

## CEPF Final Project Completion Report

<b>Organization Legal Name</b>	<b>The Foundation for Endangered Wildlife</b>
<b>Project Title</b>	<b>Building Advocacy and Developing a Management Plan for the High Mountains of Ibb Protected Areas.</b>
<b>CEPF GEM No.</b>	<b>62574</b>
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### **CEPF Region: Eastern Afromontane (EAM) Biodiversity Hotspot**

#### **Strategic Direction:**

This project area is located in a pKBA called the High Mountains of Ibb (HMI), Yemen with 163,266 ha according to the CEPF eastern Afromontane ecosystem profile. HMI is not a protected area and as reported by the CEPF eastern Afromontane ecosystem profile, HMI contains 24 threatened species; one amphibian, one bird, five fish and 19 plant species, which we believe is far from the real number of threatened species. Jabal Sumarah and Udayn are both KBAs according to the CEPF eastern Afromontane ecosystem profile, with 36,555 ha. and 13,408 ha., respectively. Jabal Dhalem is not mentioned in the CEPF eastern Afromontane ecosystem profile, but contains a very distinctive ecosystem. Jabal Sumarah, Jabal Dhalem, and Udayn along with the HMI were also included in the project because Jabal Sumarah is a part of the HMI and Udayn valley (called Annah) which is already announced as a natural reserve, with poor justification while the biodiversity is higher in the Udayn Mountains, which are also high mountains. Thus, when HMI has mentioned it resembled all thus regions, and it is the biggest pKBA in a single administration unit in Arabia.

The project was designed to address all three of the points for strategic direction 2: Improve the protection and management of the KBA network throughout the hotspot, identified in the CEPF Ecosystem Profile for the Eastern Afromontane Biodiversity Hotspot, with the following investment priorities:

- 2.1** Increase the protection status (via creation or expansion of protected areas) and/or develop, update and implement management plans for terrestrial priority KBAs.
- 2.2** Support the role of civil society organizations in the application of site safeguard policies and procedures, including the strengthening of environmental impact assessment implementation in order to address ongoing and emerging threats to priority KBAs, including freshwater KBAs.
- 2.3** Advance the identification and prioritization of KBAs in Africa and the Arabian Peninsula.



auditorium. Ibb University also helped in publishing the project activities in the University newspaper and contributed to the project in donating transportation for HMI 1st Festival.

**E.** The Environmental Protection Authority (EPA), as the national umbrella for the protection of nature, was involved from the beginning especially Ibb branch in the organization of some of the project activities and accessing some areas.

**F.** The relevant local communities' members, CBOs, and NGOs stakeholders had been invited and participated in the awareness workshops, meetings, celebrations of the environmental days and the field days, which provided live demonstration and encouragement to courage them in conserving nature and changing to more nature-friendly activities, MoUs signed with some of them.

**G.** The project coordinator Mr. Murad Alawadhi presented FEW in the United Society for Developing Water Resources and Environment – Critical Ecosystem Partnership Fund USDWE-CEPF training program. The program aimed to strengthen the capacity of Yemeni CSOs and local NGOs in terms of environmental safeguarding which surely requires a collaboration and coordination between local and regional organizations.

### **The Project Conservation Impacts**

#### **(2) The project contributions to the implementation of the CEPF ecosystem profile:**

FEW was among the organizations assisted and contributed to the CEPF Eastern Afromontane Ecosystem Profile. In the beginning of the work in the project the threats to biodiversity in the project area was shortlisted and further prioritized by the project team, taking in consideration the prioritized threats in the Eastern Afromontane Hotspot stated in the CEPF Eastern Afromontane Ecosystem Profile, in Yemen and according to the IUCN threat category. The shortlisted threats addressed after that in all the consequent awareness and research activities of the project, where the project team dealt with the root causes of the threats and the barriers to addressing the threats and we then produced our own array of threats in the project area, namely:

- A.** The overuse of biological resources, mainly increasing of fuelwood excavation from limited range species and sometimes-endemic species and poaching for the flagship species and its consequences for the ecosystem.
- B.** Lack of awareness, institutional capacity, networking, and exchange of experience.
- C.** Infrastructure developments especially in the transportation sector and the new road building, some of them are a sort of corruption not necessity, called Contracts Drive Developments (CDD).
- D.** Wildlife-Human conflicts issues.
- E.** Negative beliefs and views on the value of environment and conservation.

- F. Poor environmental governance and weak legal protection.
- G. Inadequate knowledge/information about key biodiversity problems and ways to solve them.
- H. Inappropriate land-use practices and lack of alternatives; with the sharp decline in traditional terrace agriculture.
- I. Economically impoverished local communities.

Climate Change complication with water consumption in Khat (*Catha edulis*) cultivation, and heavy application of pesticides for this narcotic plant is a real threat that was covered by the awareness components, but it should be covered more by the "Pilot Program for Climate Resilience (PPCR)" a project operated by the EPA.

This project also addressed the major protection and management weaknesses of the KBAs in the EAM and Yemen specially, that were determined by the CEPF ecosystem profile, namely:

- A. The lack of baseline data and monitoring of biodiversity and the lack management effectiveness.
- B. The lack of legal protected status of any kind, and an unknown number of candidate or potential IBAs.
- C. The lack of connectivity between the KBAs.
- D. The KBAs threat by development projects without adequate planning.
- E. The KBAs unrecognition, because of the gaps in biodiversity knowledge.

As a response, the project improved protection and conservation of the priority KBAs in Ibb high mountains and Yemen in many ways. The areas that perceived before as isolated islands of forest spots are now, with the project awareness efforts perceived as a network of high biodiversity forested areas, with key threatened habitats and corridors connecting them **Figure 4**. This project also improved the local conservation management by the families, who owned the forests or the neighboring local community who shared the natural resources in the pKBAs. Agreements to insure sustainability were done as written MoUs or as verbal commitments. Moreover destruction activities that was planned in the pKBAs were stopped permanently, by the project team efforts, as an example is the planned new roads, that was planned to penetrate the core zones, details in items 4, 5 & 6 of this report. The project also assured the sustainability in the pKBAs by enhancing the local's conservation capacity; the most active among the locals are now FEW permanent focal points, who reported FEW regularly.

Referring to the strategic direction 2 in the EAM- CEPF ecosystem profile “Improve the protection and management of the KBA network throughout the hotspot”. This project increased the protection status via promoting creation of new and expansion of traditionally protected areas and the project is developing management plans for priority KBAs (Investment Priority 2.1). In this project, the species and habitat status evaluation and vulnerability assessments were made in many sites that lead to advance the identification and prioritization of the KBAs. FEW also apply the site safeguard policies and procedures, including playing important role in bridging the gap between the state laws and the destructive practice, (Investment Priority 2.2). This project advanced the identification and prioritization of the KBAs in the Arabian Peninsula Highlands Corridor (APHC), including those that have less replaceable diversity. The project contributed also to the knowledge of globally threatened biodiversity and its distribution by adding new suggested area for protection, where the areas involved are especially large and relatively inaccessible, and the previous conservation research efforts have been restricted by the lack of security, capacity and resources. (Investment Priority 2.3)

Most of the project activity outside the awareness and advocacy building were centered in producing priority areas recommended for protection. The project research inventories come out with the below three important proposed regions for protection:

- A. Ibb High Mountains Proposed Protected Area (IHMPPA)
- B. Al-Qafla Proposed Protected Area (APPA)
- C. Dhalem Proposed Protected Area (DPPA)

Multi justification for the protection was scientifically developed in the different inventories, Land-Use and Land-Cover (LULC) for all of Ibb Governorate, and zoning plan & a supreme management plan will be finalized for the three Proposed Protected Areas (PPAs) mentioned above. Those three areas perceived now as a more effective and robust KBA network for future sustainable conservation outcomes.

### **(3) Summary for the overall results/impact of the project**

**The Planned Long-term Impacts - 3+ years that the project team aims to approach from Grant Writer proposal:**

- A. Produced Management Plan (MP)
- B. Enhancement of sustainable use of the natural resources.
- C. Conservation research, monitoring activity and publication.
- D. An official announcement of some biodiversity areas as natural reserves.

E. Strong local and national support for the conservation of the KBAs throughout the EAM Biodiversity Hotspot in Yemen.

**(4) Actual progress toward long-term impacts at completion:**

Reference to the long-term impacts listed in the project, in light of the above adoption of the CEPF threats to the project area, Item (2) and according to the strategic directions 2 & 3, the project managed so far to develop the following impacts on the long run:

**A. Management plan:** The project aimed at developing a comprehensive seven-year management plan for the three PPAs, IHMPPA, APPA, and DPPA, mentioned in item 2 of this report. Based on participatory planning approach with the decision makers and the locals, the MP will directly be integrated into achieving FEW and CEPF mandate in biodiversity conservation in the PPAs and will enhance the socio-economic development in Ibb High Mountains (IHM) in general. We draw the attentions of the locals and the local authority to the level of fragmentation of the PPAs, and the necessity to establish a sustainable, cost-effective monitoring program. All the stakeholders including the locals agreed to lower the human activity in the core zones of the PPAs, moreover, two roads projects in the core zones were stopped. The MP outline discussed with the locals, the EPA Ibb branch, and some of the decision makers; they show great commitment to be trained for the better cooperative management of the chosen PPAs. After that, a zero draft of a seven years MP was compiled, the local and the traditional authorities endorsed both the IHMPPA, and APPA, further discussions and development in the MP with the stakeholders will be continued upon the return of peace. More support from the local communities, the local institutions to the conservation efforts are anticipated in the future. In addition, this project will be used as a pilot case-study to be applied in the other announced natural reserves in Yemen, which are still without such elaborate awareness, zonation planning, and social engagement. The management planning team contains conservationists, local leaders, local authorities, scientist, professionals and GIS specialists. The MP concentrates on the reinforcing functions of the Man and Biosphere Reserves; conservation, sustainable development and logistic support for scientific research and education. This approach was discussed and approved internally with FEW board, the local authority, and the EPA representative.

**B. Enhancement of sustainable use of the natural resources and promoting alternatives:** The project team conducted many meetings with the locals to understand the socioeconomic dependency on nature in each PPA, and selected the most positives among the attendance as the project focal points. We also promoted the best practices in the management of the local use of PPAs by introducing the stakeholders to

the main threats in each area and suitable solutions or alternatives along with the enhancement of sustainable spatial or temporal use of the natural resources. Drawing the attention to the level of fragmentation of habitat is clearly highlighted and many alternative activities with less environmental impact or high conservation value were suggested, among them:

- ✓ Introducing the culinary & medicinal plant cultivation initiative instead of gathering,
- ✓ Introducing the agroforestry and agroecology to the farmers,
- ✓ Promoting replacing goats with sheep and cows,
- ✓ Using farming camels for ecotourism,
- ✓ Highlighting the biogas initiative,
- ✓ Field guiding best practices,
- ✓ Hunting seasons.

Based on the most suitable alternatives future projects could be developed and implemented with the ready local communities in each PPA. Especial communications were established with the hunters and the goat keepers as there activities are quite destructive. "Crash grazing" or "holistic planned grazing" should be planned in the future. Substantial conservation impacts noticed, caused by the locals' behavioral changes that implemented because of the project awareness, which reported regularly by our focal points and field team.

**C. Conservation research, monitoring, and publication:** Data gathered, analyzed and formulated for the fauna, flora, and ecosystem inventories along with IBAs discovery were the biggest research investment in this project and done by many researchers. The project team reached areas that contain the highest populations of some endemic bird species ever recorded and FEW bird specialists considered the core zone in the HMIPPA, APPA, DPPA as IBAs, all of them important for endemic specie and APPA is also important for migratory raptors. Further bird census should plan in those areas. Other sites criteria viewed and included in the justifications of each of the three PPA (item 2 ) are:

- ✓ Hydrological elements, including wadis, water bodies, hot springs and watershed,
- ✓ Landscapes, topology and GeoPark enterprise value of the PPA,
- ✓ Current and future recreational value,
- ✓ Archeological, historical and cultural sites,
- ✓ Threats level and the biodiversity fragility,
- ✓ Conservation group physiognomy,
- ✓ Current and future land use,

Mapping with the GIS tools and satellite imagery facilitated the integration of the remote sensing and field data into the zonation and creation of land use maps. The project offered the first LULC classification for Ibb Governorate by using Landsat-8 Level 1T images, ASTER Global DEM V2 and field data. To consider the high temporal and spatial variability in the produced LULC a complex multi-temporal approach was chosen. As a result, 9 LULC classes derived by the help of the NDVI values for three different dates from September 2013 to April 2014. The most relevant are the classes of broadleaved evergreen forest or plantation as it contains rare of forests remnants. It shows the importance of conservation measures implemented; this class covers only 1.17 % of the total project area, **Figure 2**. Aside from conservation, LULC classification of Ibb Governorate at the national level is an outstanding achievement for the project and can provide valuable data for planners and decision makers for setting up planning and management approaches in different fields like agriculture, hydrology, tourism and demographic questions as well.

Zonation maps, statistical justification and the outstanding conservation value produced for the three PPAs, based on the UNESCO Man and the Biosphere-zoning scheme is another great achievement. Other maps also produced for certain areas in a smaller scale, incorporated all in the MP and the manuscripts for publication. This research activity and publications will end with a great highlight and reputation of the project area, FEW, CEPF and the KBAs in Yemen, and will finally end with an attraction for further research and monitoring. Strengthening of networks has built a permanent partnership between FEW and all the stakeholders, especially those in or around the three PPAs, further funding would motivate more efficient participatory efforts toward improved flow of information, skills and resources, which will end with a more successful research and conservation situation. C in different conservation topics in addition to the many Arabic-English posters, and they are namely:

- ✓ Tailing Arabia's Last Leopard, published in Beacon reader: <https://www.beaconreader.com/gaar-adams/tailing-arabias-last-leopards-an-environmental-reporting-road-trip-through-yemen-part-v-fi>
- ✓ A Glimpse at the Succulent Flora in the High Mountains of Ibb, Yemen (Article). Published in the Indian Journal of Cacti and Succulents.
- ✓ LULC Classification for the Ibb Governorate in Yemen: for Nature Conservation Approach, a research paper, the Arabian Journal of Geosciences is recommended for publishing this article.
- ✓ Conservation of nature and resources in Yemen through the traditional conservation heritage, with a special concentration on Ibb, (Book)
- ✓ Birds of Ibb, (Booklet)

- ✓ The Ecotourism guide of Ibb highlands, composed from the documentation of the eco-friendly practices and some trap camera pictures.

