CEPF Final Project Completion Report

Instructions to grantees: please complete all fields, and respond to all questions, below.

Organization Legal Name	*University Saint-Joseph of Beirut*
Project Title	*Determination of Important Areas for Plants and Creation of Micro-Reserves to Conserve Rare or Endemic Species in Lebanon*
CEPF GEM No.	63257
Date of Report	25th February 2017

CEPF Hotspot: Mediterranean biodiversity hotspot

Strategic Direction: SD3: Improve the conservation and protection status of 44 priority key
biodiversity areas.

Grant Amount: 207788.00 $

Project Dates: 1st October 2013 to 31st December 2016

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

   - **Lebanese Ministry of Environment**, Department of Ecosystems: one of the most important partners who helped us to choose which designation was the most appropriate to create our protected areas and to set up the entire legal framework involved. Our results concerning the red list of the endemic plant of Lebanon and the important plant areas are also taken into account by the Ministry of Environment;

   - **Municipality of Ehmej** : It was our partner for the creation of the natural site of el-Dichar as they are the owner of the lands; The municipality facilitated also the discussion with the private landowners.

- **Melkite Greek Catholic Archeparchy of Baniyas**: partner in the creation of the natural site of the Archeparch Georges Nicholas Haddad.

- **Michel Ayoub**, owner of the land of Baskinta where we were planning to create a protected area;

- **Lebanon Mountain Trail** (LMT), civil organisation promoting hiking in Mount Lebanon by looking after the trails and raising environmental awareness: it was our main partner in the negotiations with the land owner of Baskinta trying to convince him to create a protected area;

- **Center for Middle Eastern Plants** (CMEP) of the Royal Botanic Garden of Edinburgh (RBGE): supporting two workshops on red listing according to the IUCN guidelines. One was held in Lebanon, the second was held in the RBGE at Edinburgh;

- **Opération 7ème Jour** from the University Saint-Joseph: the "Reforestation and Biodiversity" department allows the rallying of volunteers among the students and employees of the USJ to carry out field actions;

- **ONG Jouzour Loubnan** involved in reforestation activities across Lebanon: It was a main partner thanks to its professional network with connections within ministries, banks, municipalities and media, and also to its important logistic support including its Laboratory of conservation and germination;

- **MTV television**, one of the leading TV channels in Lebanon: it helped giving visibility to the main achievements of our project.

Conservation Impacts

2. Describe how your project has contributed to the implementation of the CEPF investment strategy set out in the ecosystem profile

Our project contributed to the implementation of the CEPF investment strategy set out in the Mediterranean hotspot as it promoted the preservation of rare and endemic plant species and their associated habitats through its diverse activities and components including workshops, creation of protected areas and scientific results that can be used at the national level by the Ministry of Environment and other decision makers for

spatial planning. In total 162 ha were dedicated to biodiversity conservation (100 ha in Sarada and 62 ha in Ehmej).

3. Summarize the overall results/impact of your project

The three years of project allowed us to have a wide impact at different levels in Lebanon thanks to the diversity of the components. The creation of protected areas is by far the most striking result from the local point view as it appears to be a concrete way of taking action for conservation of the natural patrimony. Raising the awareness on the importance of the protected areas had a lot of positive effects on our partners and impacted their vision for conservation. Moreover, the micro-reserve concept demonstrated to be adequate to protect small areas where biodiversity is rich and threatened. Our pilot project is today replicated in another region called Sofar by the NGO "Greenhand" which is following our example in order to create a micro-reserve to conserve another endemic Iris species threatened in Mount-Lebanon.

The training and workshops held to introduce to plant identification and to plant red listing raised the scientific level of skills of the locals who were already involved in conservation actions. Being able to assemble at many occasions people involved in biodiversity conservation created a kind of hub and a dynamic around this topic in Lebanon. People get to know each other and to connect and create collaborations opportunities. The Lebanese National Centre for scientific Research, the Lebanese University and the American University of Beirut along with our team are collaborating now on the mapping of habitats at national level. This collaboration was initiated following to the interactions created during this project.
In the framework of this project we also mapped data on historical distribution of plants in Lebanon and collected and mapped new distribution data. Following PlantLife Important Plant Areas mapping criteria, we prepared an **Important Plant areas (IPAs)** map showing species richness, restricted species distribution highlighting priority zones for conservation.

