the Ohrid lake for future generations, independent of their own use of the resource. 81% of the interviewers expressed willingness to pay 13 and 17 USD for the conservation and management of this area from the relevant institutions. This was the result of the impact of this project, which clarifies tourist operators for their indirect benefits from ecosystem functions.

PART II: Project Products/Deliverables

5. List each product/deliverable as stated in your approved proposal and describe the results for each of them:

#	Deliverable Description	Deliverable Update
R 1	Report about the current information for state of biodiversity, threats and the role of the local stakeholders, private and state sector, local and national government.	We conducted a research work on the previous studies on the state of the lake, and also implemented a field survey in Pogradec regions to identify and describe the ecological assets, ecosystem services and goods that Ohrid Lake offers. With the collected data the following report has been prepared: Biodiversity of Ohrid Lake, threats and the role of the local stakeholders, private sector and local and central government.

		We also presented the report on the web page of the project.[10]
R 2	Recognition of problems related to biodiversity and threats, in the Ohrid region.	200 representatives of the relevant stakeholders; members of Fisheries Management Organization, member of medicinal plants companies, local farmers collecting medical plants, the representatives of Protected Areas Administration in Pogradec and the representatives of Tourism, Culture and Youth Directorate in the Municipality of Pogradec whose activities are directly related to the quality of Ohrid lake were part of interviews and the meetings with key stakeholders, in order to discuss the findings of AEEMC presented in the aforementioned report.
R 3	Raise awareness of key Stakeholders and local government in relations of biodiversity and threats	We concluded 4 meetings with our key stakeholders to discuss the results of the questionnaire and research and collected more information on the current state of the lake. Lin-Hudenisht: Date 12,13.09.2020, Tushemisht, Pogradec: Date 10.10.2020, Cerave and Tushemisht: Date 14.11.2020, Tushemisht-Pogradec: Date 18.11.2020. The topics discussed during the meetings were: - Natural Values of the Lake Ohrid Region, (Problems related to biodiversity and threats) - Heavy metals in the Lake Ohrid- potential threat to the Ecosystem - Economical assessment of ecosystem services in Lake Ohrid catchment. During the meetings, the discussions also focused on the problems and threats in the Ohrid region. - AEEMC presented its opinions in the meetings with the representatives of Municipality, Directorate of Tourism and Culture in Municipality of Pogradec and representative of the Administration of the Protected Areas in the Pogradec.

[10] https://aeemclakeohrid.com/

	Presentation of the project results in local TV	The work done in these activities, the objectives and the results obtained after the analysis of the questionnaires and meetings were presented in Sot 7 TV (Local TV of Pogradec)[11]
	1 article in the environmental information magazine "Mjedis Sot and presentation of all the activities on social media	The work done was also published in the daily environmental journal: ''Mjedisi Sot''[12] We also presented all the activities of this project and the recorded interviews on the field in AEEMC social media profile[13]
R 4	Reports on ecological values of ecosystem services of Ohrid lake, Albanian area	During the November 2020 and June 2021 period we conducted 2 chemical monitoring to better analyze the Ohrid's lake environment conditions. We collected and analyzed 2 times, 30 samples of water, sediment and soils sampled in Ohrid lake. These results are part of the reports on ecological values of lake. We have designed the Methodology for Fish and diatoms monitoring in Lake Ohrid. Prof. Spase Shumka monitored Littoral zone of the Albanian part of Lake. He analyzed the samples and prepared the report: **Ohrid Lake survey of Biological component with focus to fish biodiversity as a part of ecological reports**[14]**.** During January and February 2021, Prof Lirika Kupe analyzed the samples of diatom. On March 2021, report on the plants biological monitoring was prepared***:*** **Evaluation of water ecology in Ohrid lake based in diatoms. As part of eological reports.**[15] Based on the findings of the chemical and biological monitoring we prepared the R**eports on ecological values of ecosystem services of Ohrit lake, Albanian**