All the manuscripts will be supplied separately.

#### **D. Strong local and national support for the conservation of the KBAs throughout the EAM**

**Biodiversity Hotspot in Yemen:** The awareness and training components of the project offered the necessary skills and resources to maximize the locals and decision makers positive impact to improve conservation of biodiversity especially in the PPAs. During the indoor awareness, there was information sharing and exchanges, while in the outdoor field visits, the locals and the local CBOs showed a noticeable motivation and willingness to involve more sustainable and eco-friendly activities in the future. At the institutional level, the decision makers, the targeted schools, and Ibb University are agreed to play a leading role in implementing the KBAs conservation approach of nature and resources. Awareness material in a form of posters and videos produced in Arabic and English was shared with all the stakeholders in both papers and digital form, along with broadcasting the project activity on the national TV stations, the FEW YouTube channel and social media, assuring a long lasting advocacy. The following posters were developed by the project team and resembled the communication interface between the different inventories output and the general audience, produced in both Arabic and English:

- ✓ The Project brochure, **Figure 3**,
- ✓ The Project achievements poster.
- ✓ Three posters for each AAP; contain the zoning maps, visualization of the statistical justifications and the outstanding conservation value, **Figure 4**,

A high level of awareness was progressively achieved. The increase in the likes and sharing of the Facebook groups of the PPAs served as an alternative permanent platform preparing the stakeholders and local authorities for more advocacy, that should end with an official announcement of those three pKBAs as national reserves when the war ends, preparing them for implementation of future projects and monitoring programs.

People now understand that their livelihoods and the future of their children are threatened by the degradation of the ecosystems and the subsequent loss of the ecosystem services. A commitment toward conservation both now and in the future is very clear, and a good enhancement of sustainable use of the natural resources is noticed after the meetings, this is reflected by reporting the project team about any intensive use or over-exploitations, asking for awareness materials and posters, raising many questions to

the team, and asking for the best practices in conservation by some locals and focal persons. This deep understanding of the conservation value will foster a long-term commitment by the locals to protect the KBAs on which they and the wildlife depend. Furthermore, this understanding will enhance the replicability of this project with a minimum of revisions and amendments at any KBAs in Yemen. The project team succeeded to persuade the stakeholders to deviate two roads that intended to pass through the core zones of HMIPPA and APPA.

The positive internal and external impressions about the project are paving the road for more comprehensive efforts to enhance the biodiversity conservation and replicability of this project with a minimum of revisions and amendments at any KBAs within the APHC. The long-lasting partnership with universities, researchers, and academics and with some local NGOs is continued and data shared with them from the project area, despite the slowdown of life activities because of the war. More attraction of further research and monitoring in the project area noticed by the many communications we got from the Yemeni researchers.

**E. Announcement of some biodiversity areas as natural reserves:** The project team promoted some of the announcement for Al-Mahjar forest by Alshaer local authority district, and the family reserve, Kamal forest, both are now included in HMIPPA. Official national declaration for the three PPAs is a target for FEW and many stakeholders after the return of the normal life in the country.

### **The Planned Short-term Impacts - 1 to 3 years that the project team aims to approach from Grant**

#### **Writer proposal:**

- A.** Research inventory to precise identification of all the important KBAs in the HMI.
- B.** A significant body of data on the biodiversity of the HMI to be published.
- C.** Student involvement and training the new generation of passionate conservationists.
- D.** Awareness, that leads to building advocacy.
- E.** Building a strong and long-lasting partnership between the government, local leaders, community members, FEW, and other relevant NGOs.
- F.** Supporting and modernization of the traditionally conservation heritage that still thrives in some locations.
- G.** Production of a pilot Management Plan for the three PPAs and submitting the plan to CEPF and the relevant authorities in Yemen.

## **(5) Actual progress toward short-term impacts at completion:**

Many of the short-term impacts were accumulated and strengthened the long-term impacts, item (4), there are also details about the short term impacts reported in each component items (8-14). Reference to the short-term impacts listed in the project proposal and in light of the adoption of the CEPF threats, management weaknesses in item (2) of this report and according to the Strategic Direction 2 & 3, the project managed to achieve the following impacts in the short run:

**A. Research inventories to precise identification of all the important KBAs in HMI:** The project started the research inventories in fauna, flora and habitats directly after inspection of the baseline data.

✓ An orientation workshop for the field surveys teams and researchers had been given in Ibb University. During the workshop the project manager highlighting the achievements done by the project, the plans of the project and possible ways of sharing the project maps, data, and resources. The scientific activities of the project were reported in the media:

1. <http://www.arabstoday.net/fg-geygef-geyqhk/2014-04-04-06-12-13.html>
2. <http://www.sabanews.net/ar/news347496.htm>
3. <https://www.facebook.com/photo.php?fbid=230253390512863&set=a.190053397866196.1073741826.100005846108135&type=1&theater>

✓ Substantial databases, gathered and analyzed:

1. Database excel files produced for conducted animals and plants inventories,
2. Clear estimations about the abundance of endemics in the project area obtained
3. Plant inventory data were analyzed by Multivariate statistical analysis, many plant communities were defined with limited range species,
4. Database of the plant inventory transformed to different formats compatible with geographical information systems (GIS) and satellite imageries for evaluation produced different maps including the LULC and the production of Normalized Difference Vegetation Index (NDVI),
5. Satellite images were analyzed for the vegetation cover and included in the LULC map for the project area.

✓ The research inventories lead the project team to the highest biodiversity areas in the HMI, some of them with a rear climax community, like Kamal forest.

✓ The research inventories also lead the project team to biodiversity areas with the highest abundance of certain endemic, semi-endemic, or endangered species ever seen by the specialist.

✓ The gathered data by many researchers analyzed and many manuscripts developed in different conservation topics. The resulted manuscripts will end with better permanent reputation of FEW, CEPF and the KBAs in Yemen, a list of the resulted manuscripts mentioned in item 9 of this report.

✓ The results from the field inventories were presented in Ibb University. The researchers contracted for the fauna, flora, and bird inventories and also the habitat evaluation and traditional conservation heritage of Ibb presented their work to many stakeholders, among them scientific community in Ibb university and decision makers from the local authority. The workshop was covered and reported by social media, TV, and newsletters:

1. 14 October Newsletters, Re no 16250 published date 31-12-14
2. <http://184.173.218.190/ar/print330640.htm>
3. <http://althawranewspaper.net/news.php?id=62188>

More indicators of increasing national and regional interests in the KBAs, including ecotourism and further research & monitoring in the project area were noticed by the project team.

✓ The inventories result shared in those national and international workshops and conference:

1. In Taiz and Dhamar universities.
2. TEDx Taiz, 17<sup>th</sup> May 2015.
3. The 9<sup>th</sup> Conference of the Yemeni Biological Society.
4. MESA's 48<sup>th</sup> annual meetings.
5. In the House of Idea in Sana'a the 16<sup>th</sup> July 2014.

More details are in item 9 in this report.

**B. A significant body of data on the biodiversity of the HMI to be published:** Conservation status and needs were determined and a significant body of data on the biodiversity of the HMI was gathered, processed and prepared as manuscripts for publication, including:

✓ Published:-

1. The project brochure in both Arabic and English.
2. Project achievements poster in paper and electronic pdf format.
3. APPA, IHMPPA and DPP posters; contains the zoning map, the statistical justifications, and the outstanding value, in paper and electronic pdf format **Figure 4**.
4. A Glimpse at the Succulent Flora in the High Mountains of Ibb, Yemen (Article). Published in the Indian Journal of Cacti and Succulents.

5. Tailing Arabia's Last Leopard, article, published in Beacon reader: <https://www.beaconreader.com/gaar-adams/tailing-arabias-last-leopards-an-environmental-reporting-road-trip-through-yemen-part-v-fi>

6. Project data published in the CEPF-FBpage. <https://www.facebook.com/CEPF.EAM/photos/a.535610636456040.141615.527504783933292/1124137824269982/?type=1>

✓ Many manuscripts developed in different conservation topics, and they are namely:

1. LULC Classification for the Ibb Governorate in Yemen: for Nature Conservation Approach, a research paper, the Arabian Journal of Geosciences is recommended for publishing this article.
2. Conservation of nature and resources in Yemen through the traditional conservation heritage, with special concentration on Ibb, (Book).
3. Birds of Ibb, (Booklet)

All the manuscripts will be supplied separately.

### **C. Student involvement and training the new generation of passionate conservationists:**

✓ In many local high schools, the project team started the formation of nature clubs, in the PPAs, the members will serve as junior rangers, and they are committed to introduce their local communities to the best practices and alternatives. The club's members got caps and T-shirts carrying the CEPF and FEW logos and the name of the project will be branded in a very positive way to attract more students from the local community to participate in these clubs.

✓ Two secondary school graduate students trained for three months on the project, they give logistics and communications support for the team in the field and help in organizing events.

✓ Five students, from the department of biology, Ibb University were trained and involved in the project, their graduation research in plant inventory was supervised directly by the project manager.

✓ Mr. Ali Alkhateeb, a Ph.D. candidate chose to have his field training with the project, he did his thesis in the EIA and assisted in the threat listing.

✓ The high-level training in conservation was extended to professionals, like the photographers, through the many camping and field days; their interests were shifted to more sensitive conservation activities, that they now consider as value added to all their activities.

✓ High-level training in conservation was conducted to the locals in the vicinities of the PPAs; increasingly more well-trained local focal points became experts in subjects related to conservation of critical ecosystems and biodiversity in their regions.

- ✓ A successful showcasing for a biogas project achieved, as an alternative for the unprecedented wood overexploitation especially from the HMIPPA. <https://www.youtube.com/watch?v=bcPA-qMZnHE>.
- ✓ More than 15 field trips with interested volunteers and professionals conducted, in big groups, resulted in more visiting and reporting about the PPAs.
- ✓ Meeting and correspondence were made between the project and the Social Found for Development (SFD) and CARE to build more biogas facilities in the PPAs surrounding villages so that the wood gathering will be diminishing permanently.

**D. Awareness that leads to advocacy:** A high level of awareness was achieved, with the increase in frequency and quality of the events before the war, including workshops, conferences, meetings and special meetings with some decision makers, **Figure 5**. Presentations were conducted for special groups like the student and women's sectors in some target areas, which serves as a preparation for the stakeholders and local authorities for future participation in conservation. The official announcement of the three PPAs as natural reserves will prepare them for future implementation of a suitable monitoring program. Numerous publication materials were produced and distributed among many targeted groups of stakeholders in paper and digital forms (brochures, maps, and posters). As a result of the project outreach intervention, from the third month of the project onward, there is increasing in the reporting of any destruction of nature to the project team, that caused by anthropogenic effect directly or by nature because of human alterations including:

- ✓ The increase on nature dependence than the market for food and medication with the raising war is also reported.
- ✓ Reporting on the erosion, sedimentation, and change of the streams directions caused by the recent roads, in consultation with road engineer we gave advice for each case according to the topography, and in most of the cases we cultivated certain native plant species, **Figure 6**.
- ✓ The project team succeeded with the locals and local authority in preventing two roads project in the core zones of HMIPPA and APPA.

All of this indicated the effective awareness and high degree of involvement. The project awareness and research activities provided a convenient platform to communicate CEPF investment strategy and the aimed advocacy in the project area. EPA, SFD, the local authorities, the Yemeni Universities, the schools in the project area and other national and local organizations active in Yemen had been also made aware of the project and the CEPF in general through the many meetings and workshops performed by the project and broadcasted in all sorts of media.

Continuously the project team builds a growing media sheet, contains the links to all TV and written reports about the project by different media foundations. All the links of the TV, newsletter reports and the articles were added to the media sheet. Special care given to the TV reports about the project, continuously uploaded to a YouTube channel called "Ibb Nature" with good collections of key words in the title, which enables efficient appearance by many search topics for more publicity. Videos from "Ibb Nature" also shared through the social media by the project team and volunteers, [http://www.youtube.com/results?search\\_query=ibb+nature](http://www.youtube.com/results?search_query=ibb+nature). There is following up activities after any presentations by the project team and there is fare vision for the conservation after the project including; targeting Ibb Cleaning Fund the SFD, some business men of Ibb and the local authority to raise funds for preparing camping sites in the PPAs and an eco-friendly visitor center in the IHMPPA. The project team is also in negotiation with ACTED and the SFD to shift their plans to safer practice in the PPAs and to use nature as value in distributions of the projects. Beyond the awareness, nature education in the local schools were enforced by distribution of hundreds of copies of the Arabic-English booklet "The vanishing spots", produced in previous project by FEW, which aimed to promote protection of the Arabian leopard as a flagship species and its landscape among the school students.

**E. Building a strong and long-lasting partnership between the government, local leaders, community members, FEW, and other relevant NGOs:**

A strong partnership established with the universities, researchers, and academics and with, local schools and some local NGOs, FEW already signed MoUs with Ibb University and some NGOs. The project work presented outside the project area in Taiz and Dhamar University, by kind invitation from them, more specific:

- ✓ Local and international researchers worked with the project team on different topics, from Ibb University a researcher prepared the manuscript about the traditional conservation heritage in the project area, which will support and vitalize the traditional conservation practices.
- ✓ The project initiated discussions with many local leaders in the project area regarding their involvement in the future protection and conservation of the PPAs and how the suggested alternatives will improve the livelihood of the local communities in each PPAs.
- ✓ The project team had invited to Ibb Governorate the executive council, and the committee in charge of preparations for the announcement of Ibb city as the tourism capital of Yemen, where a high level of awareness and involvement is secured for the decision makers.

