



# ASSOCIATION FOR THE PROTECTION OF JABAL MOUSSA (APJM)

# Jabal Moussa Biosphere Reserve, Lebanon, 2009-2010 Achievements that inspire a new decade...



Report prepared by: Diane Matar (diane.matar@jabalmoussa.org, info@jabalmoussa.org)
On the occasion of UNESCO MAB 40<sup>th</sup> Anniversary

February 2011

#### I- Introduction:

On 26 May 2009, thanks to the efforts of many NGO members and local experts, the JM Mountain and surrounding villages were designated Biosphere Reserve (BR) under the UNESCO international MAB program, becoming one of the 553 BRs in the world (at that time). The same year, based on an AROCHA study, JM was designated a Global Important Bird Area (IBA). Achievements made in 2009 and 2010 constitute a milestone for the *Association for the Protection of Jabal Moussa (APJM)* as they determine the baseline of future work.

This report summarizes the work achieved in the first 2 years of its designation, and defines the lines of work for the coming 10 years.

#### **II- Projects:**

**In 2009**, project work in APJM was concentrated around two key areas of success for nature conservation: reviving the forest's endemic resources, and promoting a sustainable interaction between man and nature through establishing a basic infrastructure for eco-tourism. These topics were framed into two projects:

- (1) Promoting Ecotourism for the Conservation of Jabal Moussa area (PEBCO) (closed in October 2010) funded by the Italian Embassy-Italian Cooperation for Development through the ROSS Emergency Project in Lebanon
- (2) Building a local network of living trees platforms for the conservation of land resources in Jabal Moussa region usually designated "Tree Nursery" project (on-going till May 2011), sponsored by the United Nations Office for Project Services (UNOPS) Small Grant Program (SGP).

In 2010, a new project focusing on supporting income-generating activities for the local communities was drafted and endorsed at the end of 2010 by the MEPI (Middle East Partnership Initiative) small grants provided by the US Embassy in Lebanon (Tunis Regional Office). The SIFOHR (Supporting Small Initiatives of Traditional Food Production and Handicraft in Rural Areas of Jabal Moussa Biosphere Reserve) project aims at supporting the socio-economic development of local villages through women empowerment, specifically by developing the existing rural income-generating initiatives in food and handicraft production. This project is planned to start in March 2011 for the duration of 1 year, and is currently in its preparation phase.

#### III- Conservation of natural & cultural resources:

In the perspective of the SGP project which aims at reviving the endemic tree species through the creation of tree nurseries. A series of field visits have taken place for seeds collection from different endemic forest species (e.g. *Quercus infectoria, Quercus calliprinos, Acer syriacum, Styrax officinalis*). Two nurseries have been installed in 2 important villages of the reserve. The first one in Qehmez village contains around 6000 seedlings (fig. 1), while the second one, located in Mshete village, hosts around 12,000 seedlings (fig. 2). The land for a third nursery is now being selected.





Fig. 1: First nursery in Qehmez

Fig. 2: Second nursery in Mshete

On the other hand, ecotourism has been the major sustainable activity developed so far by APJM for JM BR. Through PEBCO, the following activities took place:

- The delineation, rehabilitation (fig. 3), and mapping of a trails' network (visible on map Appendix 4), and the installation of a developed signage and panels system (fig. 4)



Fig. 3: Rehabilitated trail



Fig. 4: Signage installation

The rehabilitation of an old village on the top of the mountain consisting of three traditional houses (fig. 5) and an underground cistern. This rehabilitation was assisted by the Lebanese Army which offered to transport the heavy construction materials (13 tons) by helicopter to the top of the mountain (fig. 6). This is an unusual service provided by the army, which demonstrates APJM's perseverance and dedication in "getting things done" without destructive intervention in the natural ecosystem (road construction). The event was covered by the media (Appendix 1).