[11] https://www.youtube.com/watch?v=LnonCeut5Gg
[12] https://www.mjedisisot.info/articles.php?id=611
[13] https://www.facebook.com/Zhvillimi-i-qendrueshem-i-serpentinave-297004243677196
[14] https://aeemclakeohrid.com/
[15] https://aeemclakeohrid.com/

		area. The data of this report are welcomed by key stakeholders and policymakers. - All publications and reports on ecological values of ecosystem services of Ohrid lake, Albanian area were distributed to inform all the scientific community and policymakers about the findings of this project and uploaded on the website.[16]
	Web page: The ecological assets, goods and services in Ohrid Lake.	
	Preparation and Training of key stakeholders in the conservation of biodiversity and aquatic ecosystem functions (Participatory workshop)	- From 29 May to 12 June 2021, AEEMC organized participatory workshops (in 4 administrative units) with the key stakeholders in order to present and discuss the findings of the ecological assessment of ecosystem services. 150 relevant stakeholders were informed and prepared about the ecological state of lake (pollution, biodiversity, endemic and threatened species). They were trained in the conservation of biodiversity and aquatic ecosystem functions.
	Publication in daily journal and 2 scientific article.	- An article published in the daily environmental informative journal "Mjedisi sot" , on the topic: "**Biomonitoring of fresh waters on the shores of Lake Ohrid with benthic diatoms as a new technique applied to assess water** "[17] The article provides information for farmers and local government. The article concluded that in Lin and Tushemisht, the lake's water tends to be Eutrophic, while in Pogradec and Poskje it is mesotrophic. The article suggests that the sakteholders involved have to pay more attention during the fertilization of agricultural crops, manipulation of all organic waste

[16] https://aeemclakeohrid.com/
[17] https://www.mjedisisot.info/articles.php?id=693

		and sludge's use for Water Purification Plant purpose. 2 Scientific papers in total were published in proceeding books of International Scientific Conferences; *17th International Conference on Environmental Science and Technology, Athens, Greece, 1 to 4 September 2021,* organized the Global Network of Environmental Science and Technology jointly with the University of the Aegean (Greece) and the National and Kapodistrian University of Athens (Greece) and *3rd International Conference on Agriculture and Life Sciences (ICOALS III), 1 – 3 November 2021, Tirana, Albania*, organized by the Agricultural University of Tirana The papers publish are the following: 1. **Heavy metals in soil, sediments, and water from Lake Ohrid catchment (Albania)** 2. **Distribution of heavy metals and the biodiversity in the Albanian part of Lake Ohrid** Both articles are a contribution for all scientific community in knowing the risk of heavy metal pollution for Ohrid Lake, and consequently for fish and other species.[18][19]
5	Detailed report on economical assessment of ecosystem services. Brochure on "Economic and ecological values of ecosystem services of Ohrid Lake".	An assessment of annual economic values of several ecosystem goods and services were determined. The report was delivered to the relevant stakeholders and policymakers and is orienting them towards the benefits and profitable services. - The Brochure was delivered to the relevant stakeholders, policymakers, and students. It informs them about the potential values of the main ecosystem services around Lake Region of Ohrid, their potential. It helps to intermediate the right economic policies for all interested groups; state, private etc.

[18] https://www.springer.com/series/15883
[19] https://drive.google.com/file/d/1Nialwl50YjoqRV3tiMyVAeMH6wj_l3xT/edit

	2 Article published in daily journal and TV Documentary	- 2 Articles published in the daily environmental informative journal "Mjedisi sot", on the topics: (1) **Evaluation of ecosystem services in Lake Ohrid region** (***Vlerësimi i shërbimeve të ekosistemit në Rajonin e Liqenit të Ohrit*** 8 February 2022)[20] (2) **Economic evaluation of medicinal plants in Lake Ohrid region** (***Vlerësimi Ekonomik i Bimëve Medicinale në Rajonin e Liqenit të Ohrid*** 28 February 2022)[21] These articles inform the entire community, local and central government for the available services and goods in the Ohrid Lake Region. They guide the local authorities on planning policies for a sustainable development of the region. -TV Documentary: Pogradec/ Vlerësimi ekonomik dhe ekologjik i liqenit, TV SOT 7 (regional TV of Pogradec).[22] This documentary informs the entire community, local and central government about the potential monetary values of services and goods in the Ohrid Lake Region and guide them on planning policies for a sustainable development of the region.
6	Preparation of SH to preserve the quality of the Ohrid ecosystem.	- Different trainings were held on the 19 -20 June 2021 and 13-16, 21-22 November 2021 in the region of Ohrid (Hudenisht, Lin, Cerave, Pogradec) on the following topics: 1. "Lake Ohrid Fish Biodiversity assessment and monitoring training (**19 -20 June 2021**). 2. Valuation of Ecosystem Services Lake Ohrid region (**26, 27 November 2021**)