90 participants, among them photographers from JANAD photography club, academics media reporters, and Ibb University alumni participated in the HMI 1<sup>st</sup> Festival. It is the onset of eco-tourisms in the HMI, the participants documented the event, the style of life in the villages, various aspects of the biodiversity and distinctive ecosystems were shared on social media: <https://www.facebook.com/events/1472601066336463/>. More participants came from the neighboring villages as well, **Figure 6**.

- ✓ The data gathered and analyzed, positioned the project area in the priority list of many interested organizations and researchers.
- ✓ Significant support to the project, through facilitation of the project team work was highly appreciated. Facilitation includes, hosting the project team and the field researchers and facilitation of their presentations, field work and spreading the awareness materials, by many local leaders and CBOs. There is also many co-funding partners to the project, which have saved expenses to the project budget or enhanced the conservation lines established by the project, summarized in the table in item (40) of this report.

#### **F. Supporting and modernization of the traditionally conservation heritage that still thrives in some locations:**

- ✓ The traditional conservation heritages in the project area are well documented:
  1. The situation and the name of the practices that leads to conservation, like what is called “Markum” in which some lands under conflict should be re-wild and both conflict sides can’t use it intensively in wood cutting, agriculture or buildings.
  2. Good knowledge and understanding of the traditional processes that leads to conservation of nature and resources were also gained. Protection of certain specie by the locals is also documented.
  3. Conservation of nature and resources in culture through the traditional conservation heritage, with special concentration on the project area, is now a book manuscript.
- ✓ The traditional conservation heritages endorsed in all the awareness and advocacy activities, including the traditional sustainable land use, like Mashae , Markum, Ersh, Mahajer, Makbarah, Mashareb, and the stakeholders now know the role of this land type in supporting wildlife and how important to keep and develop them for more healthy ecosystems and agroecology.
- ✓ Many texts were extracted from the Holy Quran and traditional proverbs and included in the awareness materials presentation, resulted in good perception by the target audience. This kind of awareness material was requested by the CEPF and shared with another CEPF project from the Arabic/Islamic culture.

- ✓ Some of those traditional lands were replanted again by the project team, volunteers and the locals with native tree species. Forestation of the graves (Makbarah) with native species still active even after the projects, because it is big lands inside or around the cities and villages, that culturally highly protected, and can be used to introduce the native vegetation and to sustain the seed banks.
- ✓ Link the traditional conservation heritages with the suitable modern models in conservation:
  1. The traditional farming in IHM is somehow similar to the modern man biosphere reserve (MBR) in which there are zonation and protection of natural elements in both. Ersh, and Mahajer are wild areas surrounding and protecting the fields and Makbarah containing graves, all are prohibited used in very sustainable manner. This resemblance always facilitates introducing the zonation plans for the PPA as a familiar practice of traditional origin.
  2. The roles of traditional trees were highlighted against the introduced species, like the widely cultivated Eucalyptus, which dramatically reduced the soil pH and depleted the ground water resources.
  3. Promoted the class of private or family protected forest, like the magnificent Kamal forest to trigger similar individual/family initiatives.
  4. Highlighted the private or family protected forest also as a model to protect common bigger areas with social effort rather than individual/family efforts by link this also to the traditional social land use mentioned above.
- ✓ Mapping the traditionally protected land: The maps are very important for further analysis, decision making and including in the future outreach and publications. Detailed maps produced from high-resolution satellite images for some of the traditionally protected areas and for some forests inside the PPAs , listed in Item 14 of this report.

**G. Production of a pilot Management Plan for the three PPAs and submitting the plan to CEPF and the relevant authorities in Yemen:** In addition to identifying and proposing the three protected areas, the project worked to develop a management planning process and its effectiveness for the three PPAs in a participatory approach. When finalizing the management plan should promote the local authority and the locals in demanding the declaration of the three PPAs formally, at the state level, in the normal conditions. A positive land use planning by changing or stopping some road projects is one of the fruitful results achieved with the cooperation of local communities. Still some inputs from the team and the locals to be compiled and incorporated into the final MP by the project director. Submission of the MP to the local authorities in Ibb governorate, and the EPA, will be done after completion and after returning the legal authority.

The project also promoted and introduced participatory conservation planning for other areas to develop ecologically-sound and economically-viable activities, in order to achieve sustainable conservation of some other key ecosystems and habitats in the project area, please have a look to item 22 in this report. The project also developed a community-based forestation approach with the native flagship species and integrated this activity with promoting the biogas alternative.

**(6) The success or challenges of the project toward achieving its short-term and long-term impact objectives.**

There was slowdown in the project because of the war in Yemen, the increased conflict in most of the project area, with the great shortage in security, fuel, electricity, internet and all other life requirements, overall food, security and medicine, which leads to a great disturbance in the socio-economic and socio-political situations. Although, the project succeeded in achieving most of the outcomes discussed in the proposal and the projects long and short-term goals, items (4) & (5) of this report. Specifically, the project delivered the following:

**A.** The awareness component was enhanced by the alternative comprehensive outreach B plan, with:

- ✓ Having permanent staff members in the target PPA,
- ✓ Establishing a Facebook groups for each PPA to reach the stakeholders,
- ✓ Producing and distributing many posters and brochures.

All these methods lead to establishing local engagement in the project and a good promotion for nature-friendly practices, especially under the war restrictions. This also expected to ease the implementation of conservation practices in the future.

**B.** Training, capacity building, further fundraising to the project activities, massive networking, and the stakeholder's involvements are a great success that enhanced the project performance and the future conservation outcomes in the PPAs, details in item (5).

**C.** The implementation of the project enhanced the FEW management planning process and communication skills using participatory approach with the local communities, and key stakeholders, and this is reflected in the CEPF-CSTT at the end of the project compare with the beginning. A positive land use planning by changing or stopping some road projects is one of the fruitful results achieved with the cooperation of local communities.

**D.** Listing more hotspots and IBAs in Ibb High Mountains, including DPPA, this is not included yet in the CEPF Eastern Afromontane Ecosystem Profile, while we strongly believe in its unique biodiversity values.

E. Many supporting manuscripts, posters and other outreach materials produced, more than planned in the proposal, not all published, as the data takes a longer time than estimated to be collected than originally planned.

F. Contact details of the local CBOs and focal persons, local leaders were developed with the aim of future cooperation in conservation.

G. Overall the project achieved its short-term and long-term objectives, and more, however there were some challenges beside the war and political conflict, that we mostly overcome, including:

- ✓ The bureaucratic procedures of the government were one of key difficulties that we faced during many stages of the project implementation.
- ✓ The conflicts in interest with some locals and landowners, this was overcome by awareness and explanations on a case-by-case basis.
- ✓ The high population number in the project area, as Ibb in general is the heaviest populated area in all Arabia if we exclude the big cities.
- ✓ The lack of prior conservation and comprehensive field work done in the region.

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

Many positive unplanned impacts including:

A. The many invitations to present the project activity outside the project area, one time in MESA 48<sup>th</sup> conference in the USA.

B. The research inventories lead the project team to the Kamal forest, a rare example of a climax community that should be a standard target for any future restoration work for the degraded ecosystems.

C. The research inventories lead the project team to places with the highest abundance of certain endemic or semi-endemic or endangered species ever seen by the specialist.

D. The capacity of fundraising to the project.

E. The volunteering and request for training in the project.

F. The data center of Ibb governorate provided the project with some maps for free.

G. A strong relation was built with the local authority in Ibb governorate (and also those of the municipalities), SFD and the universities, they are keen to mainstream biodiversity conservation in their future project planning.

The major unexpected negative impacts were the war and its consequences, also the militia investigation and theft of equipment on multiple occasions from FEW offices.

**Component 1; Baseline surveys of flora, fauna, and ecosystem:**

- A. Baseline data and field inventories.
- B. Listing the flagship species and the rare or vulnerable ecosystems.
- C. Distribution maps for the flagship species, the biodiversity hotspots and the vulnerable ecosystems in the project area.
- D. Listing of threats for each flagship species and each vulnerable ecosystem.
- E. Lists of the socioeconomic dependence on each flagship species, the stress on the ecosystems and suggestions of alternatives and/or sustainable investment.

**(8) Description of the results from component 1 and each product/deliverable:**

**A. Baseline data:**

- ✓ A good overview of the previous work on nature and wildlife in the study area was done.
- ✓ Touring the project area gave the project team a very good insight about the less investigated habitat values and ecosystems in the study area.
- ✓ Meetings and interviews with the locals and the local authorities facilitate accessing the hardly reached and most intact locations in the project area.
- ✓ The biodiversity hotspots were prioritized for the implementation of field inventories.

**B. Listing the flagship species and the rare/vulnerable ecosystems:**

There is a very clear estimation of the animal species and population density in the most important biodiversity hotspots inside the core zones of the three PPAs. Especially in the HMIPPA the data from the growing monthly database obtained from the trap cameras was very valuable, in addition to meetings with the locals, list produced and the abundancy for each species was statistically analyzed.

- ✓ No photographs were captured of the Arabian leopard; however, two poached individuals were recently stuffed and displayed in the project area, **Figure 7**.
- ✓ Basic plant inventory was done in recording some important species presence or by Braun-Blanquet method for some distinctive communities.
- ✓ Special interest in the endemic bird species led to some new locations that were discovered and documented as new IBAs because they contained the highest populations ever seen of some highland species of endemic birds.

- ✓ The technical field survey led to the discovery of distinctive ecosystems, vegetation types and land formations, the climax community in Kamal forest is an example, **Figure 1**.
- ✓ Documenting the birds in Ibb by the photographers and developing the manuscript titled “Birds of Ibb”
- ✓ The best reported findings, as both pictures and videos were shared through FEW-FB page, and the Ibb Nature YouTube channel which attributed to a greater reputation and appreciation about the project and both FEW & CEPF. <https://www.facebook.com/yemenileopard?fref=ts>

**C. Listing of threats for each flagship species and each distinctive ecosystem:**

- ✓ This deliverable was done in the first few months of the project, details were given in item (2) in this report and incorporated in the outreach materials and the management plan.
- ✓ Interviewing the locals helped the team in figuring out the basis of human-wildlife conflicts in the project area, and consequently led to a deeper understanding, further listings, and determinations of the previous current and future threats to many species/ habitat/ecosystems in each PPA.

**D. Mapping the flagship species and the distinctive ecosystems and habitats/micro-habitat in the project area:**

- ✓ Classification of the distinctive ecosystems and habitats/micro-habitat in the project area was completed for the most important biodiversity hotspots, and led to better determinations of the three PPAs.
- ✓ Results from many maps, including the three PPAs and zonation mapping, and consequent statistical evaluation.
- ✓ Production of Ibb LULC map, **Figure 2**.
- ✓ More maps mentioned under mapping the traditionally protected land, item (14).

**E. Summarizing the socioeconomic dependence for the locals on each flagship species or vulnerable ecosystems:** Lists of the socioeconomic dependence for the locals on each flagship species produced and the anthropogenic stress on the ecosystems is now well understood, as examples on this issues:

- ✓ Vanishing of the top predators, the Arabian leopard from most of the surveyed KBAs leads to population's outbreaks of hyenas, baboons, porcupines and honey badgers, and consequently, leads to a fast spreading of invasive plant species by those animals and depletion in the population of some important birds like the Arabian partridges.

✓ Overhunting of some native or endemic species, which are also common prey, is a cause of wildlife depletion and ecosystem disturbance, especially under war, **Figure 7**.

✓ Overexploitation of medicinal and culinary plants and firewood, sometimes from a limited range and/or endemic or endangered species is quite frequent, some plants like *Aloe vera*, and *Cyphostemma digitatum* is completely removed in certain areas; leads to malfunctioning of some ecosystems, **Figure 7**.

We also promoted the best practices in the management of the local use of PPAs by introducing the stakeholders to the main threats in each area and suitable solutions or alternatives along with the enhancement of sustainable spatial or temporal use of the natural resources. The following alternative activities and/or possible sustainable investment were suggested/implemented along with application of the suitable mitigations:

✓ The project also developed a community-based forestation approach with the native flagship species, sometimes the seedlings is supplied by the project in many forestation campaigns.

✓ Introducing and promoting the ecotourism by :

1. Nature-friendly camping and offering green services, like guidance, offering traditional foods and camel's tours.

2. IHM 1<sup>st</sup> Festival initiative and hiring local guides to give insight for the local stakeholders in the future chances if the PPAs announced as natural reserves.

<https://www.facebook.com/yemenileopard/posts/759213210839609>,

✓ Promoting shifting the wood cutting activities, away from the limited range species, to the invasive or more common species.

✓ Promoting the biogas alternative, leading visits for the locals to the first biogas fermenter in HMIPPA, and promoted this energy source as an alternative for cooking. <https://www.youtube.com/watch?v=bcPA-gMZnHE>

✓ Introducing the agroforestry and agroecology to the farmers to shift the dependent from natural areas to the fields,

✓ Formation of nature clubs, in many schools, the members are committed to introducing their local communities to the best practices and alternatives.

✓ Introducing some of the locals to the hunting seasons and necessity to elevate hunting pressure on some species all reproduction season.

✓ Field days with the project team which enable the stakeholders to understand nature fragility and sensitivity and become partners instead of good listeners in the presentation halls, **Figure 5**.

- ✓ The high-level training in conservation was extended to professionals, like the photographers, through the many camping and field days; their interests were shifted to more sensitive conservation activities, that they now consider as value added to all their activities. Meeting and correspondence were made between the project and the Social Found for Development (SFD) and CARE to build more biogas facilities in the PPAs surrounding villages so that the wood gathering will be diminishing permanently.
- ✓ Promoting replacing goats with sheep and cows, for less access to natural area by grazing,
- ✓ Introducing the culinary & medicinal plant cultivation initiative instead of gathering,
- ✓ Introducing some of the locals to the field guiding best practices,

Substantial conservation impacts noticed, caused by the locals' behavioral changes that implemented because of the project awareness, which reported regularly by our focal points and field team.