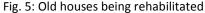




Fig. 6: Army helicopter transporting construction material

- The development of 1-day ecotourism packages for visitors
- The creation of a website for the association <a href="www.jabalmoussa.org">www.jabalmoussa.org</a>, centralizing all information to visitors and interested researchers, experts and public. On that site, major research studies are available, ecotourism packages, news and photo galleries are displayed among other important information.
- The development of a *5-year Ecotourism Strategy* for the next 5 years in JM BR, which constitutes the basis for project development in this field for the coming 5-10 years.
- Close monitoring of destructive human activities (quarrying, hunting, charcoaling) on the mountain, by Forest Guards. This has allowed the significant reduction of threats to biodiversity and historic sites (see testimony of UK Ambassador H.E. Frances Guy in Appendix 2).
- The development of promotional materials promoting the natural and cultural values of JM and the importance of its conservation as a national heritage. Two main products were created: a leaflet in 2 languages (Arabic, English) for tourists and visitors (Appendix 3 and 4), and a booklet including a collection of 22 articles/stories written by people with very different backgrounds (experts, students, journalists, hikers, nature lovers etc.) (see Appendix 5).

#### IV- Community participation and development:

#### 1- Community participation:

Working with and for the community is a pillar for the success of any of our efforts to manage the JM BR. Networking with local stakeholders and youth groups was also on APJM's agenda. Achievements include: 3 community meetings (July in el-Ghineh village, September in Yahshouch village, October with "Shabeb el Saleeb" Youth Group in Yahshoush village). Moreover, local stakeholders are always informed and involved in APJM's events and their opinion/advice is often sought for upcoming activities planned by the association.

#### 2- Socio-economic development:

Community support is also provided by APJM through the creation of jobs for the locals. Indeed, 4 guards (fig. 7) and 4 ecoguides have been recruited and trained from the local communities, and some land owners are benefiting from renting their lands to the Association for tree nurseries (fig. 8) or other activities. Moreover, project or community trainings and events are all carried out in local venues; transportation and food are purchased locally as well.





Fig. 7: Guards working on JM BR trails

Fig. 8: Training of eco-guides in the local nursery

As part of PEBCO activities, a comprehensive field survey covering 529 households in 7 villages surrounding JM area was completed and has defined potential development projects for those villages that will be started in 2011 including the SIFOHR project (fig. 9 & fig. 10).



Fig. 9: Sociology students conducting the study in JM BR



Fig. 10: Local woman selecting olives - photo taken by students

The SIFOHR project is planned to empower women in the region and support the production of local products that reflect the identity of the region. This is believed to preserve and revive the cultural heritage of JM BR, and increase participation and benefits of locals from the creation of the biosphere reserve.

#### 3- Capacity-building of locals:

In order to empower the local guards of JM, develop their sense of ownership and their capacity to take an active role in the management of the BR and ecotourism activities, 7 training sessions were carried out:

- Four trainings under the SGP "Tree Nursery" project (Fig. 11 & 12): (1) trees identification and vegetal cover in Lebanon, (2) seeds collection, (3) guided visits on seeds collection and propagation purposes, (4) preparation of nurseries soil mixture and propagation techniques.
- Three trainings under PEBCO: ecotourism concepts, trail networks and delineation.



Fig. 11: Forest guards with expert in a training session



Fig.12: Seeds identification and collection training

For ecotourism activities, 13 candidates for eco-guiding were recruited for a comprehensive tailor-made training program planned by APJM and delivered by biodiversity and ecotourism experts. After attending more than 10 sessions, 7 candidates presented an exam and 4 graduated as eco-guides for the JM BR ecotourism program.

#### V- Capacity-building for JM BR managing institution- APJM:

In January 2009, APJM was working only with volunteers and part-time members relying heavily on external consultants to manage the 2 first projects. The fast pace of activities brought the need for inner restructuring and an expansion in staff. In the second half of 2009, 2 new full-time members were added to the team

(Operations Officer and Environmental Officer), which expanded the task force to incorporate new skills and bring synergy to the team for more efficient results and achievements in 2010.

By the end of 2010, with the new SIFOHR project, a need to restructure the association came about. The following new positions were created: Administrative Officer & Accountant, JM BR Manager, SIFOHR Project Manager, SIFOHR Project Field Officer, and Ecotourism Officer. The Environmental Officer was promoted to Associate.