[20] https://www.mjedisisot.info/articles.php?id=822
[21] https://www.mjedisisot.info/articles.php?id=831
[22] https://www.youtube.com/watch?v=LnonCeut5Gg

		3. Aromatic and Medicinal Plant: How to protect critically endangered, vulnerable and endemic species in Ohrid lake catchment? How to cultivate serpentine soil with Nickel hyper accumulator Plants? (21 October and 18 November 2021) 4. Evaluation of Lake Ohrid Water Ecology - Based on Biological Methods (29 May and **21, 22, September 2021** - The trainings gave the stakeholders and decision makers theoretical and practical knowledge and trained 92 stakeholders on the sustainable use of good and services in Ohrid Lake Region.

6. Please describe and submit any tools, products, or methodologies that resulted from this project or contributed to the results.

The products, and methodologies that resulted from this project are:

1. Report about the current information for state of biodiversity, threats and the role of the local stakeholders, private and state sector, local and national government.
2. Reports on ecological values of ecosystem services of Ohrid lake, Albanian area
3. Report on economical assessment of ecosystem services.
4. Brochure on "Economic and ecological values of ecosystem services of Ohrid Lake".

Methodologies used for Economical Assessment of Ohrid Lake were very useful and helped us to identify the services and benefits of Ohrid's region Ecosystem; Market values, Official values, Contingent Valuation contributed to the results of the project *(Millennium Ecosystem Assessment* 2005. Ecosystems and human well-being : synthesis*. Washington, DC: Island Press.* ISBN 1-59726-040-1;
Romina Koto, PhD Thesis: Economical and ecological assessment of Karavasta Lagoon, Agricultural University of Tirana, 2015);
Ståle Navrud and Godwin Kofi Vondolia 2005, Using contingent valuation to price ecotourism sites in developing countries, Tourism 53(2):115-125).

PART III: Lessons, Sustainability, Safeguards and Financing

Lessons Learned

7. Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building.

"Lessons learned" are experiences you have gained that you think would be valuable successes worth replicating or practices that you would do differently if you had the chance. Consider

lessons that would inform project design and implementation, and any other lessons relevant to the conservation community. CEPF Lessons Learned Guidelines are available here: https://www.cepf.net/sites/default/files/cepf-lessons-learned-guidelines-english.pdf.

- We shared our project plans with the community members, at the initial stages of the implementation phase. In retrospect, we had to consult them during the design stage rather than during the project. Informing farmers about soil, sediments, and water pollutions by heavy metals, as well as the training of farmers on how to manage mineralized solid waste were planned as key activities in the project. During the presentation of the ecological assessment results, the farmers informed us on their daily problems with agricultural soil. After our exchanges, we were able to adjust our project and be able to properly train them on how to apply agro-mining (as a friendly and the best alternative of agriculture in mineralized soil). The training was successful, and the farmers provided satisfactory feedbacks, though it took our staff extra time and work to make the changes.

- During our meetings at the start of the project., no women attended. During the implementation of the project we see that women were contributing to companies of medical plants or tourism operators, but in the meetings participated only men. We talked and invited women and they participated. So, when we had considered gender we have had women participation.

Sustainability / Replication

8. Summarize the success or challenges in ensuring the project will be sustained or replicated, including any unplanned activities that are likely to result in increased sustainability or replicability.

This project informed and prepared of the relevant stakeholders about the ecological state of Ohrid Lake Region that will contribute to the future sustainable development of the ecosystem.
During the implementation of this project 150 representative of key stakeholders and decisions makers were informed and trained for the conservation of biodiversity the area (during 5 participatory) and 92 representative of key stakeholders trained to apply the base operations for the continued exploitation of the goods and services of the Lake Ohrid catchment
based on the following actions:

- Lake Ohrid Fish Biodiversity assessment and fish monitoring training,
- Valuation of Ecosystem Services of Lake Ohrid region,
- Valuation of Aromatic and Medicinal Plants (How to protected Critically endangered, vulnerable and endemic species in Ohrid lake catchment?)

These trainings gave the stakeholders and decision makers theoretical and practical knowledge and trained them for a sustainable use of goods and services in Ohrid lake region. The reports,

scientific articles and brochures delivered to the relevant stakeholders including policymakers and students will be useful to increase sustainability or replicability in the future.