**Component 2: A significant body of data on the biodiversity of the HMI is published in relevant journals and on the internet.**

- A. Substantial databases, gathered, analyzed, reported and published.
- B. The analyzed data is integrated into the awareness and training materials.

**(9) Description of the results from component 2 and each product/deliverable**

**A. Substantial databases, gathered, analyzed, reported and published.**

- ✓ Database excel files produced for animals and plants inventories,
- ✓ There is good data and clear view about the abundance of endemics in the project area
- ✓ Data was obtained compiled and classified with an easy recall by metadata as appropriate,
- ✓ Plant inventory data were analyzed by Multivariate statistical analysis, many plant communities were defined with limited range species,
- ✓ Database of the plant inventory transformed to different formats compatible with geographical information systems (GIS) and satellite imageries for evaluation produced different maps including the LULC and the production of Normalized Difference Vegetation Index (NDVI),
- ✓ Satellite images were analyzed for the vegetation cover and included in the LULC map for the project area.

**B. Shared the results in workshops, conference, awareness and training materials:**

- ✓ Many workshops and important meetings were performed by the project team to show the project results in Ibb University and different places in the project area.

✓ The media covered the project activities which was shared after the TV broadcasting through Ibb Nature YouTube channel and other social media outlets.

✓ The project successfully shared the data with many other stakeholders outside the project area, based on their invitation, including presenting the project in Taiz and Dhamar universities and in those other important national and international events:

1. TEDx Taiz, 17<sup>th</sup> May 2015, <https://www.youtube.com/watch?v=M71jAeooPiw>
2. The 9<sup>th</sup> Scientific Conference of the Yemeni Biological Society, 14<sup>th</sup>-15<sup>th</sup> September 2014, where the project coordinator present “performance made by the project”.  
<https://www.youtube.com/watch?v=cdw7L8Yyuil>
3. MESA’s 48<sup>th</sup> annual meetings, 22<sup>nd</sup>-25<sup>th</sup> November 2014, WD, USA,  
[http://cmes.fas.harvard.edu/files/cmefiles/mesa\\_program\\_harvard\\_affiliates\\_14.pdf](http://cmes.fas.harvard.edu/files/cmefiles/mesa_program_harvard_affiliates_14.pdf)
4. Presentation about the project in the House of Idea in Sana’a the 16<sup>th</sup> July 2014.  
<https://www.facebook.com/1503555303209281/photos/a.1505758592988952.1073741827.1503555303209281/1506868142877997/?type=1>

### C. Publishing:

✓ Tailing Arabia’s Last Leopard, published in Beacon reader: <https://www.beaconreader.com/gaar-adams/tailing-arabias-last-leopards-an-environmental-reporting-road-trip-through-yemen-part-v-fi>

✓ Data sent to the CEPF meeting in Nairobi and published also in the CEPF-FBpage. <https://www.facebook.com/CEPF.EAM/photos/a.535610636456040.141615.527504783933292/1124137824269982/?type=1>

✓ The following posters developed by the project team, resembled the communication interface between the different inventories data output and the general audience, produced in both Arabic and English:

1. Project achievements poster.
2. APPA, IHMPPA and DPP posters; contains the zoning map, the statistical justifications, and the outstanding value, **Figure 4**.

All the posters are now available to all stakeholders in paper and electronic pdf format, and will be presented in the workshops and conferences in the future when the situation sorted out in Yemen.

**D. Prepared more manuscripts to be published in the relevant journals and on the internet:** The gathered data analyzed and many manuscripts developed in different conservation topics. The manuscripts

developed by different researchers, will end with better permanent reputation of FEW, CEPF and the KBAs in Yemen, and they are namely:

- ✓ A Glimpse at the Succulent Flora in the High Mountains of Ibb, Yemen (Article).
- ✓ LULC Classification for the Ibb Governorate in Yemen: for Nature Conservation Approach, a research paper, the Arabian Journal of Geosciences is recommended for publishing this article.
- ✓ Conservation of nature and resources in Yemen through the traditional conservation heritage, with special concentration on Ibb, (Book)
- ✓ Birds of Ibb, (Booklet)

Manuscripts are ready to share but still under revision by the project team, with some new data added before submission.

**Component 3 :All the KBAs in the High Mountains of Ibb, are precisely identified, along with their conservation status and needs, and a sustainable, cost-effective monitoring program for some KBAs is established/suggested.**

- A. A list of the KBAs in the HMI is produced.
- B. The listed KBAs are prioritized according to the rarity, fragility and the degree of threats.
- C. A constituency of conservation advocates in the HMI that spans generations is assured.
- D. Strong local and national support for the project was achieved and further future conservation of the KBAs throughout the biodiversity hotspot in Yemen is ensured.

**(10)Description of the results from component 3 and each product/deliverable.**

**A. KBAs in the IHM listed and prioritized:**

- ✓ Touring and camping all over the forests and natural areas in Ibb governorate, ended with biodiversity hotspots classified and included in the growing list of pKBAs.
- ✓ Individual or family protected forests, like Kamal forest, Figure 1, which is a very special case were given special concerns, the team has given the owners special awareness and training and reached an agreement to continue their initiative in conservation.
- ✓ Al-Zuhur in Assaddah district, located in the transition zone of the HMIPPA, was chosen as a model for the positive human impact that supports a healthy ecosystem, and organic agriculture while supporting human needs efficiently, plans have been made with the locals to use this location for future ecotourism.
- ✓ We discovered that most of the listed KBAs are also historical or cultural sites and this has been an added value during the zonation planning and advocacy building, also when arguing against road planning.

✓ From the listed KBAs, the three PPAs; APPA, IHMPPA, and DPPA were zoned, mapped and statistically justified as distinctive areas with many different natural, geological and cultural values.

#### **B. The KBAs advocates, as focal persons or local groups, formed:**

✓ Great local, national and international support were achieved, the conservation work and FEW become more popular and national figure because of this project, especially after presenting the project outputs in conferences and workshops and the many reports podcasted about the project in different newspapers and TV stations.

✓ Communication with the local CBOs present in the region and agreement for further cooperation in conservation establishment, their needs were also listed. Some local CBOs were given awareness by the project team and now advocating the conservation in their areas of activity, focal persons were listed for future communications.

✓ Opportunities were discussed in the most positive case to lower the activities and accessibility of the core zones, especially by the planned road projects, two roads are permanently stopped.

✓ The project team promoted declaration of Al-Mahjar forest by Alshaer district local authority and Kamal forest, by his family as reserves, and both are now in the core zones of HMIPPA.

✓ More than five secondary schools built nature conservation clubs; directly formed after the awareness given to them by the project team.

✓ The nature advocates person/group trained in the best conservation practice and asked to promote the safe alternatives.

#### **C. Strong national and international support for the project is ensured future conservation of the KBAs throughout the eastern Afromontane biodiversity hotspot in Yemen:**

✓ The project's success was shared with many other stakeholders outside the project area, based on their invitation and recognition, including presenting the project in Taiz and Dhamar universities as well as other important national and international events:

1. TEDx Taiz, 17<sup>th</sup> May 2015, <https://www.youtube.com/watch?v=M71jAeoppiw>.
2. The 9<sup>th</sup> Scientific Conference of the Yemeni Biological Society, 14<sup>th</sup>-15<sup>th</sup> September 2014, where the project coordinator presented the performance made by the project. <https://www.youtube.com/watch?v=cdw7L8Yyuil>.
3. MESA's 48<sup>th</sup> annual meetings, 22<sup>nd</sup>-25<sup>th</sup> November 2014, WD, USA, [http://cmes.fas.harvard.edu/files/cmefiles/mesa\\_program\\_harvard\\_affiliates\\_14.pdf](http://cmes.fas.harvard.edu/files/cmefiles/mesa_program_harvard_affiliates_14.pdf).

4. Presentation about the project in the House of Idea in Sana'a the 16<sup>th</sup> July 2014. <https://www.facebook.com/1503555303209281/photos/a.1505758592988952.1073741827.1503555303209281/1506868142877997/?type=1>.
5. A great permanent enhancement for ecotourism done by converting a very limited traditional activity by the project team and volunteers to a well-organized 1<sup>st</sup> Festival to highlight the conservation activities and needs and also to introduce ecotourism and friendly camping in nature. <https://www.facebook.com/yemenileopard/posts/759213210839609>,
6. Yemeni from outside the project area and international conservationist volunteers, from Kuwait, USA, Germany and Australia, accompanied the project team in the fieldwork and awareness; they committed to showing themselves as advocates for those areas, leading to more motivations of the local's conservation initiatives.
7. Field researchers experienced in awareness activities become very influential on the locals, and the experience they gained become assets for future conservation projects in Yemen.
8. The three PPA anticipated promoting the protection in other pKBAs in the APHC.

**Component 4: Continuous awareness and education are conducted to different stakeholders all over the project period.**

- A. Meetings, presentations, and workshops were held at the local community level and the official levels in schools and higher education institutes.
- B. Different forms of awareness materials were produced and distributed.
- C. Celebrations on the international relevant days to enhance awareness and advocacy.

**(11)Description of the results from component 4 and each product/deliverable.**

**A. Meetings, presentations, and workshops:** Meetings, presentation and communications with Ibb authority, local authorities in many districts, with many active NGOs and CBOs established before the launching of the project and continued with great momentum. On 12/11/2013, the project was launched at Ibb governorate cultural center, with great attendance, this was the first big awareness event. Many talks were given by different stakeholders and decision makers, among them HE. Abdulrahman Al-Eriani, the X minister of environment and the current consular for the Yemeni president for environment and conservation, Mr. Amin Al-Warafy, the head of the local authority in Ibb governorate, Dr. Abdulaziz Al-Shuaibi, rector of Ibb university, all of them welcoming the project and also welcoming the guests from BirdLife International, staff of the EAM regional implementation team, Mr. Ibrahim Khader and Mr. Sharif Jbour, respectively. Many

members of the local authorities, heads of the administration units, researchers, academics, national and local NGOs attended. The main topic of the launching ceremony was the change to a more sustainable situation. Youth from the marginalized groups were incorporated; they were the dynamo of the event and with crucial contributions from the girls. The ceremony was broadcasted in the national and local media:

1. [http://www.youtube.com/watch?v=gu\\_5hz3qpJs](http://www.youtube.com/watch?v=gu_5hz3qpJs)
2. <http://www.youtube.com/watch?v=MB4mVUm4RnE>

#### **B. Orientation workshop for the field surveys teams:**

- ✓ Under the patronage of the deputy governor and the rector of Ibb University, the project presenters proposed to the scientific community in Ibb University possible lines to mainstream their research, **Figure 6**.
- ✓ Talks and recommendations given in how to work in groups and how to use products of other researchers in the project; like the project produced LULC, other maps and data or developing the link to the bird inventory of Ibb and revising Ibb IBAs by Mr. Richard Porter, they also got better insight in the facilities and fees that could give to them by the project.
- ✓ Among the presentations, the project manager highlighting the achievements done by the project, the future plans of the project and possible ways of sharing the project maps, data, and resources.
- ✓ The project brochure was always distributed (in Arabic and English) by direct contact with all sorts of stakeholders in this activity and all the activities.

1. Reporting the workshop in the media:  
<http://www.arabstoday.net/fg-geygef-geyqhk/2014-04-04-06-12-13.html>
2. <http://www.sabanews.net/ar/news347496.htm>
3. <https://www.facebook.com/photo.php?fbid=230253390512863&set=a.190053397866196.1073741826.100005846108135&type=1&theater>

#### **C. Field inventories presentation workshop.**

- ✓ Both the deputy governor and the rector of Ibb University attended, and give their impressions after the presentations about the project performance by the project team and researchers.
- ✓ Researchers contracted for the fauna, flora and bird inventories and also the traditional conservation heritage of Ibb presented their work to the audience.
- ✓ As recognition, one week after the workshop the project team was invited to the meeting of the committee of preparations for the announcement of Ibb government as the tourism capital of Yemen.

1. The workshop was covered and reported by social media, TV, and newsletters: 14 October Newsletters, Re no 16250 published date 31-12-14
2. <http://184.173.218.190/ar/print330640.htm>
3. <http://althawranewspaper.net/news.php?id=62188>

**D. Variety of awareness materials distributed, along with accessing the local and national media:**

- ✓ The project brochure produced and distributed in the first week in Arabic and English and contains a comprehensive data about the project, the project area, FEW, and CEPF, **Figure 3**.
- ✓ Five PowerPoint awareness presentations were prepared and presented to the stakeholders in the meetings, highlighting the project importance, the project area value as pKBA, the threats to the biodiversity and the ecosystems, examples of successfully conserved patches in the project area, the best conservation practices, and alternatives.
- ✓ Many talks and interviews were broadcasted for the project team or some key stakeholders in the national and local radio. The talks were shared on social media outlets and very good impressions were obtained.
- ✓ All the videos reported about the project to date were uploaded to a YouTube channel, called "Ibb Nature" with good collections of keywords in the title, that enables efficient appearance by google searching, they are also shared through social media outlets by the project team and volunteers.

**E. The project has built awareness and advocacy at the local schools near to the important KBAs:**

- ✓ Presentations were given in schools near to the PPAs, also in Ibb, Dhamar and Taiz universities.
- ✓ After presentation conservation groups were formed and school nurseries in four schools for some native plants were established.
- ✓ There is following up activities after the presentations by the project team.

**F. Celebration of the international conservation relevant days:**

- ✓ The project celebrated the following anniversaries with the stakeholders to build more advocacy and awareness about the project conservation performance, KBAs, CEPF, the APHC and the EAM:
  1. 21<sup>st</sup> March, the international day of forests and the tree.
  2. 22<sup>nd</sup> April, the international mother earth day.
  3. 22<sup>nd</sup> May the international day for biological diversity.
  4. 5<sup>th</sup> of June, the environment day.