The new US Embassy Fund/MEPI Fund provided (for free) an institutional capacity building program delivered by the Catholic Relief Services (CRS) over the duration of the project (1 year). This program started with an assessment of APJM capacities and needs (financial and management) and the setting of a 1 year training program (starting February 2011) to strengthen the internal structure by creating standardized procedures, providing technical assistance, and trainings to the staff.

#### VI- Visibility and communication:

#### 1- Events:

As part of PEBCO, a launch event took place very successfully in Hotel Francis - Ghineh on 23 October 2009. More than 100 people attended from key political, religious, media and public institutions. The event was characterized by high media coverage with a total of 18 published articles in famous local and regional newspapers and websites. The success of this event translated into a high demand from the media to host APJM members; this materialized in a series of talk shows about JM projects at the end of 2009.

More important media coverage characterized the "Inauguration Ceremony of Jabal Moussa Biosphere Reserve" under the patronage of UNESCO, which coincided with the end of the PEBCO project and opening of ecotourism trails. The event took place in the local village of Mshete on 23 October 2010 in the presence of Officer-in-charge at Beirut UNESCO Office representing UNESCO Headquarter in Paris Mr. Saeed Belkchla, other representatives from UNESCO and UNSECO-MAB, and eminent national and international figures including (fig.14):

- 1. Ambassadors: UK, Belgium, Mexico, Czech. As a result of that day, the UK Ambassador Frances Guy wrote about the Jabal Moussa BR experience on her personal blog at: <a href="http://blogs.fco.gov.uk/roller/guy/entry/jabal moussa as a biosphere">http://blogs.fco.gov.uk/roller/guy/entry/jabal moussa as a biosphere</a> (Appendix 2)
- 2. Ministries: Tourism (Minister), Agriculture and Interior (Representatives)
- 3. Members of Parliament
- 4. President of the Italian Cooperation for Development in Lebanon: Mr. Fabio Melloni
- 5. Presidents of Municipalities and Mayors, stakeholders from surrounding villages
- 6. Experts, NGOs, representatives from other BRs (Al-Shouf BR), and Nature Reserves in Lebanon

Many articles were also published in local and regional media displaying the program and attendance of that event which included 2 hikes, a traditional open air lunch in a local house, and presentations of JM BR

activities by APJM staff and experts (fig. 15). Most importantly, the event was reported in 4-minute documentaries in local national evening news (30 minutes) on 3 local channels, including short interviews with ambassadors and ministers who walked the new trails of the reserve.



Fig. 13: PEBCO Launch event (2009)



Fig. 14: JM BR Inauguration ceremony (Left to right) President of Italian Cooperation, UK Ambassador, Deputy, Minister of Agriculture



Fig. 15: APJM and Design experts' presentation at the Inauguration ceremony

#### 2- National and international visibility:

Many articles have been written by journalists about Jabal Moussa biosphere reserve. A total of about 50 articles is estimated so far in local/regional and international news papers and web-news such as the New York Times: <a href="http://dotearth.blogs.nytimes.com/2009/05/26/un-names-22-new-biosphere-reserves/?hp">http://dotearth.blogs.nytimes.com/2009/05/26/un-names-22-new-biosphere-reserves/?hp</a>, not to

mention its appearance on the UNESCO portal: <a href="http://portalunesco.org/science/en/ev.php-">http://portalunesco.org/science/en/ev.php-</a>
URL ID=7661&URL DO=DO TOPIC&URL SECTION=201.html since 2009. Most local newspaper articles about JM are published on the official website link: <a href="http://www.jabalmoussa.org/node/56">http://www.jabalmoussa.org/node/56</a>.