Safeguards

9. **If not listed as a separate Deliverable and described above, summarize the implementation of any required action related to social or environmental safeguards that your project may have triggered.**

Project did not trigger any safeguards.

Additional Funding

10. **Provide details of any additional funding that you have secured to support this project.**

    a. **Total additional funding (US$) USD 18,203**
    b. **Type of funding**

    Please provide a breakdown of additional funding (counterpart funding and in-kind) by source.

Donor	Type of Funding	Amount
AEEMC	cash: Office supplies (ex. Binders, printing paper, drinking water, etc.)	203 USD
AEEMC	In-kind: Rent of the Office	1800USD

Additional Comments/Recommendations

11. **Use this space to provide any further comments or recommendations in relation to your project or CEPF.**

This project required a closer collaboration with the regional and local administration of the protected areas.
From the interviews with them, we have concluded that the local administration of the protected areas lacks important information on the ecosystem, biodiversity, endanger species, medical plants and the economic impact of their use
The fishing management organization plays a key role in the organization and management of fishing activities in the lake. They lack necessary tools and funding support to address their daily challenges. That said, the aforementioned stakeholders need further training and capacity building.
The protection and benefits deriving from ecosystem services should always occur in cooperation with the relevant responsible institutions in Northern Macedonia.
CEPF has a unique approach to project development and implementation. CEPF Regional Implementation Team provided consultations and trainings for the project supervisory team and technical teams. This helps in the successful implementation of the project

PART IV: Impact at Portfolio and Global Level

Marijana please send me indicators

Contribution to Portfolio Indicators

12. In order to measure the results of CEPF investment strategy at the hotspot level, CEPF uses a set of Portfolio Indicators which are presented in the Ecosystem Profile of each hotspot. Please list these below and report on the project's contribution(s) to them.

Indicator	Actual Numeric Contribution	Actual Contribution Description
2.2 Number of Communities in Catchment Zones receiving economic benefits from adopting biodiversity-friendly practices	2	Farmers of Ohrid region are profiting from agromining. Fishermen improved access to ecosystem services.
2.4 Number of Freshwater KBAs in priority CMZ (Catchment Management Zone) with improved information on biodiversity, shared with stakeholders	1	Lake Ohrid -unique as ecosystem in terms of diatoms. At different depths from the lake shore, endemic species and relics are developing rapidly compared to the littoral area, where endemic species of Ohrid Lake are very little spread. **Endemic, or tertiary relict, such as;** *Aneumastus albanicus*, *Navicula hastatula*, *Navicula parahasta*, *Navicula pseudoppugnata*, *Placoneis neoexigua* and *Placoneis juriljii*. **The most common and abundant were;** *Amphora ohridana, Epithemia ohridana.* **The rare and threatened species of diatoms** (**European Red list of diatoms)** are**;** *Fragilaria capucina, Gomphonema tergestinum.* Species appear to be **oligotraphic**: *Achnanthes minutissima, Achnanthes*

		lanceolata ssp. Frequentisima, Geissleria decussis Oestrup Cymbella microcephala, Navicula cryptotenella, Fragilaria capucina. Species **mesotrophic to eutrophic;** *Amphora pediculus*, *Cocconeis pediculus*, *Cymbella minuta*, *Diatoma vulgaris var. vulgaris*, *Epithemia sorex*, *Gomphonema pumilum*, *Nitzschia dissipata*, *Rhoicosphaenia abbreviate* etc., **Poly-hypertrophic speces*; Nitzschia palea, Amphora lybica, Cymatolpeura solea, Fragilaria ulna, Navicula atomus (Kutzing) Grunow etc.,*** The survey revealed presence of different fish species that are on the global IUCN RedList: *Anguilla anguilla* (Linneaus, 1758)- CR *Alburnoides ohridanus* (Karaman, 1928)-VU *Cyprinus carpio* (Linnaeus, 1758)-VU *Gobio ohridanus*, Karaman, 1924)-VU.

<u>Contribution to Global Indicator</u>

Please report on all Global Indicators that pertain to your project.

13. Benefits to Individuals

13a. Number of men and women receiving structured training.

Report on the number of men and women that have benefited from structured training due to your project, such as financial management, beekeeping, horticulture, farming, biological surveys, or how to conduct a patrol.