Finally the results of our scientific studies will be used as reference by the Ministry of Environment for the recognition of the areas important for plant conservation and for the conservation status of many endemic species. Globally, this project raised environmental awareness of all the people who were involved from far or close by any of the project components.

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

- Conservation of species and key biodiversity areas converge through the establishment of a network of protected areas including IPAs.

- Enlarge surface of protected areas in Lebanon by to the addition of micro-reserves established for the preservation of important sites for plant biodiversity

- National red list of threatened species that will be used to monitor changes in the status of species over time.

- Maping the location of the IPAs and their vulnerability index. The national strategy for biodiversity conservation will use these two elements to define national priorities and allocating financial resources to conserve them.

- An online platform to communicate and conserve plant in Lebanon.

4. Actual progress toward long-term impacts at completion

Our project help Lebanon in its objectives to meet Aishi Biodiversity targets listed below:

Référence	**Objectif**	**Related Strategic Goals/Aichi Targets**
National Target 1	By 2030, the status of 75% of known flora and fauna species is identified and conservation actions are implemented on 50% of threatened species.	12
National Target 2	By 2030, the genetic diversity of 50% of economically important fauna and flora is conserved In-situ and Ex-situ.	13
National Target 4	By 2030, at least 20% of natural ecosystems are protected and all types of ecosystems are represented in the PA network.	11
National Target 5	By 2030, the total area of nature reserves is increased to reach at least 5% of Lebanon's area.	11

The creation of two Plant Micro-Reserves (PMRs), raised the surface area of protected areas nationally. Designated as natural site and as nature reserve, the different land tenure strategy will serve as models for further conservation actions in Lebanon or in other countries that share similarities and thus will have a long-term impact.

Being in touch with the managers of the different nature's reserves or protected areas of Lebanon during the workshops and meeting that took place in the framework of this project served as catalyzer of a dynamic of communication and sharing experiences between all of us. The Ministry of Environment remains without any doubt the sole authority to assume such a role and he has big achievements in establishing a network of protected areas PAs and IPA.

The creation of these protected areas also had secondary long-term impacts like the fact that all locals directly or indirectly involved into this conservation action became aware of the natural richness of their region and of the importance to preserve it. Moreover scientific booklets and posters were produced for these protected areas to present some of the most important plant species or to explain biological cycles of some species. For instance, local nature guides in Ehmej were recently trained to guide visitors on the natural site and to explain them about species ecology and conservation. This will have long term positive effects.

The training sessions that were held on plant identification and on red listing using IUCN guidelines gathered thirty participants from many different Lebanese institutions who are involved in the field of conservation and who already had basic knowledge in botany. This will have a long-term impact as it aimed at building local capacities and knowledge which is essential to ensure that nature conservation will be taken in hands by this nucleus of scientists in the future. A first national redlist is being prepared and waiting to be compiled and endorsed by IUCN in order to publish it officially.

A methodology to map the Important Plant Areas was developed to suit the Lebanese particularities, scale and topographical complexity. A grid of 3 x 3 km² was used to generate a map that is precise enough to be used as a decision tool for stakeholders, practitioners and politicians involved in biodiversity conservation at district (caza) and municipality levels. Thirty-one cells ranked into classes 4 and 5 were considered to be the most important plant areas in Lebanon. They were mainly high mountain plateaus, steep and relatively preserved valleys, cedars forests sub-arid slopes and two coastline areas. These cells contained a total of 2386 species amounting to 79% of the flora of Lebanon and 80% of the species endemic to Lebanon. The work is submitted to the international scientific Journal "Journal for Nature Conservation".