- ✓ The celebrations were held in the governorate hall, or in a school/university hall, most of the events under the patronage of Mr. Amin Al-Warafy, the head of the local authority in Ibb governorate and Dr. Abdulaziz Al-Shuaibi, rector of Ibb University.
- ✓ Sometimes some CBOs participated in perpetration for the celebrations.
- ✓ In addition to the nationals, those international volunteers Mr. Osama Mustafa, from Germany and Mr. Gaar Adams, from the USA attended some of the celebration and give impact in the awareness.
- ✓ In addition to the many talks and presentations given, by the project team, researchers and some key stakeholders, songs and theater show, relevant to the event performed by some schools or by the changed marginalized youths.
- ✓ Honor certificates were given to the most dedicated persons in nature conservation.
- ✓ The celebration always used to announce next events and activities, some forestation campaigns, which were done after the celebration, with great social and official contributions. Used also for discussion and planning the field works with the local authorities including security help for the field research and deploying the camera traps.
- ✓ Young conservationist groups were announced from the schools, they are active in plant conservation and reforestation.
- ✓ The celebrations were covered and reported by the social media, TV, and newsletters:
  1. <http://www.sabanews.net/ar/news345760.htm>
  2. <http://www.youtube.com/watch?v=0vRxUcRWChg>
  3. <https://www.youtube.com/watch?v=vzq8QMfRbOg>
  4. <http://www.youtube.com/watch?v=cSdSDZ8Kw-Y>
  5. <http://almasdaronline.com/article/56938>
  6. <https://www.facebook.com/photo.php?fbid=236457649892437&set=a.190053397866196.107374182.6.100005846108135&type=1&theater>
- ✓ Unfortunately, no progress in holding more celebration and events in the last half period of the project because of the war and the consequent shifting of the people interests to their daily needs and safety.

**G. Distribution of different awareness materials by FEW team and volunteers through social media campaigns and post, as alternatives for the difficulties in travel and meetings:**

- ✓ Great achievements in the meeting presentation and workshops took place until the takeover and the consequent conflict, in the last year of the project, which then started to slow down the project public meetings.

- ✓ The project team accommodates these challenges by more addressing the stakeholder through the social media and sending them the outreach materials, as printed material and electronic forms.
- ✓ High level of awareness is progressively noticed by this way, with increasing in the likes of the Facebook groups and posters of the three PPAs, which serves as preparations of the stakeholders and local authorities for demanding official announcement of those three PPAs as natural reserves and preparing them for a future implementation of monitoring programs.

#### **Component 5: Influencing the decision makers.**

- A. Special meetings and networking with the decision makers.
- B. Special orientation lectures and seminars conducted to the decision makers.

#### **(12)Description of the results from component 5 and each product/deliverable:**

**A. Conducted many special meetings and networking with different level of decision makers to ensure top-to-bottom support for the project goals:** Great achievements in the meetings with the decision makers took place until the takeover and the consequent conflict; unfortunately, less or no cooperative individuals replaced most of the supportive decision makers after the takeover, furthermore, the complication of the conflicts is more concerned than nature conservation in such conditions. Despite all of those negative escalations, the project team keeps good relations with some community leaders. Below are the most important achievements from the meetings:

- ✓ Many important meetings were done with the local authorities in Ashaer, Anaderah, Baddan, Hezm Al-Odain, Mutheikerah, Asaiani and Asabrah districts, and over all the supreme authority of Ibb governorate with the aim to:

- 1.Prepare them for the workshops,
- 2.Facilitate the surveys and the field work,
- 3.Preparing them to give inputs in the zoning and the management plan.

[http://alhyani.blogspot.com/2014/01/blog-post\\_27.html](http://alhyani.blogspot.com/2014/01/blog-post_27.html)

- ✓ More concentration in presentations and awareness was devoted to influential villagers near the KBAs, in schools and in their reception rooms (MAJLES).
- ✓ Many meetings held with the SFD to gain their support for the PPAs and to consider biodiversity as added value in their future projects and also to cover more those areas with environmentally safe services and small projects, like the biogas.
- ✓ More networking with the decision makers was experienced in the many reforestation campaigns with native or endemic species, where the decision makers showed great involvement.

- ✓ As a recognition the project director invited to attend the governorate executive council (the highest council in the governorate).
- ✓ As a result of this high level networking the project team was asked to develop ecotourism vision plan for Ibb.
- ✓ Some of the networking activities are reported online, <https://www.facebook.com/yemenileopard/posts/788198171274446>

**B. Conduct lectures and seminars about the project to the influential peoples:**

- ✓ Many presentations about the projects were conducted in Ibb University and one presentation in each Taiz and Dhamar University.
- ✓ The great appreciation and excellent reputation for the project ended with the invitation of the project manager as a speaker in TEDx Taiz, 17<sup>th</sup> of May 2014, which has given more nationwide and regional appreciation for the project.
- ✓ Furthermore, the project hired experts to lecture on certain topics, Mr. Abdulrahman Raweh, a bird's expert, gave a lecture at Ibb University about birds of Ibb and the IBAs potential areas in Ibb. <http://www.youtube.com/watch?v=gU20PGrGuQE>
- ✓ Mr. Osama Mustafa, German from THINK-Jena, GIS, and remote sensing specialist gives a talk about the conservation capability and rewards of some areas he visited in the project area.
- ✓ Incorporating some of the raised feedbacks from the influential stakeholders during those especial meetings in the MP was partially done.
- ✓ After the war it was hard to hold such important meetings or presentation for the influential stakeholders, thus we get some agreement and feedback most of the time by telephone for the zonation schemes in the posters sent to them and the agreement for the strict conservation of the core zones, in the PPAs.

**Component 6: Strong and long lasting working partnership built between the government of Yemen, the research sector, local leaders, community-based organizations (CBOs), local NGOs and local authorities with FEW.**

**A.** Group work and teamwork implemented.

**B.** Strong, working partnership is built between the authorities, the local people, and the community-based organizations (CBOs) and local NGOs, and all of them with FEW.

### **(13)Description of the results from component 6 and each product/deliverable:**

#### **A. Building capacities in nature conservation of people from different background and interest, who worked together as a team work:**

- ✓ In addition to the presentations, posters, and other awareness materials, the active stakeholders received training through many field trips to some KBAs, some of them are volunteers and the rest is locals invited by the team. During the camping we hired local guides, gave training in the conservation of nature to build the locals skills, they have become familiar with the fragility of the ecosystems, and the escalations resulted from any irreversible deterioration or overexploitation.
- ✓ Some of the stakeholders trained in positioning and watching the trap cameras and were very cooperative and inquisitive with this new technology.
- ✓ Case showing from the field work and from the world was presented.
- ✓ Active engagement of some decision makers and locals in the forestation campaigns with important pioneer plant species, Like *Dodonaea viscosa*, *Acacia origin*, *Cyphostemma digitatum* and *Cordia Africana* were conducted by the project team and volunteers and will lead to sustain the seed banks in the depleted areas and facilitate for other species.
- ✓ This capacity building end with focal persons in some pKBAs, they are now very active partners and they reported the project team about any violations in the KPAs near to them.

#### **B. Volunteers and local people of different background incorporated in the project as teams according to their orientations and capabilities:**

- ✓ Some of them are keen photographers of nature and wildlife; they are oriented to photograph flagship species, land degradation, and resources scarcity.
- ✓ Others volunteers were very active in reforestation with native or endemic species.
- ✓ Others are excellent in communications with locals and other authorities or organizations.
- ✓ International volunteers gave the project great enhancements, and published about the project.

#### **C. Strong, working partnership and planning future activities between FEW, CBOs, the universities, local stakeholders and local authorities:**

- ✓ FEW is now well known because of the project and welcomed to lecture and present conservation activities and plans in the universities of Ibb, Taiz and Dhamar.
- ✓ May Meetings with some active local NGOs in the project area were done, conservation and sustainability were introduced to them and they are very enthusiastic.

- ✓ MoUs were signed with Ibb University and with the Friend of Environment Society.
- ✓ Meetings with some social vehicles (temporary CBOs) built before by the Social Fund for Development (SFD) were done, the team introduced them to the project, gave them awareness about nature and start with them to develop small scale reforestation projects in the nearest KBA to them.
- ✓ Long lasting partnership with Ibb Governorate authority and local authorities in many districts.
- ✓ Other MoUs under negotiations with different CBOs in progress, while cooperation is progressing in the field. The project team developed a standard MoU form, will be continued to sign MoUs when the situation restored.

**Component 7: Development of the MP in participatory approach with the key stakeholders and local communities.**

- A. Authentication of the traditional conservation heritage or laws.
- B. The MP for the three PPAs in the HMI developed.

**(14)Description of the results from Component 7 and each product/deliverable:**

**A. The traditional conservation heritages in the project area documented:**

- ✓ Good data, written and unwritten was obtained from different sources about the traditional practices that leads to more sustainable situation or real conservation. This data made the project team more familiar with the situation and the name of the practices that leads to conservation, like what is called “Markum” in which some lands under conflict should be re-wild and both conflict sides can not use it intensively in wood cutting, agriculture or buildings.
- ✓ Good knowledge and understanding of the traditional processes that leads to conservation of nature and resources were gained. Protection of rock pigeons by some farmers in IHMPPA is an example for the collection of manures from the pigeon’s fissures.
- ✓ Conservation of nature and resources in Yemen culture through the traditional conservation heritage, with special concentration on the project area, is now a book manuscript.

**B. The traditional conservation heritages endorsed in all the awareness and advocacy activities.**

- ✓ The traditional sustainable land use, like Mashae , Markum, Ersh, Mahajer, Makbarah, Mashareb were Incorporated all the time in the presentation and awareness, reminding the audience of the role of this land type and function and how they are quite supportive to wildlife and how important to keep and develop them for more healthy ecosystems and agroecology.

- ✓ Many texts were extracted from the Holy Quran and traditional proverbs and included in the awareness materials presentation, resulted in good perception by the target audience. This kind of awareness material was requested by the CEPF and shared with another CEPF project from the Arabic/Islamic culture.
- ✓ Some of those traditional lands were replanted again by the project team, volunteers and the locals with native tree species. Forestation of the graves (Makbarah) with native species still active even after the projects, because it is big lands inside or around the cities and villages, that culturally highly protected, and can be used to introduce the native vegetation and sustain the seed banks.

**C. Link the traditional conservation heritages with the suitable modern models in conservation:**

- ✓ The traditional farming in IHM is somehow similar to the modern man biosphere reserve (MBR) in which there are zonation and protection of natural elements in both, Ersh, Makbarah and Mahajer are wild areas surrounding and protecting the fields and prohibited from grazing or wood gathering most of the year. This resemblance always facilitates the zonation plan for the PPA as a familiar practice of traditional origin.
- ✓ The roles of traditional trees were highlighted against the introduced species, like the widely cultivated Eucalyptus, which dramatically reduced the soil pH and depleted the ground water resources.
- ✓ Promoted the class of private or family protected forest, like the magnificent Kamal forest to trigger similar individual/family initiatives.
- ✓ Highlighted the private or family protected forest also as a model to protect common bigger areas with social effort rather than individual/family efforts by link this also to the traditional social land use mentioned above.

**D. Mapping the traditionally protected land:** The maps are very important for further analysis, decision making and including in the future outreach and publications. Detailed maps produced from high-resolution satellite images for some of the traditionally protected areas and for some forests inside the PPAs including:

- ✓ Physics: a physical map with a manual classification of settlements and forests.
- ✓ Satellite: a map with a high-resolution satellite image from google with a manual classification of settlements and forests.
- ✓ Satellite maps with no manual classification
- ✓ Land cover: a map with the Land cover classification based on the Landsat8 images,
- ✓ Landsat8 images from 3 different dates,
- ✓ HMI reserve\_Landsat – April,
- ✓ HMI reserve\_Landsat – December,

- ✓ HMI reserve\_Landsat - Sep.-Oct,
- ✓ NDVI maps from the three different dates above,
- ✓ HMI reserve\_NDVI – April,
- ✓ HMI reserve\_NDVI – December,
- ✓ HMI reserve\_NDVI - Sep-Oct

**E. The Management plan for the three PPAs:**

- ✓ In the zero draft, there are still many inputs from the different teams and the locals to be compiled and incorporated into the final MP by the project director.
- ✓ Submission of the MP to the local authorities in Ibb governorate, and the environmental protection authority; EPA, will be done after completion.

**(15) If you did not complete any component or deliverable, how did this affect the overall impact of the project?**

The political conflict and resulting war has led to dire consequences including the lack of security, fuel, electricity, internet and all other life requirements, overall food and medicine, has led to a great disturbance in the socio-economic and socio-political structures resulting in a slowdown in the project outputs in the second year of project timeframe. Luckily, that the slowdown was accommodated by two executions:

- A.** The fast work in the first half of the project, in which we were ahead of the planned outputs in most of the project seven components.
- B.** The six months no cost extension.

Although, the project succeeded in achieving most of the outcomes discussed in the application and the projects long and short-term results (Items 4 & 5 of this report). But more efforts still needed in getting the final draft of the MP ready and in getting the manuscripts published will be accomplished as long-term goals.

**(16) Description of any tools, products, or methodologies resulted from this project or contributed to the results:**

If the products or methodologies not in the annexes section of this report, it will be submitted separately, including:

- A.** The awareness materials, posters, brochures and presentations,
- B.** The manuscripts,
- C.** The management plan,

Discovering of a climax plant community in Kamal forest, should be studied intensively as a rare situation, which should be highlighted as a role model for the calculation of the time frame required to reach the conservation targets in other degraded areas with the same location conditions.