# of men receiving structured training *	# of women receiving structured training *	Topic(s) of Training
30	4	Assessment of the ecology of water of lake Ohrid based on biological methods.
28	3	Lake Ohrid Fish Biodiversity assessment and monitoring training
25	2	Aromatic and Medicinal Plants; how to protected critically endangered, vulnerable and endemic species in Ohrid lake catchment; how to cultivate serpentine soil with Nickel hyper accumulator Plants.
Total man 83	Total women 9	

**Please do not count the same person more than once. For example, if 5 men received structured training in beekeeping, and 3 of these also received structured training in project management, the total number of men who benefited from structured training should be 5.*

13b. Number of men and women receiving cash benefits.
Report on the number of men and women that had an increase in income or cash (monetary) benefits due to your project from activities such as tourism, handicraft production, increased farm output, increased fishery output, medicinal plant harvest, or payment for conducting patrols.

# of men receiving cash benefits*	# of women receiving cash benefits*	Description of Benefits

**Please do not count the same person more than once. For example, if 5 men received cash benefits due to tourism, and 3 of these also received cash benefits from increased income due to handicrafts, the total number of men who received cash benefits should be 5.*

13. Protected Areas

Number of hectares of protected areas created and/or expanded

Report on the number of hectares of protected areas that have been created or expanded as a result of your project. Protected areas may include private or community reserves, municipal or provincial parks, or other designations where biodiversity conservation is an official management goal.

This project was not aimed at creating new surfaces in protected area or expanding them

Name of PA*	Country(s)	Original # of Hectares**	# of Hectares Newly Protected	Year of Legal Declaration/ Expansion	Longitude***	Latitude***

** If possible please provide a shape file of the protected area to CEPF.*
*** Enter the original total size, excluding the results of your project. If the protected area was not existing before your project, then enter zero.*
**** Indicate the latitude and longitude of the center of the site, to the extent possible, or send a map or shapefile to CEPF. Give geographic coordinates in decimal degrees; latitudes in the Southern Hemisphere and longitudes in the Western Hemisphere should be denoted with a minus sign (example: Latitude 38.123456 Longitude: -77.123456). To obtain the latitude and longitude of your protected area, use googlemap, right click on the center of your protected area, and select "What's here?", and copy the latitude and longitude appearing in the popup window.*

15. Key Biodiversity Area Management

Number of hectares of Key Biodiversity Areas (KBA) with improved management

Report on the number of hectares in KBAs with improved management, where tangible results have been achieved to support conservation, as a result of your project. Examples of improved management include, but are not restricted to: increased patrolling, reduced intensity of snaring, invasive species eradication, reduced incidence of fire, and introduction of sustainable agricultural/fisheries practices. Do not record the entire area covered by the project - only record the number of hectares that have improved management.

If you have recorded part or all of a KBA as newly protected for the indicator entitled "protected areas", and you have also improved its management, you should record the relevant number of hectares for both this indicator and the "protected areas" indicator.

Name of KBA	KBA Code from Ecosystem Profile	# of Hectares Improved *

** Do not count the same hectares more than once. For example, if 500 hectares were improved due to implementation of a fire management regime in the first year, and 200 of these same 500 hectares were improved due to invasive species removal in the second year, the total number of hectares with improved management would be 500.*

16. Production landscapes

Number of hectares of production landscape with strengthened management of biodiversity
Please report on the number of hectares of production landscapes with strengthened management of biodiversity, as a result of your project. A production landscape is defined as a landscape where commercial agriculture, forestry or natural product exploitation occurs.

- For an area to be considered as having "strengthened management of biodiversity," it can benefit from a wide range of interventions such as best practices and guidelines implemented, incentive schemes introduced, sites/products certified, and sustainable harvesting regulations introduced.
- Areas that are protected are not included under this indicator, because their hectares are counted elsewhere.
- A Production Landscape can include part or all of an unprotected KBA.

Name of Production Landscape*	# of Hectares with Strengthened Management**	Latitude***	Longitude***	Description of Intervention
Lake Ohrid, Natural and Cultural Heritage of the Ohrid region.	2 ha	40.9025		AEEMC trained the farmers on cultivation of native nickel hyper accumulator plants and other agricultural crops with good agronomic practices. 2 ha are outside of protected area. 5 farmers already implemented agromining technology on their private land. This technology prevents erosions of mineralized soil particle in the lake.