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

- Training of 15 people on the identification of plants.
- Training of 15 persons on the procedure of assessing species conservation status according the guidelines of the IUCN.

- Creation of 3 micro-reserves in Ehmej (about 3ha) and Sarada (about 1ha) to protect species endemic Iris threatened by urbanization and a wet site in Baskinta (4 ha) where rare species are threatened.
- Identification and mapping of important areas for plants (IPAs) in Lebanon based on recent field data

In a short-term, the mapping of the important plant areas of Lebanon will be used by the decision makers and the Ministry of Environment for spatial planning and future conservation. This work is an update using recent field data and could be improved with more recent data from other research centers in the near future.

The preliminary red list for endemic plants that was done will be also used as a reference to be improved quickly with more species and should involve more specialists.

5. Actual progress toward short-term impacts at completion

- Training of 15 people on the identification of plants : **completed**
- Training of 15 persons on the procedure of assessing species conservation status according the guidelines of the IUCN : **completed**
- Creation of 3 micro-reserves in Ehmej and Sarada to protect endemic Iris threatened by urbanization and another site in Baskinta (4 ha) where rare species are threatened.

  In the framework of this project we created
  - **in Ehmej a protected area of 62 ha.**
  - **In Sarada a protected area of 100 ha.**
  - **In baskinta the 4 ha are not "officially protected".**

- Identification and mapping of important areas for plants (IPAs) in Lebanon based on recent field data: **Achieved**.

6. Describe the success or challenges of the project toward achieving its short-term and long-term impacts

The creation of the plant micro-reserves were the most striking and visible achievements of the project but also they constituted the most complicated component. Most of the time was allocated to the negotiations to create the PMRs. These negotiations were not always fruitful as the landowners were not easily convinced by the importance of preservation, or didn't agree about the way it should be implemented. In Lebanon, at present there are no Protected Areas established on private lands, however the draft Framework Protected Areas Law that was prepared by the MoE and submitted to the Lebanese Parliament in 2012, sets regulations for the

establishment of Nature Reserves on private lands, through either a contract signed between the Ministry and the landowner(s), either through expropriation, or exchange of properties between the Government and the landowner(s). The PMR concept is today recognized in the Ministry of the environment thanks to our project. Different types of incentives for the private landowners will be addressed in the draft Protected Areas framework law in Lebanon in case of the establishment of nature reserves on their lands. Their effectiveness is yet to be proved once the law is issued and enforced.

The fieldwork was successfully carried out in both components, firstly within the scientific studies on each of the PMR site, and secondly for the collection of recent data on flora that could be used to map the important plant areas. An important amount of data has been collected and published on the website Lebanon Flora. It can be accessed through species distribution query. The challenge was to carry out this fieldwork in regions that were difficult to explore without being stopped and interrogated by suspicious locals worried about the security of their village.

Concerning the **training on the red listing** of Lebanese species, the main challenge was to coordinate different assessors and the respective species that they chose to work on. Many rare and endemic species that were observed during our field work, and also native tree species are assessed. A final workshop was held at the end of the project, in December 2016, to gather all local assessors and to have them making a last review on all assessed species so far. The most charismatic endemic species were quickly assessed. However the deadlines were not always respected and it was difficult to get everyone synchronized with our internal deadlines within the project. To date, 180 species are assessed, very few are published, and the list is waiting compilation in order to be submitted to be reviewed by IUCN specialists groups.

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

The mapping of the important plant areas and the creation of a red list of plant species endemic to Lebanon triggered a general burst in the local scientific community and every team felt involved into this work. As both of these components are undergoing studies that constantly need a lot of energy and updating, their launching had inspired further studies and, above all, the need for all research institutes to work together to achieve conservation at the national level.