#### VII-Research:

Jabal Moussa Mountain has hosted many research studies so far which are available on the official website (<a href="www.jabalmoussa.org">www.jabalmoussa.org</a>). Studies carried out after its designation as a biosphere reserve in 2009 include:

- 2 Master Research studies by students from the Lebanese University Department of Agriculture, carried out in Jabal Moussa reserve on Juniperus and Hop-hornbeam. Findings were compiled in reports and presented to the association. The results of these studies will be used for forest management plans which will be incorporated into the 10-year management plan of JM BR.
- A comprehensive 1-year assessment study of Jabal Moussa's biodiversity richness (plants, flowers, trees, mammals, reptiles & amphibians, birds) and geology is currently being finalized by a multidisciplinary team of experts. Important findings will be linked to conservation value and published in an international scientific journal.
- A short study on moths conducted by two Finnish experts, as part of a bigger study on moths in the Mediterranean region. This study is currently at the stage of data analysis.

#### VIII- Networking and partnerships:

#### 1- MAB Network:

APJM team is always in close communication with the UNESCO MAB National Committee to report important developments and seek general management advice.

Moreover, APJM participated in the 6<sup>th</sup> Arab MAB meeting which took place in the other BR in Lebanon: Al-Shouf BR in May 2010 under the patronage of UNESCO Cairo and Lebanon offices. Twelve country representatives attended this meeting (Algeria, Bahrain, Egypt, Jordan, Lebanon, Libya, Morocco, Oman, Sudan, Syria, Tunis, and Yemen), and agreed on increasing their cooperation for the implementation of the Madrid Action Plan (fig. 16).

APJM also participates in capacity building workshops and events organized by Al-Shouf BR, and maintains a good partnership with its management team (fig. 17).



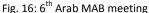




Fig. 17: WWF workshop attendees in Al-Shouf BR.

#### 2- International networks:

In November 2010, APJM joined the world's largest international community of environmental experts: IUCN. By becoming a member of this international organization, APJM hopes to join efforts with the world's leading experts in solving the complex environmental challenges, and achieve better biodiversity conservation results.

#### IX- Conclusions and Future projects:

#### 1- Conclusion:

The high level of achievements in 2009-2010 helped set the base for a promising future. APJM plans to develop and expand its plans along the lines of its main objectives and within the scope of the Madrid Action Plan implementation. So far, and as demonstrated in this report, this "young" BR is on the right track in terms of serving the 3 general functions for BRs set by UNESCO: (1) conservation of biodiversity and ecosystems, (2) development (linking environment with societies), (3) logistics (being part of an international network for research and monitoring); and APJM plans to continue working in this direction.

#### 2- Future plans:

**Developing and implementing the "Jabal Moussa Biosphere Reserve 10-year Management Plan":** this project's preparations have started since 2009. Appointed expert Prof. Ghassan R. Jaradi (UNESCO MAB National Committee VP & Member of UNESCO MAB international advisory committee) started to design the layout and content of a 10-year management plan, which includes a Monitoring Plan and a Business Plan for the reserve. The development of the Management Plan Report is planned to take place over 1 year (starting in 2011) and is currently awaiting approval for funding.

The plan will define important themes for new projects for the coming 10 years in the areas of conservation, development, and research & monitoring.

Activities planned along the 3 functions of a BR as defined by the UNESCO MAB program:

1- Conservation: New conservation projects will be developed in order to support more sustainable forest management. This includes rehabilitation of a quarry, sustainable solutions to grazing, wood logging and harvesting, flora and fauna management. The preservation of the cultural heritage will also be a priority on the conservation agenda, through the development of archeological research and the study of local historic sites for better site management.

#### 2- Development:

**-Rural development:** In the coming year the SIFOHR project will be completed and its results will set the baseline for new projects aiming at the sustainable development and promotion of local traditional food and handicraft products. More activities will be planned for the Buffer and Transition zones in the areas of agriculture, water and waste management etc. in order to ensure the proper protection of the core area on the long-term. The potential activities will be better defined in the 10-year management plan.

-Ecotourism: As mentioned earlier in this report, ecotourism is a major sustainable activity promoted by APJM. In the coming 10 years, APJM plans to expand this activity in the framework of implementing the 5-year Ecotourism Strategy developed within PEBCO. This entails the rehabilitation of an old monastery and the creation of Bed & Breakfast services, creating partnerships with international organizations for ecotourism, developing new packages including Educational Programs for school students etc.