** If the production landscape does not have a name, provide a brief descriptive name for the landscape.*

***Do not count the same hectares more than once. For example, if 500 hectares were strengthened due to certification in the first year, and 200 of these same 500 hectares were strengthened due to new harvesting regulations in the second year, the total number of hectares strengthened to date would be 500.*

**** Indicate the latitude and longitude of the center of the site, to the extent possible, or send a map or shapefile to CEPF. Give geographic coordinates in decimal degrees; latitudes in the Southern Hemisphere and longitudes in the Western Hemisphere should be denoted with a minus sign (example: Latitude 38.123456 Longitude: -77.123456). To obtain the latitude and longitude of your production landscape, use googlemap, right click on the center of your production landscape, and select "What's here?", and copy the latitude and longitude appearing in the popup window*

17.Benefits to Communities

CEPF wants to record the non-cash benefits received by communities, which can differ to those received by individuals because the benefits are available to a group. CEPF also wants to record, to the extent possible, the number of people within each community who are benefiting. Please report on the characteristics of the communities, the type of benefits that have been received during the project, and the number of men/boys and women/girls from these communities that have benefited, as a result of your project. If exact numbers are not known, please provide an estimate.

Please provide information for all communities that have benefited from project start to project completion.

Name of Community	Community Characteristics (mark with x)							Country of Community	Type of Benefit (mark with x)									# of Beneficiaries	
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists / nomadic peoples	Recent migrants	Urban communities	Other*		Increased access to clean water	Increased food security	Increased access to energy	Increased access to public services (e.g.	Increased resilience to climate change	Improved land tenure	Improved recognition of traditional knowledge	Improved representation and decision-	Improved access to ecosystem services	# of men and boys benefitting	# of women and girls benefitting
Farmers and fishermen of the villages Hudenisht, Piskupat, Cerave, Lin, Tushemisht	X							Albania									X	280	15

Touristic operators in Pogradec District						X		Albania,									X	50	20

*Our project contributed to improved access to ecosystem services.
Farmers started to profit from agromining, a new potential sevices that offer the mineralized soils around Ohrid region.
Fishermen improved access to ecosystem services in Lake Ohrid, including commercial, non-commercial, and value of spawning habitat.
Touristic operators improved access to ecosystem services because this project gave them knowledge of the multi -services that Lake Ohrid Region offer and benefits from them.

18. Policies, Laws and Regulations

Report on policies, laws and regulations with conservation provisions that have been enacted or amended, as a result of your project. “Policies” pertain to statements of intent formally adopted or pursued by a government, including at sectoral or sub-national level. “Laws and regulations” pertain to official rules or orders, prescribed by authority. Any law, regulation, decree or order is eligible to be included.

18a. Name, scope and topic of the policy, law or regulation that has been amended or enacted as a result of your project
Our project has not been aimed at changing or adopting any law. *The* overall objective(s) are;
Improving the knowledge about the lake's Ohrid biodiversity, its ecological and economic importance in order to make the local stakeholders, decision makers, aware of the importance of the lake in their lives and to include them to contribute to the conservation of lake's values, and ecosystem functions.

No.		Scope (mark with x)			Topic(s) addressed (mark with x)															
	Name of Law, Policy or Regulation	Local	National	International	Agriculture	Climate	Ecosystem Management	Education	Energy	Fisheries	Forestry	Mining and Quarrying	Planning/Zoning	Pollution	Protected Areas	Species Protection	Tourism	Transportation	Wildlife Trade	Other* e
1																				

*** If you selected "other", please give a brief description of the main topics addressed by the policy, law or regulation. 18b. For each law, policy or regulation listed above, please provide the requested information in accordance with its assigned number.**

No.	Country(s)	Date enacted/ Amended MM/DD/YYYY	Expected impact	Action that you performed to achieve this change

19. Biodiversity-friendly Practices

Number of companies that adopt biodiversity-friendly practices

Please list any companies that have adopted biodiversity-friendly practices as a result of your project. While companies take various forms, for the purposes of CEPF, a company is defined as a for-profit business entity. A biodiversity-friendly practice is one that conserves or uses natural resources in a sustainable manner.