Project Components and Products/Deliverables

Component 1 (as stated in the approved proposal)

Component 1: **creation of three Plant Micro-Reserves** (PMRs)

- Micro-reserve in Ehmej to protect *Iris sofarana* subsp *Kasruwana*.
- Micro-reserve in Baskinta to protect *Drosera rotundifolia*
- Micro-reserve in Sarada to protect *Iris bismarckiana.*

Product/deliverables

- creation of legal framework
- monitoring plan
- Civil Society Tracking Tool
- Communication through classic and social medias
- Site delimitation
- Opening ceremonies

Component 2: **Training on Plant Identification**

Product/deliverables

- 15 persons trained on plant identification including researchers, PhD and Master students, amateurs and hikers.

Component 3: **Workshop on IUCN red listing**

Product/deliverables

- 15 persons trained on IUCN red listing assessment
- Assessment of IUCN status of the key species included in the 3 micro-reserves.
- Assessment of IUCN status of some endemic or important species (medicinal, economic, charismatic, ..).
- Share the first national plant red list with the Ministry of environment.

Component 4: **Identification of Important Plant Areas (IPAs)**

Product/deliverables

- Publication of the important plant areas map
- Sharing plant distribution data through the online database www.lebanon-flora.org .
- Share the IPAs map with the Ministry of environment.
- Conduct field work on understudied Lebanese areas

8. **Describe the results from Component 1 and each product/deliverable**
9. **Repeat point 8 above for each Component in your approved proposal**

Component 1: **creation of three Plant Micro-Reserves** (PMRs)

We created two out of the three micro-reserves proposed. **The PMRs** are specially designed to preserve rare plant populations with very limited distribution in Mediterranean habitats.

The concept of plant micro-reserve was applied and adapted to fit the different land ownership types, public, private or religious communities land properties and to deal with the environmental stewardship.

- **Ehmej**: After only one and a half year of field work and meetings with the staff of the municipality, a micro-reserve of 62 ha was created on public lands under the existing Category of "natural site" in Ehmej- Mount-Lebanon through the Decree #2878 dated 10 February 2016 to protect a population of *Iris sofarana* subsp *kasruwana*. We named it after the local traditional name given to this area "al Dichar" which is the name of a local shrub *Lonicera nummularia* and the logo of the micro-reserve reflects the Iris species, its pollinator and the dramatic mountainous landscape. The natural site was divided into two parts due to the tangle of private and public lands that do not form a continuous area. *Iris sofarana* subsp *kasruwana* being also present on the private lands intercalating with the public land, a community consultation and *memoranda* of understanding were signed between the municipality and the private land-owners allowing the municipality to prepare an impact assessment and to plan translocation or recovery actions in collaboration with the landowners if the Iris habitat will be damaged. This population of *Iris sofarana* was finally recognised nationally and the locals can directly benefit frrom promotion of this natural patrimony attracting ecotourism and encouraging the sustainable development of their village.

- **Sarada**: The second PMR was created on lands belonging to the Greek orthodox arcbishopric of Marjayoun, in Sarada, for the protection of an iris species endemic to the Golan and the Galilee, *Iris bismarckiana*. The highest religious dignitary is the privileged interlocutor and can decide whether to cooperate or not. The archbishop of the Maronite Church was our first spokesperson but unfortunately, we couldn't come to an agreement with the council of the Maronite Church as they had other project for their lands in Sarada. More than 75% of the Iris population is actually occurring on an adjacent land belonging the Catholic Church. The field work showed that this land acts as a refuge area for wildlife since it is surrounded by acres of agriculture lands. An official request was deposited at the Ministry of Environment in order to seek legal protection of 100 ha of lands under the "Natural Reserve" category. The reserve is named "Metropolitan Geawargios Haddad Natural Reserve" after the current

archbishop who was completely convinced and supportive of the necessity to preserve the habitat of this plant and indirectly the habitat of many species growing in this area. The logo of the reserve reflects the specific aim of this reserve, which is the protection of the Iris. This is the first Natural reserve to be declared on Waqf land in Lebanon. Our experience has shown that religious communities are always favorable to conservation of species (biodiversity and landscape) and have been considered as conservationists' role model. This is also in line with Pope Francis' encyclical, published in June 2015 calling for caring for our common home, the Earth. Engaging the religious community in Biodiversity Conservation is crucial since they own large surfaces of non-urbanised areas and since their actions could be visible and replicated.