#### 3- Logistics: Collaboration for Research, Monitoring and Capacity Building:

-Partnerships: APJM is planning to create partnerships with other international BRs in order to enhance opportunities for information exchange and capacity building. Partnerships also create a good platform for research especially in the Mediterranean region which constitutes a hotspot for international biodiversity conservation agendas. In this perspective, contacts have already been made with IUCN Spain in order to facilitate partnership building with a Spanish BR, possibly Sierra Nevada BR.

**-Research:** collaboration with national and international institutions for research will be increased through networking and partnership establishment. Contacts have recently been made with representatives from Cordoba University-Spain in order to define topics of research for students that will be studying in both the Lebanese University and University of Cordoba-Spain through exchange programs.

# **APPENDIX**

#### 1. Media coverage of house rehabilitation as part of PEBCO ecotourism activities:



### Jabal Moussa's model eco-village gets renovation

BEIRUT: A project to renovate a model traditional village in the Jabal Moussa reserve was launched on Monday, with help from the Lebanese Army and the Italian Embassy in Lebanon.

The Association for the Protection of Jabal Moussa (APJM) announced in a statement that it began work on the renovation of a traditional model village in the Jabal Moussa reserve in Kesrouan, Mount Lebanon.

The initiative was part of a project to encourage ecotourism in Ftouh Kesrouan, with the sponsorship of the Italian Cooperation Office of the Embassy of Italy in Beirut.

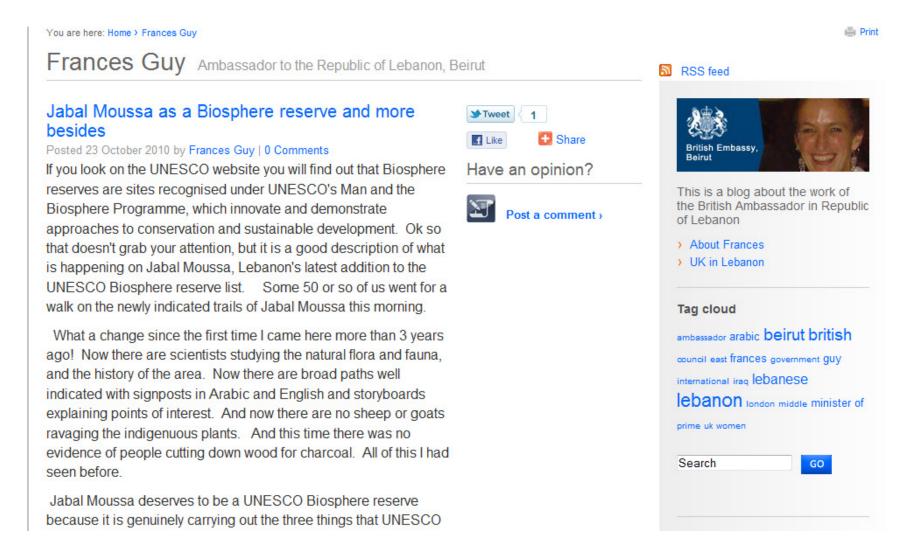
The Lebanese Army also contributed to the project and an Army helicopter transported 13 tons of construction material from the nearby village of Mayrouba to the mountain last week.

Jabal Moussa was named a biosphere reserve by UNESCO in 2009 and its model village contains houses with traditional architecture. "The old customary stones will be conserved," the APJM statement said, noting that an underground water container will be created to provide the village with water for storage and irrigation.

The association thanked the Lebanese Army for its help and Interior Minister Ziyad Baroud, saying "it was his idea" to use the helicopter as a substitute to other transport that would be harmful to the environment.

APJM's project in Jabal Moussa also included training locals to become tourist guides in their own region. Four local female guides graduated from the association last week. – **The Daily Star** 

#### 2. UK Ambassador Frances Guy' blog: a testimony of achievements in JM after the Inauguration Ceremony hike.



#### 3. JM BR Leaflet- side 1 (Information)

#### About us

The Association for the Protection of Jabai Moussa (APJM) is a non-governmental, not-for-profit organization created in 2007 for the conservation of biodiversity and preservation of the cultural heritage in Jabal Moussa mountain and surrounding villages. Our aim is to achieve sustainable development with the participation of local communities.