No.	Name of Company	Description of biodiversity-friendly practice adopted during the project	Country(s) where the practice has been adopted by the company
1	Alb fruit 2005 SHPK (it is private company consisted of employees-farmers)	Organic farming. Farmers dealing with company received training on Organic farming and the they started to practice this kind of farming.	Albania

20. Networks & Partnerships

Number of networks and/or partnerships created and/or strengthened

Report on any networks or partnerships between and among civil society groups and other sectors that you have created or strengthened as a result of your project. Networks/partnerships should have some lasting benefit beyond immediate project implementation. Informal networks/partnerships are acceptable. Examples of networks/partnerships include: an alliance of fisherfolk to promote sustainable fisheries practices, a network of environmental journalists, a partnership between one or more NGOs with one or more private sector partners to improve biodiversity management on private lands, or a working group focusing on reptile conservation.

Do not list the partnerships you formed with others to implement this project, unless these partnerships will continue after your project ends.

No.	Name of Network / Partnership	Year established	Did your project establish this Network/ Partnership? Y/N	Country(s) covered	Purpose
1	Une Gruaja	2022	Y	Pogradec, Albania	We will be part of the collaboration network that they are building within a project supported by PONT and CEPF- Crossing Borders for Environment Protection of the Prespa- Ohrid Region, Albania . We will contribute to the effective use of goods and services of Ohrid lake.
2	Farmers of Hudenisht and Piskupat	2020	Y	Hudenisht, Piskupat Lin	Chemical analyzes of soil, sediments and water done during this project showed the potential risk of heavy

					metals being dispersed from the ground to the lake. We advised and trained farmers with sustainable agricultural practices, that prevent the distribution of soil mineralized particle. We are collaborating with the farmers of the region to profit from some of ecosystem services of this region –Fishing, agromining, ect

21. Sustainable Financing Mechanism

List any functioning sustainable financing mechanisms created or supported by your project. Sustainable financing mechanisms generate funding for the long-term (generally five or more years). These include, but are not limited to, conservation trust funds, debt-for-nature swaps, payment for ecosystem service (PES) schemes, and other revenue, fee or tax schemes that generate long-term funding for conservation. To be included, a mechanism must be delivering funds for conservation.

21a. Details about the mechanism

No.	Name of Financing Mechanism	Purpose of the Mechanism*	Date of Establishment**	Description***	Countries

**Please provide a succinct description of the mission of the mechanism.*

***Please indicate when the sustainable financing mechanism was officially created. If you do not know the exact date, provide a best estimate.*

****Description, such as trust fund, endowment, PES scheme, incentive scheme, etc.*

21b. Performance of the mechanism

For each Financing Mechanism listed previously, please provide the requested information in accordance with its assigned number.

NO.	Project intervention (mark with x)			Has the mechanism disbursed funds to conservation projects?
	Created a mechanism	Supported an existing mechanism	Created and supported a new mechanism	

22. Red List Species

If the project included direct conservation interventions that benefited globally threatened species (CR, EN, VU), as per the IUCN Red List, add the species below.

Examples of interventions include: preparation or implementation of a conservation action plan, captive breeding programs, species habitat protection, species monitoring, patrolling to halt wildlife trafficking, and removal of invasive species.

Genus	Species	Common Name (Eng)	Status (VU, EN, CR or Extinct in the Wild)	Intervention	Population Trend at Site (increasing, decreasing, stable or unknown)
Anguilla Garsault, 1764	*Anguilla anguilla* (Linneaus, 1758)	European eel	CR (A2bd+4bd)	Monitoring	Decreasing
Alburnoides Jeitteles, 1861	*Alburnoides ohridanus* (Karaman, 1928)	Ohrid spirlin	VU (D2)	Monitoring	Stable
Cyprinus Linneaus, 1578	*Cyprinus carpio* (Linnaeus, 1758)	Carp	VU (A2ce)	Monitoring	Stable
Gobio Cuvier, 1816	*Gobio ohridanus*, Karaman, 1924	Ohrid gudgeon	VU (D2)	Monitoring	Stable

This project has not included *direct conservation interventions*

Part V. Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final completion and impact reports are made available on our Web site, www.cepf.net, and publicized in our e-newsletter and other communications.

Provide the contact details of your organization (organization name and generic email address) so that interested parties can request further information about your project.

Organization Name: Qendra per Menaxhimin Agro-Mjedisore dhe Ekonomik (Agro-environmental and Economic Management Center, AEEM- center), whose address is Rr "Zef Jubani" No. 5, First floor,Tirana. Albania

Generic email address: aeemcenter@gmail.com; aida_alushi@hotmail.com
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