- **Baskinta**: The third PMR was planned on private lands in the District of the Metn, in Baskinta, to preserve *Drosera rotundifolia*, an insectivorous plant species, very rare in Lebanon, although distributed worldwide, and its associated humid habitat, which is threatened in Lebanon. We failed to protect it legally since the landowner refused to sign any binding contract with the ministry of environment or any other party. This highlighted the difficulties to deal with private owned lands. Devoting a parcel of land that has a high "economical" value to conserve biodiversity is not an easy trade for any land owner. They feel that it is unfair for them to be deprived from commercially exploiting their land for the benefit of nature preservation. Currently eco-touristic activities in Lebanon are not valued enough to reward people who devote their natural resources for conservation and obviously do not outweigh the costs directly or indirectly incurred by landowners. Conservation schemes based on incentives need to be developed and encouraged in Lebanon. The designation as protected area under the protection of the Ministry of Environment is perceived as an expropriation and as the loss of their family patrimony. However, the landowner and other locals of the village of Baskinta are now convinced about the importance of this natural site though its unique and rich biodiversity. Even though he refused the designation as a protected area, he wants to preserve it in its natural state.

Component 2: **Training on Plant Identification**

Plant identification is one of the basis of many ecological studies; however it is not often considered of high importance. In Lebanon, the knowledge in botany is not promoted enough and many scientists lack basic identification skills to carry out botanical studies.

The main objective of this component was to build local capacities and knowledge which is essential to make sure that nature conservation will be taken in hands by locals in the future. The organisation of a workshop on plant identification gathering participants from many different Lebanese institutions who are involved in the field of conservation and who already had basic knowledge in botany. On the 16, 17 and 18 May 2014, the Faculty of Sciences at Saint-Joseph University (USJ) organized a workshop on plant identification gathering thirty participants from many different Lebanese institutions who are involved in the field of conservation. This workshop provided keys to identify the main families of native plants found in Lebanon with classroom presentations and it also included a field visit to Ehden Nature Reserve and some laboratory activities. Four botanists from different Mediterranean countries attended the workshop. The workshop was a success.

Component 3: **Workshop on IUCN red listing**

The organization of a workshop to train local biologists to assess the vulnerability of some plant species endemic to Lebanon using the guidelines of the International Union for Conservation of Nature (IUCN). A first comprehensive 3-day workshop (9-11 May 2014) instructed 30 participants from 12 different institutions on how to identify and classify extinction threats for the plants, following the protocol of the International Union for Conservation of Nature's (IUCN) Red List – criteria and categories, data to be collected, types of threats, etc. The workshop was led by trainers Alan Forrest and Tom Christian from the Centre for Middle Eastern Plants (Royal Botanic Garden, Edinburgh). Another workshop was followed by our team at CMEP in Edinburgh; for "security reasons the trainers were not allowed to travel to Lebanon. Upon the return of USJ team, another workshop was organized to follow up on the progress of the redlisting. The collaboration of these scientists is essential to come up with the creation of the first national red list of plant species endemic to Lebanon and also for the tree species in Lebanon. Establishing a national red list giving the vulnerability status of the endemic and rare plant species is a prerequisite tool to any kind of conservation action. Indeed, it is difficult to effectively assess the conservation value of a region if we lack data about the distribution and populations of the species that are present and about the threats that these species face. The red list for 25 endemic species was completed. Moreover, many rare and endemic species, that were present on our field work, and also native tree species have been assessed. A final workshop was held at the end of the project, in December 2016, to gather all local assessors and to have them making a last review on all assessed species so far.