#### CEPF Global Monitoring Data

**(17) Did FEW complete the CEPF Civil Society Tracking Tool (CSTT) at the beginning and end of your project? Yes / No.**

Yes

**If yes, please be sure to submit the final CSTT tool to CEPF if you haven't already done so.**

Done

**(18) Listing of vulnerable, endangered, or critically endangered species conserved due to the project:**

The project focus is raising awareness and introducing the best possible practices in dealing with the most important biodiversity areas within the project area, with possible extension in the future to all the KBAs, in the APHC. No species directly conserved, rather many flagship species determined and recommended for strict conservation, and their ecological importance highlighted during awareness among those species:

**A.** The Arabian leopard, *Panthera pardus nimr* (Critical Endangered; FEW operate a conservation project of this species from other projects all over Yemen) as a flagship species,

**B.** Endemic and near endemic plant species, *Aloe rivierei*, *Aloe tomentosa*, *Acacia johnwoodii* and *Acacia yemenensis*, *Delosperma harazianum*, *Helichrysum arvae*.

**C.** Many limited range plant species or vulnerable plant species, *Dianthus uniflorus*, *Euphorbia ammak*, *Aloe inermis*, *Aloe rubroviolacea*, *Arisaema bottae*, *Breonadia salicina*, *Commiphora abyssinica*, *Maesa lanceolata* and *Nuxia congesta*.

**D.** Some Yemeni endemic birds, Philby's Partridge (*Alectoris philbyi*), Arabian partridge (*Alectoris melanocephala*), Yemen Warbler (*Sylvia buryi*), Yemen Thrush (*Turdus menachensis*), Arabian Waxbill (*Estrilda rufibarba*), Yemen Accentor (*Prunella fagani*), Yemen Serin (*Serinus menachensis*), Yemen Linnet (*Carduelis yemenensis*).

Conservation necessity was highlighted for those groups/individual species and their habitats were among the justifications of the three PPAs.

**Hectares under Improved Management:**

Project Results	Hectares*	Comments
(19) Did the project strengthen the management of an existing protected area?	No	
(20) Did the project create a new protected area or expand an existing protected area?	Yes, the project proposed three new protected areas (126,000 hectares)	<p>In addition to improving the knowledge outputs that strengthen biodiversity conservation, the project developed zoning plans based on statistical justifications for the below three biodiversity areas in the project area, the biggest pKBA in Yemen:</p> <ul style="list-style-type: none"> <li>✓ Al-Qafla Proposed Protected Area (APPA)</li> <li>✓ Ibb Highest Mountains Proposed Protected Area (IHMPA)</li> <li>✓ Dhalem Proposed Protected Area (DPPA)</li> </ul> <p>Only suggestions for protection and primary agreements with the locals has been achieved for continuing to avoid any destructions in the core zones. The strengthening of biodiversity conservation by creating awareness goes beyond the above mentioned areas and extends into the important wadis and its branches that penetrate into the Ibb mountains; including Wadi Annah, Wadi Adwer, Wadi Bana, Wadi Ashanasy and Wadi Maitam.</p>
(21) Did the project strengthen the management of a key biodiversity area named in the CEPF Ecosystem Profile (hectares may be the same as questions above)	Yes, the High Mountains of Ibb, Jabal Sumarah, Jabal Dhalem and Udayn (247,829 hectares)	<p>Among the long-term goals is to develop a seven-year MP for some reserves inside the HMI pKB, the project activities also aim to build local and official advocacy for the KBAs.</p>
(22) Did the project improve the management of a production landscape for	Yes	<p>In addition to the three PPAs, other smaller areas with very rich habitats/microhabitats, attractive and accessible for ecotourism and recreation, were recommended for better land use, or to enhance the nature friendly existing activities. Commitments for</p>

<p><b>biodiversity conservation?</b></p>	<p>conservation shown from the owners or the neighboring communities for those areas:</p> <p><b>Al-Zuhor area:</b> A kind of agroforestry and organically traditional irrigated terraces area, with no chemical application, because there is no khat cultivation. The area is with a typical traditional water system (Swaqei) and a distinctive manmade landscape.</p> <p><b>Al-Nafesh forest:</b> A rare valley forest with an annual waterfall, agroforestry, and traditional irrigated terraces.</p> <p><b>Al-Ghail area:</b> A valley forest, surrounded with very rich succulent plant diversity on the slopes.</p> <p><b>Al-Raihan area:</b> A typical frost free meadow, penetrated by forest and shrub patches.</p> <p><b>Namah area:</b> A typical highland frost subjected meadow penetrated by shrub patches.</p> <p>The given advocacy and awareness in those areas have promoted the sustainable use of natural resources, safe livelihood development ways, and introduction of the locals to alternatives.</p>
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*\* Include total hectares from project inception to completion*

**(23) In relation to the two questions above on protected areas, did the project complete a Management Effectiveness Tracking Tool (METT), or facilitate the completion of a METT by protected area authorities? If so, complete the table below.**

No, this project aimed to propose new protected areas, the project had no activities that pertain to existing management of a protected area. The METT scoring system will be taken into consideration for future tracking progress after the three PPAs have been announced by the Yemeni government to assure management effectiveness.

**(24) List the name of any corridor (named in the Ecosystem Profile) in which you worked and how you contributed to its improved management, if applicable.**

The Arabian Peninsula Highlands Corridor (APHC), This project concerned the HMI, the biggest pKBA in the APHC, which is also in a single administration unit called Ibb governorate. The positive internal and external

impressions about the project are paving the road for more comprehensive efforts to enhance the biodiversity conservation in the APHC. Replicability of this project with a minimum of revisions and amendments at any KBAs within the APHC is highly anticipated. The long-lasting partnership with the universities, research academics and with some national NGOs is continued and data will be continuously shared with them from the project. More indicators of increasing national and regional interests in the KBAs, including ecotourism and further research & monitoring in the project area were noticed by the project team, through the many communications.

### Direct Beneficiaries: Training and Education

<i>Did the project provide training or education for . . .</i>	Male	Female	Total	Brief Description
<b>(25) Adults for community leadership or resource management positions</b>	175	15	190	Leaders in local authorities, local communities, universities and some NGOs attended many awareness sessions.
<b>(26) Adults for livelihoods or increased income</b>	n/a	n/a	n/a	Could be by indirect way through introducing the locals to the best practices and the possible alternatives.
<b>(27) School-aged children</b>	4000	1000	5000	The project team presented in many schools and incorporated the student groups in the project activities.
<b>(28) Universities academics and students</b>	1000	800	1800	The project team presented and held workshops in three universities and incorporated some researchers in the project activities.
<b>(29) Marginalized groups</b>	100	70	170	The project team incorporated individuals from marginalized groups in the project activities from the first day. They have participated effectively in the awareness programs.

**(30) Name and approximate population size of any “community” that benefited from the project:**

	<b>Community</b>	<b>Approximate population size</b>
<b>1</b>	APPA surrounding villages	2500
<b>2</b>	IHMPPA surrounding villages	10000
<b>3</b>	DPPA surrounding villages	500
<b>4</b>	Kamal forest, surrounding villages	300
<b>5</b>	Al-Zuhor area	1800
<b>6</b>	Al-Nafesh forest surrounding villages	250
<b>7</b>	Al-Ghail area	350
<b>8</b>	Al-Raihan area	200
<b>9</b>	Hab & Ozlah area	5000
<b>10</b>	Motheikrah area	2000
<b>11</b>	Naderah & Ammar area	3500
<b>12</b>	Assadah area	1800
<b>13</b>	Al-Kafr area	2500
<b>14</b>	Ibb city	35000
<b>15</b>	Schools	5000
<b>16</b>	Universities	1800

*Community name, surrounding district, surrounding province, country      Population size*

### (31) Socioeconomic Benefits to Target Communities

Based on the list of communities above, write the name of the communities in the left column below. In the subsequent columns under Community Characteristics and Nature of Socioeconomic Benefit, place an X in all relevant boxes.

Community Name	Community Characteristics							Nature of Socioeconomic Benefit													
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists / nomadic peoples	Recent migrants	Urban communities	Communities falling below the poverty line	Other	Increased income due to:				Increased food security due to the adoption of sustainable fishing, hunting, or agricultural practices	More secure access to water resources	Improved tenure in land or other natural resource due to titling, reduction of colonization, etc.	Reduced risk of natural disasters (fires, landslides, flooding, etc)	More secure sources of energy	Increased access to public services, such as education, health, or credit	Improved use of traditional knowledge for environmental management	More participatory decision-making due to strengthened civil society and governance	Other
									Adoption of sustainable natural resources management practices	Ecotourism revenues	Park management activities	Payment for environmental services									
APPA surrounding	X			X			a	X	X	X	X	X			X	X	X		X	X	b
IHMPPA surrounding	X			X			c	X	X	X	X	X	X		X	X	X		X	X	b
DPPA surrounding	X	X		X		X		X	X		X	X				X			X	X	b
Kamal forest, Kamal family and	X			X				X	X	X	X	X	X			X			X	X	b

surrounding																					
Al-Zuhor area	X		X					d	X	X	X	X	X		X	X	X		X	X	b
Al-Nafesh forest surrounding	X	X					X		X	X		X	X				X		X		b
Al-Ghail area	X	X		X					X	X		X	X				X		X		b
Al-Raihan area	X			X					X	X		X	X		X		X		X		b
Hab & Ozlah area	X			X		X		e	X	X		X	X	X	X	X	X		X	X	b
Motheikrah area	X			X				a	X	X		X	X	X	X		X		X	X	b
Naderah & Ammar area	X			X		X		e	X	X		X	X	X	X	X	X		X	X	b
Assadah area	X			X		X		e	X	X		X	X	X	X	X	X		X	X	b
Al-Kafr area	X	X		X			X		X	X		X	X				X		X	X	b
lbb city	X					X		c	X	X		X	X	X	X	X	X		X	X	b
Many Schools								f	X	X		X	X	X	X	X	X		X	X	b
lbb university								g	X	X		X	X	X	X	X	X		X	X	b
Taiz university								g	X	X		X	X	X	X	X	X		X	X	b
Dhamar university								g	X	X		X	X	X	X	X	X		X	X	b
<b>Total</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>9</b>	<b>17</b>	<b>1</b>	<b>7</b>	<b>17</b>	<b>17</b>	<b>1</b>	<b>13</b>	<b>10</b>	<b>17</b>	<b>0</b>	<b>17</b>	<b>15</b>	<b>17</b>

**If you marked "Other", please provide detail on the nature of the Community Characteristic and Socioeconomic Benefit:**

a Many of them working in the gulf states

b Introducing them to alternatives like the biogas

c Many of them working in the gulf states or the USA

d They perceived by the neighboring communities as a low social class

e Mixed rural and suburban, many of them work in the gulf states or the USA

f Students of different levels, teachers, and the administration staff.

g Students of different levels, academics, researchers and administration staff.

## Lessons Learned

**(32) Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community:**

- A. The project engaged in all the activities that can serve the project short and long term goals,
- B. Link the important stakeholders with MoUs help in fulfilling the commitments of the stakeholders,
- C. LULC is a great pioneer achievement that gives the conservation establishments more momentum and subjectivity and will be a great reference of all future development projects in the Ibb governorate,
- D. Data gathering and synthesis in manuscripts is an in-depth process which requires time, efforts and staff, but the future reputation for the area, conservation in APHC and all parties involved in the project is a great reward.
- E. Involving the religious texts from the Holy Quran and other sources which claim for nature conservation and equilibrium in the awareness materials render the locals and decision makers much more cooperative.
- F. Before communication with the public stakeholders, communications with the key stakeholders is favorable, like Imams, biology teachers in the local school and some key community leaders, by this way we ensured better cooperation and understanding.
- G. The women's sector is very important to tackle problems and sometimes more cooperative than the men's, also much of the work relevant to nature is done by the women like wood gathering, farming, and animal keeping, so the team used any chance and contact the women in the adult education classes and other gatherings. In any future conservation project, targeting the women sector in the awareness and training should be planned and incorporated from the beginning for a permanent positive effect.
- H. Gaps identification in this project is very efficient in orienting the work and paved the road for more effective interventions in the future.
- I. Safety of the team is the first priority during the war; the second priority is FEW equipment and premises.
- J. Resolving complicated problems and serious threat to biodiversity like the road plans could be achieved by simple solution and cooperation with the locals.

**(33) Project Design Process (aspects of the project design that contributed to its success/shortcomings):**

- A. For any future project, from the beginning of the project a B plan should be built, based on the estimation of the worst scenario that the project team/area/country may experience.
- B. Condensing more the most important activities/milestones in the beginning have led to better estimation of the timeframe, it will also aid in developing additional outputs within the short and long-term goals.
- C. Details of land ownership should be addressed in any future projects in the project area, to avoid any conflict of interest with the locals.

**(34) Project Implementation (*aspects of the project execution that contributed to its success/shortcomings*)**

- A. Alternative ways were great ideas, like the idea of the field days which enable the stakeholders to become partners instead of good listeners in the presentation halls, **Figure 5**. Field days enabled direct discussions and communications with the project team and volunteers and also interaction with the natural components of the ecosystems.
- B. Camping, IHM 1<sup>st</sup> Festival initiative and hiring local guides to give insight for the local stakeholders in the future of the PPAs as natural reserves and the new safe and sustainable alternatives.
- C. Great success is done by hiring a full-time conservation officer in IHMPPA, the biggest biodiversity hotspot, in the project area, he operated the trap cameras and played an important role in monitoring/directing the wood cutting, away from the limited range species, which increased by the lack of cooking gas in the neighboring villages. He led also many visits to the first biogas fermenter in the vicinity of HMIPPA and promoted this energy source as an alternative.
- D. Training and tailoring presentations and outreach materials to the target audience give the team insight about the most active stakeholders in which long lasting partnership developed and they become focal points for certain areas.
- E. Good understanding of the stakeholders' capabilities helps in determining their possible contribution and choosing our prominent focal points.
- F. The conflict and absence of the state led the team to remove posters or logos from the car and work with less noise, the field researchers chose to visit the fields in either early or late daytime.

**(35) Describe any other lessons learned relevant to the conservation community**

- A. The orientation workshop is a great idea in gaining the interest of some researchers who attend the workshop and started mainstreaming their research to the conservation in the project area.