- Protect and conserve the rich biodiversity of Jabai Moussa
- Revive and preserve the cultural and archaeological heritage of Jabai Moussa
- · Support local socio-economic activities for sustainable rural development
- Promote environmental awareness and education
   Build the capacities of local people to handle ecotourism and sustainably manage natural resources

#### About Jabal Moussa Biosphere Reserve

Jabal Moussa Blosphere Reserve is located in the Kesrouan District, 45 kilometers from the capital Beirut. It covers an area of 6500 hectares at an altitude ranging between 350 meters in the West and 1700 meters in the East. The main villages are Qehmez, Nahr ed dahab, Yahchouch, Ghbale, El Ilbré, and Chouwan.

Jabai Moussa and surrounding villages became part of the UNESCO Network of Biosphere Reserves under the Man And Biosphere (MAB) program in February 2009, becoming the 3st biosphere reserve In Lebanon and the 24th in the Arab world. There are 564 biosphere reserves in the world today

The Jabai Moussa biosphere reserve presents a rich diversity of flora and fauna. At least 350 flora species are found in the reserve, out of which around 30 are endemic to Lebanon. Endemic flowers include Cyclamen libanoticum, Paeonia kesrouanensis, and Rosularia kesrouanensis. At least 20 species of trees can be observed in Jabai Moussa. Biodiversity assessments are on-going,

The Jabai Moussa biosphere reserve is a Global Important Bird Area (IBA) as per BirdLife International criteria, and presents a variety of migratory and soaring birds which appear depending on the seasons, as well as numerous breeding species and winter visitors. Given the difficulty of access to humans, mammals have found a peaceful site to live, and more than 14 species have been traced in the mountain including squirrels, wolves, hyenas, hyraxes and many other animals of local and global conservation value.

abectmens are found in la bai Moussa.

The base pound in la bai Moussa. En demicrose species (2-5m) of wild app in this say in central are the 4-obedies as is indicated by the word Three-lobed apple (Malus trilobata)



Taurus J maps (Le trade riske) see the tothe east-Med termsen be set this ey have a typical New Lob eff toppy) teal, which the risk teal yellow in an turner. These treas are game raily natural to make a to make the make a to the company of the properties of the pr

The Act for en med the trees 15 'Bar" or "Loub art will this said to be the root of the Action came of Leban on "Lun brant" of most tis widely supposed allower the country. Storact is agliathous small tree, with alternance entire beaves, and half clear deep this flow at clear the Storax (Styrax officinalis)

With Britis Bi specificals that produce Brigg from ded worst bein as, its wood i strad thin layer for deams. (see the Gurb solid well year from broynes and not bits concept the continuent AN lead into in air ye of after a solid year from the continuent and the continuent and the continuent and the solid is defined in a first sell of normal and any of a first sell of solid sell of normal and solid of the continuent and the continuent and solid of the continuent and solid of the continuent and an experiment and an

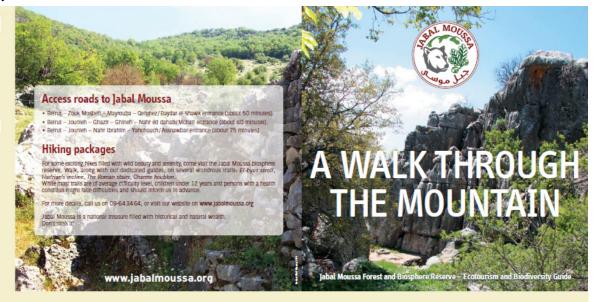
multi-formied. The wood is used for theil wood and char coal of lab al Mou see. Male flowe is are dailyins, and female flow ers are plendu but ship of like district. The meet is Hop-hombeam (Ostrya carprintfolka) Nativero Europe and the Med heranea nielaciful rigis species (svery common on thew easin an on orb errisiopes

рестем ветле бу ми об брегое Also cal ed the Ca bothor phet, till sspecies & na tive to the East-Med berran ean region. The need B-bas vers re sender, Lid - Lib con Lin g, and occur in pairs. The con esare stout, heavy and hard, they open stowly no rebase the