Component 4: **Identification of Important Plant Areas (IPAs)**

Alongside the creation of PMRs and the plant Red List, Important Plant Areas will allow conservation actions to be rational, targeted and efficient and help to consolidate an important and consistent network of protected areas that will be valuable for both fauna and flora conservation throughout the country and the region. The mapping of IPAs is a spatial planning tool for decision-makers to allow a rational development preserving natural areas and biodiversity for the future generations. With the historical and new data collected in the framework of this project, we prepared a map of plant distribution and then identified **Important Plant areas IPAs** that should constitute the priority zones for conservation. We followed Plantlife International guidelines and other IPAs methodologies applied in different countries. A customized methodology was developed to suit the Lebanese geomorphological characteristics, using an approach that combined three indicators: species richness, species conservation value including endemism and rarity and the habitat conservation value. Compared to previous mapping of Lebanon IPAs, new regions were identified as being important for conservation action. Only 26% of these IPAs were already designated as protected areas and hosted 45% of Lebanon's plant species. This study emphasized on the urge to preserve still unprotected areas that are facing major threats. The IPAs map provides important information for stakeholders, practitioners and politicians involved in conservation in Lebanon to protect endangered zones and to develop rational strategies for their conservation. Moreover the results of our study will be used as a reference by the Ministry of Environment for the recognition of the regions important for plant conservation. This component also generated a general burst in the local scientific community and every team felt involved into this work. Its launching had inspired further studies and research institutes to cooperate to achieve conservation at the national level.

10. If you did not complete any component or deliverable, how did this affect the overall impact of the project?

The creation of micro-reserve in Baskinta was not achieved. However the landowner is convinced about its value and committed orally to conserve it. In terms of surface areas protected it doesn't hinder the project achievements since bigger areas were protected in the other micro-reserves than initially announced.

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

The way of establishing **Plant Micro-Reserves (PMRs)** can be seen as a methodology as our experience was a pioneer initiative in the region. These are the steps we had to go through in order to create our PMRs:

1- The first step was to identify the number of the targeted lands on which are the plant populations that need protection. The information had to be collected from the spatial planning office of each concerned region. Most of the available maps that were found had more than 70 years and were hand drawn, which reduced the quality and the accuracy of the data. Indeed, the overlapping of these maps on satellite maps using GIS was not possible.

2- Then the second step was then to seek the type of ownership and then the contact person (private landowner, or municipality or religious actor). Sometimes it was easy, but in some cases, when there was litigation on land property, this information was not available at the spatial planning office and we had to ask locals. Once the name of the owner was known, a small research was carried out at the municipalities to know who were these people, if they were still alive or still living in Lebanon, and then to try to get their contact.

3- Then according to the land ownership we had to deal with national authorities to see which protection category is the most appropriate. Dealing with private landowners to convince them to create a protected area on their land was the most difficult part of the process.

4- Then a file had to be submitted to the Ministry of Environment and included the agreement signed with the landowner, the maps of the concerned land and all the scientific reports describing the natural value and the reasons that motivated the designation as a protected area.

5- We had to adapt to local regulations on protected areas since the creation of a new kind of legislation for PMRs was not possible. However the legal procedure to get the protected area recognised and registered at the Ministry of Environment was much easier than what we expected, thanks to the help and dedication of our contact in the Ministry of Environment. Indeed, the designation of the protected area as a “natural site” was acceptable and suited most of our expectations for a PMR. This designation gives more liberty to the landowner but also more responsibility as he has to watch over what is happening on his land. A legal framework was to be defined for each of the future protected areas according to the type of property, the area concerned, the type of habitats and species present and on how the locals were using the land or were planning to use it.

6- Concerning the scientific management, it was consented that the University Saint-Joseph will be responsible for the study of the ecology and the monitoring of the targeted species population to ensure its durability.
7- Finding local actors: association or municipality or environmental club or other to adopt the reserve and insure its functionality and preservation. They are the real managers of the newly protected area accompanied closely by USJ.