- B. University student and researchers were incorporated in research topics related to the project.
- C. Involving another organizations and CBOs by mainstream their activities to conservation, the SFD, Ibb branch is an example where they agreed to have the biodiversity as a value add that will be taken into consideration in distributing services and projects.
- D. Data about the forest patches and their owners experience in conservation was obtained and highlighted in all the project activities and reported to the media to be a source of pride for those owners and to stimulate similar conservation behaviors by other stakeholders.

### Sustainability / Replication

**(36) Summarize the success or challenges in ensuring the project will be sustained or replicated:**

- A. The war and conflict in Yemen are the main challenges in ensuring the project sustainability or replicability.
- B. Permanent existent of conservationist between the locals is necessary to assure better managements of the three PPAs until the state takes over FEW duties.
- C. The scientific subjective work done by the project especially in producing the LULC and zoning maps is among the important outcomes that will ensure the continuity of such high standard work and promoting protection in the three PPAs and all over the APHC.
- D. The engaging of local communities through participation in zoning and the planning phase of the MP preparation and introducing the alternatives built good relation with FEW and paved the road for any other future nature initiative.

**(37) Summarize any unplanned activities that are likely to result in increased sustainability or replicability:**

- A. The idea of promoting IHM 1<sup>st</sup> Festival and camping is very attractive for more volunteers and researchers to the PPAs and will end with more sustainable activities in the PPAs and other KBAs.
- B. Accompanying by agriculture specialists replying to the always raised agricultural problems by the locals facilitate reception of the conservation awareness and ensuring the project sustainability or replicability.
- C. For many decision makers, a protected area means the necessity of paved roads and other services inside the area, so that the people can access and enjoy nature. The project team changed their perception

by introducing them to the sustainability issues related to protection and introduced them to the possible alternatives. The zoning and management plans emphasized this issue and include it in the awareness materials.

**D.** Conflict about the ownership of the land of some forests, as the locals think that if it will be a reserve then they can open services, this phenomenon was mitigated by letting them know that natural reserve is to be something like a hospital or a school and should be public; no student or patient can use it out of the needs and the roles, both the locals and the local authority accept such addressing and many of them strongly support the idea.

**E.** The workshops and the conferences invitations outside the project area were a great means to show the performance of the project and suggest of replications.

**F.** Enhancement of FEW fundraising capabilities will end with more sustainable activities.

### Safeguards

**(38) If not listed as a separate Project Component and described above, summarize the implementation of any required action related to social, environmental, or pest management safeguards:**

This project did not trigger any safeguards.

### Additional Comments/Recommendations

**(39) Use this space to provide any further comments or recommendations in relation to your project or CEPF:**

**A.** The high Mountains of Ibb should be revised as it is delocalized in in the map of the CEPF eastern Afromontane ecosystem profile to lower lands and should include Jabal Sumarah as it can't be separated into two units, the most accurate position shown in **Figure 4**, FEW can help in this revision.

**B.** This project aimed to create local, territorial advocacy and to develop management and zoning plan for the most priority key biodiversity subareas inside the HMI, the biggest pKBA in Yemen that was defined by the CEPF. The final product should be advocated officially by the local authorities, CBOs, the locals, and Yemen citizens so at least that the three PPAs being legally declared.

**C.** Contracts Drive Developments (CDD), especially in the paved road expansion, is unfortunately very common in the project area. Through direct contact with the decision makers, the team shows them the harm consequences on the environment caused by such project when performed without EIA.

- D.** Previous works in the project area were invested by the project team. As an example, we accessed many areas in cooperation with the SFD, where they established CBOs, we used their good relation with the formed CBOs and local authorities to implement the project activities.
- E.** Camera traps are something that some locals believed were used to spy them; the teams introduced them to the principals of those cameras and shared with them the collected pictures.
- F.** Because of the war and conflict consequences, hunting of partridge, rock pigeons, hyrax and other wild animals increased and made the natural areas more accessible, for those species it is recommended to produce hunting schedules, **Figure 7**.
- G.** It is recommended to document the traditional recipes of preparing dishes from native plants and the possible way of cultivation instead of overexploitation, **Figure 7**.
- H.** Local distinctive domestic animal strains and genetically diverse crop cultivars are highly anticipated, and the data gathered were shared with the specialists and they give very promising feedbacks; this should be investigated further, **Figure 8**.
- I.** It is highly recommended to continue training actions and conservation project funding. Employing three ecologists as conservation coordinators for each PPA is also necessary to build on the performed efforts by the project, at least until the three PPAs declared officially.
- J.** A seven-year MP with comprehensive supplement plans such as zoning plan, outreach program, patrolling, ecotourism and research & monitoring will orient any future reserve management to take the right decisions, should be continued to build on scientific information and accumulated knowledge.
- K.** An Eco-Friendly visitor center in IHMPPA should be supported to ensure permanent conservation guidance, research and monitoring.
- L.** Special concern should be given for the fresh water ecosystem in the dams and the lakes, **Figure 8**.
- M.** Juniperus woodlands completely disappeared in IHM and a strategy for reintroduction is necessary.

### Additional Funding

**(40) 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:**

The fundraising capacity of FEW is highly enhanced because of the project, to the level of planning an Eco-Friendly visitor center in IHMPPA by fundraising; unfortunately, the war freezes all the fundraising activity from internal and external sources.

	Donor	Type of Funding*	Amount (USD)	Notes
1	Fundraising by the project team and volunteers in small amount from different users.	A	500	For the native tree cultivation campaign in the IHMPPA.
2	Ministry of agriculture nursery in Ibb.	A	450	Hundreds of native seedlings for the forestation campaigns.
3	The American Institute for Yemeni Studies.	B	3000	Funding for presenting the project performance in MESA's 48 <sup>th</sup> annual meetings from 22 <sup>nd</sup> to 25 <sup>th</sup> November 2014, in the USA.
4	United Society for Developing Water Resources and Environment.	B	1500	Participation in Environmental Safeguard Policies, Amman, Jordan, Nov 23 - 26, 2014
5	TEDx Taiz	B	1000	Presenting the project outcomes, Taiz , 17 <sup>th</sup> May 2014.
6	Administration of agriculture in Ibb.	B	300	Native trees from their own nursery.
7	Ibb university	B	3000	Transportation for the attendance to celebrate IHM 1 <sup>st</sup> Festival and providing the university main auditorium for the workshops and the other project activities.
8	Ibb local authority	B	1500	Providing the cultural theater for the project celebration and awareness.
9	The oil sector and other	C	10000	To build an eco-friendly visitor center in the

	donors			IHMPPA.
10	FEW volunteers	C	Not evaluate d yet	The architect designing for free to build the eco-friendly visitor center.
11	The local community	C	Not evaluate d yet	The land for free to build the eco-friendly visitor center.

\* 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 investment or successes related to this project)

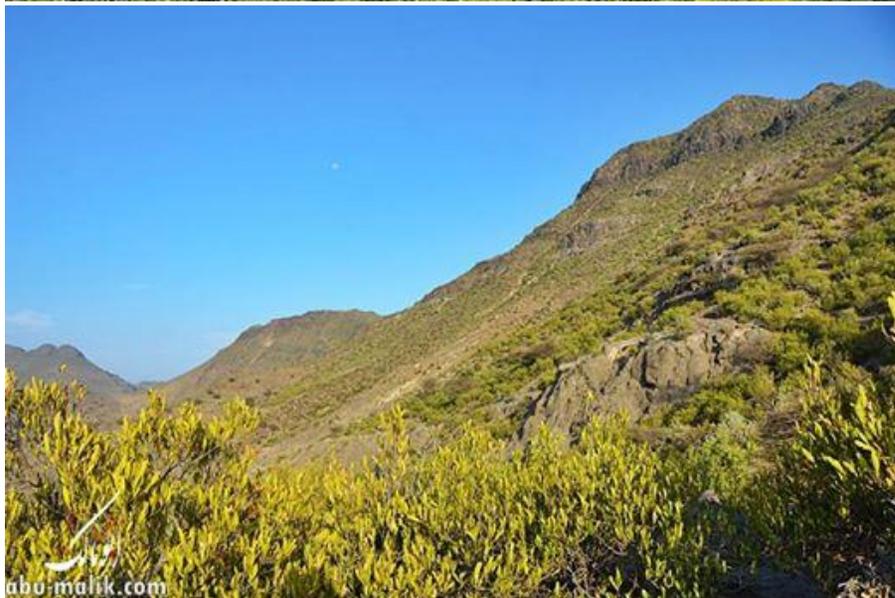
### Information Sharing and CEPF Policy

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](http://www.cepf.net), and publicized in our newsletter and other communications.

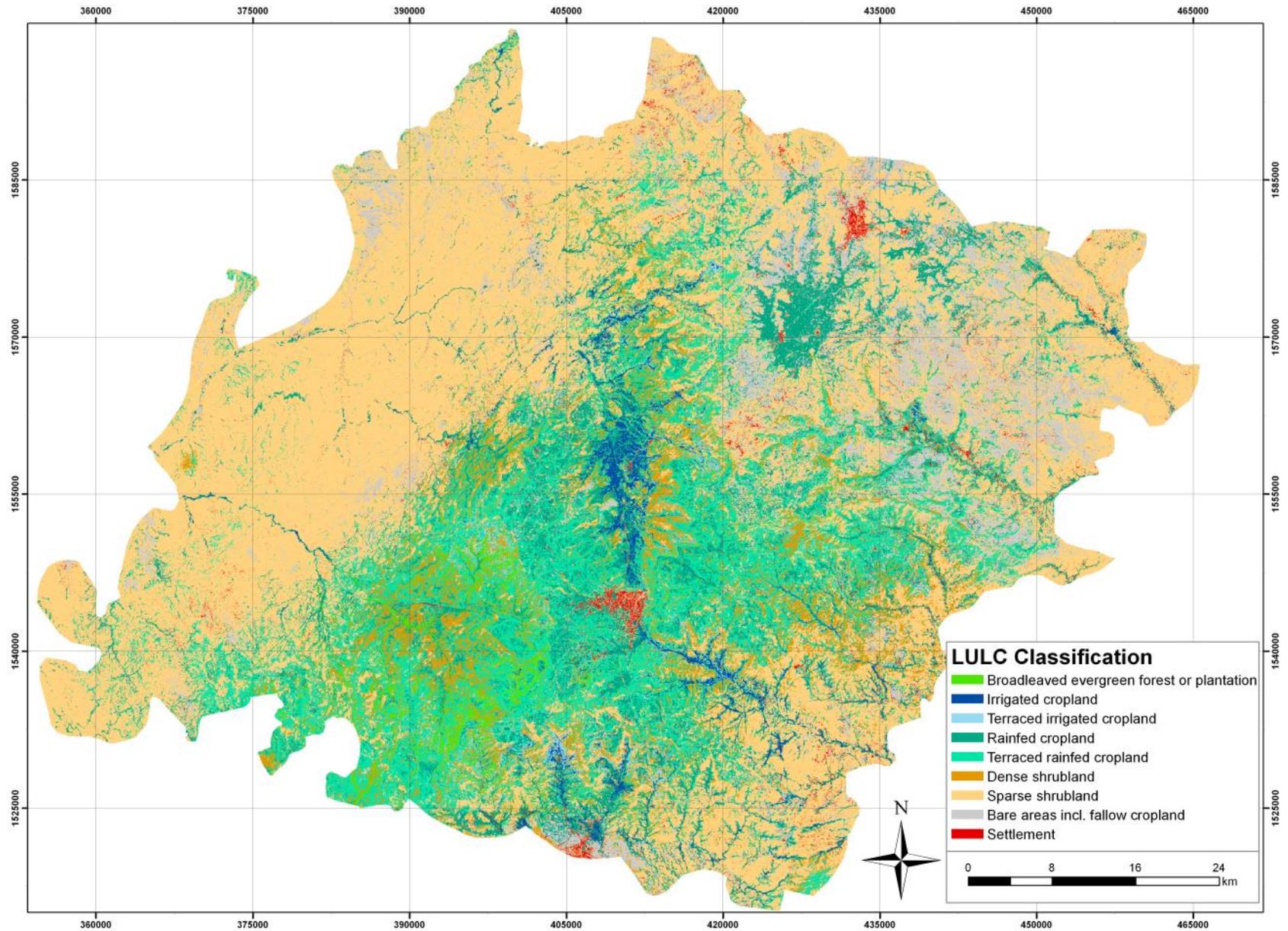
#### Please include your full contact details below:

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4. **Telephone number:** +9671292374
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### Annex: The Figures



**Figure 1:** Habitats; **Upper left:** The climax community in Kamal forest, a core zone in HMIPPA. **Upper right:** Part of the core zone in the HMIPPA. Threats; **Lower left:** *Dodonaea viscosa* shrubland community in DPPA. **Lower right:** The frost-free meadows in APPA core zone.



**Figure 2:** LULC classification map of Ibb governorate in the study period of 2013-14.



## "Building Advocacy and Developing a Management Plan for the "High Mountains of Ibb Protected Areas"

## CRITICAL ECOSYSTEM PARTNERSHIP FUND

### Introduction:

Yemen holds the dual distinctions of being the most economically disadvantaged country in Arabia while harboring the Peninsula's richest biodiversity. Located at the junction of three bio-geographical regions (Afrotropical, Western Palearctic, and Oriental), Yemen is also one of only two Arabian countries that lie within the Eastern Afrotropical Biodiversity Hotspot (EAM) (the

other being Saudi Arabia). The hotspot is made up of natural areas stretching from Arabia western mountains to Mozambique and Zimbabwe. 110 plants, seven birds and one finch species are endemic to Arabia western mountains, this biodiversity is closely associated with the traditional terrace agriculture, which offers suitable micro-habitat. The area also is important for migratory birds, 1.5 million birds using the highlands of the Arabian Peninsula as a flyway each year. The Foundation for Endangered Wildlife (FEW) with the founding organization, the Critical Ecosystem Partnership Fund (CEPF), recognized the importance of Ibb high mountains as the best representative for this great biodiversity in Arabia, this recognition resulted in the "Building Advocacy and Developing a Management Plan for the "High Mountains of Ibb Protected Area" project which in two years of intensive work will carry the difference in the shape of nature conservation and improve livelihoods by real movement toward sustainability.