Fine (Pinus brutia)

for cardinace) see on uting equal period serificace. Times species of Oak are found in 1840 Mousse. Awarcus califprims, Awarcus infector sho and Awar ers cents. The Towersa recalking file in 1850 no tested acorn borne in sou prike st ucture/now nass cupul e. Live oaks

Some tree species information



Yakchoorb is a vilage inth ek erou an datuta ofth eMourn Lebanon Covermorare, in theregion oftab al Moussa biosphere reerve. Eraame reaers Sufferinggoof in Aramaiçaine in egni Abonis deel nearthe nherfhair brah im Day constromed a Performal

αρουτιστού της su gentras with gentras and successive the special successive of the The Mar Gerges monastery was ereced by a monk of the Zoula or in the Latestand Poentury who re decises a hermit, and coped Hoy S alptures, The church to have sour for the remains of Bonnan rutes. The epresent monastery has seen Mar Gery es monastery

Many chur de secel ebrace the Teast of the E. ast tailon of the Choss on September 14 Wh th commemorates but in either Che Upper of the Choss You've Chess You The Cross site (El-salib)

s jew jue pue suot a ua du jaquiai awor 1 pasti pu e 'syowasar puno dia pun 1 ino é is isads. Oue to the lack of water springs in the south-eastern part of Jaba I Moussa, p eople used to collectia inwater in Thewals

Fig. 10 the upper of the school of the school of the school of several or the school of several actives with a school of the school of several or school of the school of

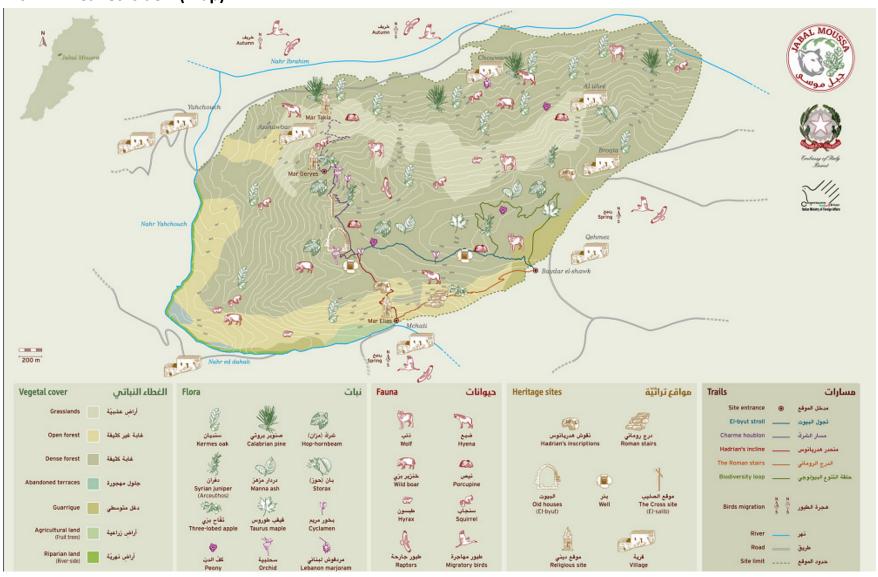
mort and samuom effit besonts effit bean horhowen n wen is thud enliqued rismo Rent (II.A. 6A S. bris. 28 à 8 neemel B The Roman stairs

Of Lette no n was profit to hist, with the now considered to the one of the earliest manifestations of forest Hadrian's inscriptions (IMP HAD AUG. - ACIV CP). Under the relign of 4 types of uses in the forests

21'NOO bns 200

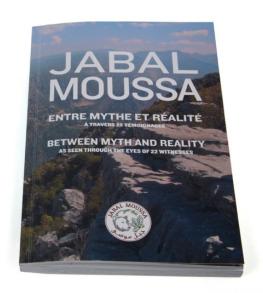
# Heritage sites information

# 4. JM BR Leaflet- side 2 (Map)



# 5. Booklet

# Booklet



Design and communication **Mind the gap** agency