Concerning **Important Plant Areas (IPAs)**, a methodology was also developed to suit the topographical complexity of Lebanon and its scale. In most of the papers concerning IPAs in other regions of the world, the exact methodology was never presented clearly so we decided that the main output of our study should be the presentation of a clear methodology that could be used also in different country. This part is even more important than the mapping of the IPAs itself as it aims at a wider and more international goal into the field of conservation. It deals with the diffusion of knowledge accessible to the scientific community in order to improve conservation actions and it goes beyond the Lebanese national interest. We submitted in January 2017 a scientific paper entitled: “Setting conservation priorities for Lebanese flora - Identification of Important plant areas to the journal” to the International journal “Journal for Nature Conservation Reference” under the reference: JNC_2017_77.

Our overall experience was also documented in a scientific paper and submitted to “Plant sociology Journal” under the title: “Setting conservation priorities: implementation and challenges“.

Benefits to Communities

12. Please describe the communities that have benefited from CEPF support

Please report on the size and characteristics of communities and the benefits that they have received, as a result of CEPF investment. Please provide information for all communities that have benefited ***from project start to project completion****.*

	Community Characteristics											Nature of Socioeconomic Benefit								
								Size of Community											
Community Name	**Subsistence economy**	**Small landowners**	**Indigenous/ ethnic peoples**	**Pastoralists / nomadic peoples**	**Recent migrants**	**Urban communities**	**Other***	**50-250 people**	**251-500 people**	**501-1,000 people**	**Over 1,001 people**	**Increased access to clean water**	**Increased food security**	**Increased access to energy**	**Increased access to public services**	**Increased resilience to climate**	**Improved land tenure**	**Improved recognition of traditional**	**Improved representation and**	**Improved access to ecosystem**
Ehmej inhabitants							Villagers working in ecotourism (in charge of guided tours				x									x

							of the forest and in charge of the guest house 'Arz Ehmej') who will benefit from the visit of ecotourism to the natural site													
Sarada inhabitant's and neighboring villages							Villagers and the schools in neighborhood	x												x

*If you marked "Other" to describe the community characteristic, please explain:

Villagers in Lebanon can have very different types of income and many of them, especially in Mount Lebanon, don't rely on agriculture, nor on ecosystem services for their subsistence. However in these cases, the creation of two small protected areas will have positive impact with the raise of ecotourism that will visit their region to contemplate their natural patrimony and will consume and buy local services at the same time in the neighboring structures (restaurants, shops, guided tour, guest houses, or other outdoor activities).

Lessons Learned

13. Describe any lessons learned related to organizational development and capacity building.

Managing a heterogenic group for the supervision of red listing for instance was not easy and more time should have been allocated to this task. Moreover many expectations were put into other groups to realize part of the assessments but then we understood that part of it could have been completed by ourselves. The important output is that many people get acquainted with IUCN red listing criteria and methodology so they are able to do it by their own for their species of interest.

14. Describe any lessons learned related to project Design Process *(aspects of the project design that contributed to its success/shortcomings)*

The project design including these four components was very fruitful. It was a real case study for setting priorities for conservation addressing the different aspects: Prioritizing species, prioritizing locations, implementation of conservation actions by the creation of protected areas taking into consideration landownership. Capacity building component was also crucial.

The project was supposed to end in April 2016 but fortunately CEPF allowed a six months extension. This last extension was very useful as we gathered most of our data through intensive fieldwork. With such ambitious outputs, time was the limiting factor. We should have recruited more people working on the project or foreseen longer time.

15. Describe any lesson learned related to project Implementation *(aspects of the project execution that contributed to its success/shortcomings)*

- Have more human resources focused each on one component avoiding people overbooking and delay in deliverables.
- Be patient with local communities' consultation.
- Find a key person in the local community, committed enough to be responsive and to take over the project and ensure day to day follow up and long term sustainability of the protected area management.

16. Describe any other lessons learned relevant to the conservation community

Dealing with conservation in Lebanon is not always easy as many spokespersons don't understand the need and the urge of the preservation of the natural patrimony. Our society is more in the immediacy than into the conservancy for long term benefits. This is a common problem to countries in which the well-being of the population is not fully reached and in which environmental issues are not considered as national priorities. Financial benefits and other types of incentives should be very carefully awarded and in all cases accompanied by effective work on awareness.