### The Anticipated Project Impacts:

There are a long-term and a short-term impacts that the project team aims to approach.

**The short-term impact** will be achieved starting from the beginning of the second year of the project and will include:

- ✓ Awareness, based change in stakeholders behaviour toward nature.
- ✓ Conduction of intensive research for precise identification of all the key biodiversity areas (KBAs) in

the High Mountains of Ibb governorate, their conservation status and needs.

- ✓ Significant body of data on the biodiversity of the High Mountains of Ibb to be published, as appropriate.
- ✓ Students' involvement and training in the research will result in a new generation of passionate conservationists.
- ✓ Supporting and modernization of the traditionally conservation heritage, that still thrives in some locations.
- ✓ Building strong working and long-lasting partnership between the government of Yemen, local leaders, community members, FEW, and other relevant NGOs.
- ✓ Production of pilot Management Plan for the "High Mountains of Ibb Protected Area." and submitting the plan to CEPF and the relevant authorities in Yemen.

### The long-term impact includes:

- ✓ Drawing the attention to the level of fragmentation of certain very rare KBAs in Ibb, and the establishment of a sustainable, cost-effective monitoring program for certain conservation corridors, leading to official announcement of some KBAs as natural reserves.
- ✓ Strong local and national support for the conservation of KBAs throughout the Eastern Afrotropical Biodiversity Hotspot in Yemen will be highly expected, with enhancement of sustainable use of the natural resources.
- ✓ Research activities and publication will result in highlighting and increasing the reputation of the study area, and will attract further research, monitoring and eco-tourism.

### **Project Activities:**

To achieve the desired Impacts, actions must take place including:

- (1) Literature and field survey for the fauna, flora, flagship species and the different ecosystems, habitats, microhabitats and any remnant of the traditional conservation heritage, application of the suitable community and phytosociological field technique, according to well established standard methods.
- (2) Interviews with the locals and the key stakeholders to understand the historical and current situation, negotiation with community leaders and local authorities, regarding the future plans for sustainable development.
- (3) Incorporation of volunteers from different stakeholders, and social stratas, in addition to national and international specialists.
- (4) Ensuring a high level of training, communication and networking supplied by the active stakeholders for the project, and getting continuous feedback from them.
- (5) A variety of awareness materials that will stress the importance of KBAs to people and wildlife to promote their conservation, will be posted and distributed.
- (6) Determining and Mapping the areas, which are still implementing traditional conservation heritage, or Laws for possible more intensive surveys and monitoring. Classifying the type of practices or laws and the degree of implementation. Incorporation of this heritage in the different awareness materials, in the management plan, in all the project activities including; the trainings, meetings and workshops and link it with the

suitable modern more potent practice models in conservation.

- (7) Classification and statistical evaluation of the gathered data, with mapping the flagship species and the vulnerable ecosystem; sharing the data in local, national, regional and/or international journals, conferences and meetings.
- (8) Quantitative and qualitative determination of all the possible adverse human or natural threats that affect or may affect the flagship species or the ecosystem with suggestions of possible ways to recover and mitigate any adverse factors.
- (9) Suggestions of the possible sustainable investment for each flagship species and vulnerable ecosystem, including the possible alternatives and recovery programs.
- (10) List all the KBAs, with prioritizing the KBAs according to the rarity, fragileness and the degree of threat, along with documenting their current and aimed conservation status, with determination of the most favorable possible early interventions, along with suggestions for the possible corridors between some less fragmented KBAs and recommending the most cost-effective monitoring program for each KBA.
- (11) Determining the chance and rewards that could be gained if the KBA is announced as natural reserve, including ecotourism, and sustainable herbal gathering and processing.
- (12) Forming and supporting nature advocate groups in schools, community collages and universities. Introducing nature advocacy as the mission of the community based organizations (CBO), the national organization branches in

the project area and the local research institutes, Ibb university specially.

- (13) Continuous meetings, workshops, targeted presentations and celebration of the international relevant days with all the stakeholders including local authorities, parliament members and decision makers, community leaders and CBOs, local schools, community collages, education centers and the area universities to make them aware about the project goals and time frame. To build advocacy to a high level to ensure top-to-bottom support for the project goals. MoUs could be signed and most activities will be documented and broadcasted in the local and national media and the internet.
- (14) Collection of all the results and outputs, in well organized form with recommendations of the best ways to tackle conservation issues in the whole project area. Consultations with management experts, ecotourism experts and similar projects to perform the management plan. Involving selected key stakeholders in developing the management plan for the High Mountains of Ibb Protected Area.

### **Project Team:**

- (1) Dr. Mohammed Al-Duais, Project leader
- (2) Mr. Muard Alawadhi, Project coordinator
- (3) Mr. Mohammed Al-Fadli, Volunteers coordinator

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**Figure 3:** The project brochure.

# Ibb High Mountains Proposed Protected Area (IHMPPA)



**CRITICAL ECOSYSTEM PARTNERSHIP FUND**

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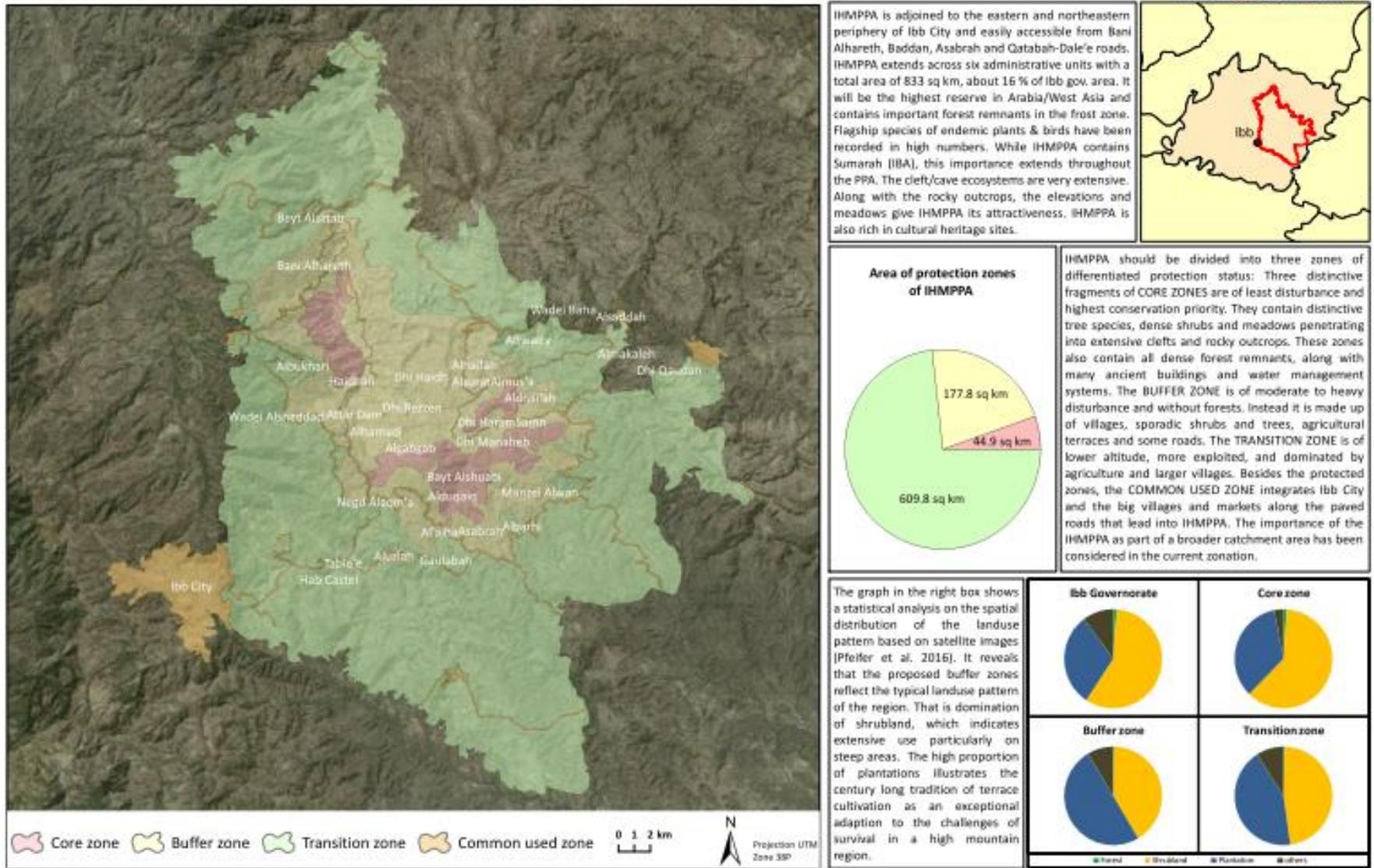


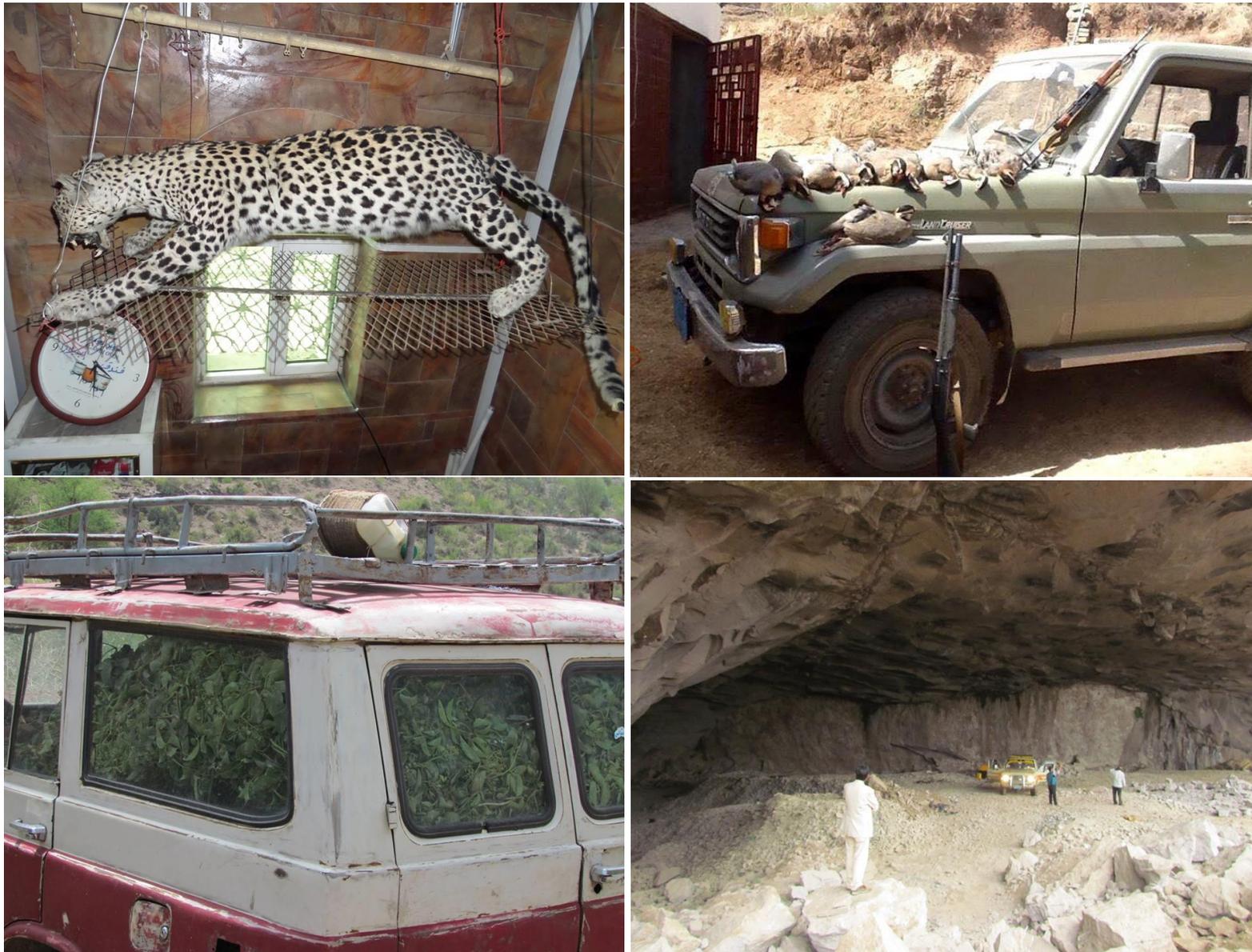
Figure 4: IHMPPA poster.



**Figure 5:** Indore and outdoors awareness and building advocacy with different stakeholders.



**Figure 6:** Some activities, **Upper left:** The project team while sowing native trees in eroded roadside in the IHMPA. **Upper right:** The deputy governor, the rector, the vice-rector of Ibb University, and the project manager, in the orientation workshop while introducing the scientific community to the possible lines to mainstream their research. **Lower:** Shots from IHM 1<sup>st</sup> Festival, the right one while visiting a freshwater ecosystem.



**Figure 7:** Threats; **Upper left:** A recently poached and stuffed Leopard displayed in a hotel in Ibb city. **Upper right:** The massive hunting of the Arabian partridges, in the breeding season, in the HMIPPA core zone. **Lower left:** Over exploitation of the medicinal plants *Cyphostemma digitatum* in DPPA. **Lower right:** A cave in a size of football stadium formed by dynamite excavation of building rocks, in the transition zoon of HIMPPA.



**Figure 8:** Diversity; **Upper left:** High local genetic diversity and low outcrossing in HMIPPA, led a specialist to hypothesize that this chickens as possible new strain. **Upper right:** A suggested camping site under a giant rare *Ficus vasta* in DPPA. **Lower:** HMIPPA distinctive cliff ecosystems with potential geopark and fresh water ecosystem.