Sustainability / Replication

17. Summarize the success or challenges in ensuring the project will be sustained or replicated

Concerning PMRs, the methodology was developed and the example was given to inspire any other conservation initiative in Lebanon that would aim at creating a protected area.
Concerning the sustainability of PMRs, the two created protected areas were designated under the protection of the Ministry of Environment and the University Saint-Joseph is now responsible for the management plan of these areas and for the yearly monitoring of the targeted plant species populations. In Ehmej, a local Association for the development of Ehmej, endorsed and directly supported by the Municipality adopted the micro-reserve project and is building on it to work on ecotourism.
In Sarada, visit to the managers of the local schools and involving teachers of life and earth sciences are conducted now. The church assigned a local person to follow up with us on logistical issues. We used a social Media involving "environmental group" to look for locals that can play the role of reference persons to be trained and accompanied in order to create an association to manage the reserve. This is an ongoing work.
Concerning replication, we were very happy we were solicited to help in the establishment in a new micro-reserve in Sofar region to protect another Iris species. A master student of USJ will be working on this following our guideline.

Concerning the mapping of the important plant areas and the creation of a red list of plant species endemic to Lebanon both are undergoing achievements that need a constantly work to be improved and updated at least every three years. This CEPF project initiated the national red list and encouraged the updating of the IPAs mapping as other research institutes are on their way to collaborate and contribute to these studies in the close future.

18. **Summarize any unplanned activities that are likely to result in increased sustainability or replicability**
    - We are spending time and energy with some schools elaborating an educational outdoor program compliant with their educational environmental requirement focused on biodiversity that could be done in the newly created micro-reserves. The teachers having a sound pre-set and adapted material are motivated and keen to replicate the visit for their class every year thus creating sustainable minimum revenue for the micro-reserve; they pay for the local guide and eat at the micro-reserve restaurant and buy local products. We are giving a conference at the schools and then we go the first time with them to the micro-reserve. Animating their activity on site in presence of the teachers and local guides is a way to see us in action, learn and be able to do it by themselves the following years. It is working very well in Ehmej. It is to be done in Sarada also.

Safeguards

USJ has developed 3 process framework and involuntary restrictions for the 3 proposed plant micro reserves. The submitted frameworks were accepted by CEPF.

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

There are no required actions related to social or environmental safeguards.

Additional Funding

20. Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of CEPF investment

Donor	Type of Funding*	Amount	Notes
Ministry of environment	B	3000 $	Take in charge printing fees for booklets and leaflets for the nature site.
Jouzour Loubnan	B	3000 $	Running fees for the laboratory for seeds conservation and germination. Transportation fees and supporting logistically meetings with the municipalities and other stakeholders.
Lebanese National Council for scientific Research	B	2000 $ 1500 $	Through O-Life programme, - Invitation of exeprts from Europe to contribute to the plant identification workshop. - Lending of Motion Activated – Game & Trail Cameras / to document animal wildlife in Sarada's reserve.
USJ Research Council	B	1000$	Contributing to fees for field inventories work
Forest Ecosystem Restoration Initiative - Secretariat of the Convention on Biological Diversity-UN	C	50000$	"Identifying biodiversity-related success factors of ecological restoration projects"
Middle East Partnership Initiative U.S. Embassy, Beirut	C	35 000$	Deciphering Multidimensional Biodiversity Webs of Interactions Behind the Success of Ecological Restoration Project

** Categorize the type of funding as:*

A *Project Co-Financing (other donors or your organization contribute to the direct costs of this project)*

B *Grantee and Partner Leveraging (other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF funded project)*

C *Regional/Portfolio Leveraging (other donors make large investments in a region because of CEPF investm*ent or successes related to this project)

Additional Comments/Recommendations

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

Information Sharing and CEPF Policy

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

Please include your full contact details below:

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