

A socioeconomic study in the villages surrounding the
Jabal Moussa Biosphere Reserve - Lebanon
2020

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Zonation Map Jabal Moussa Zones

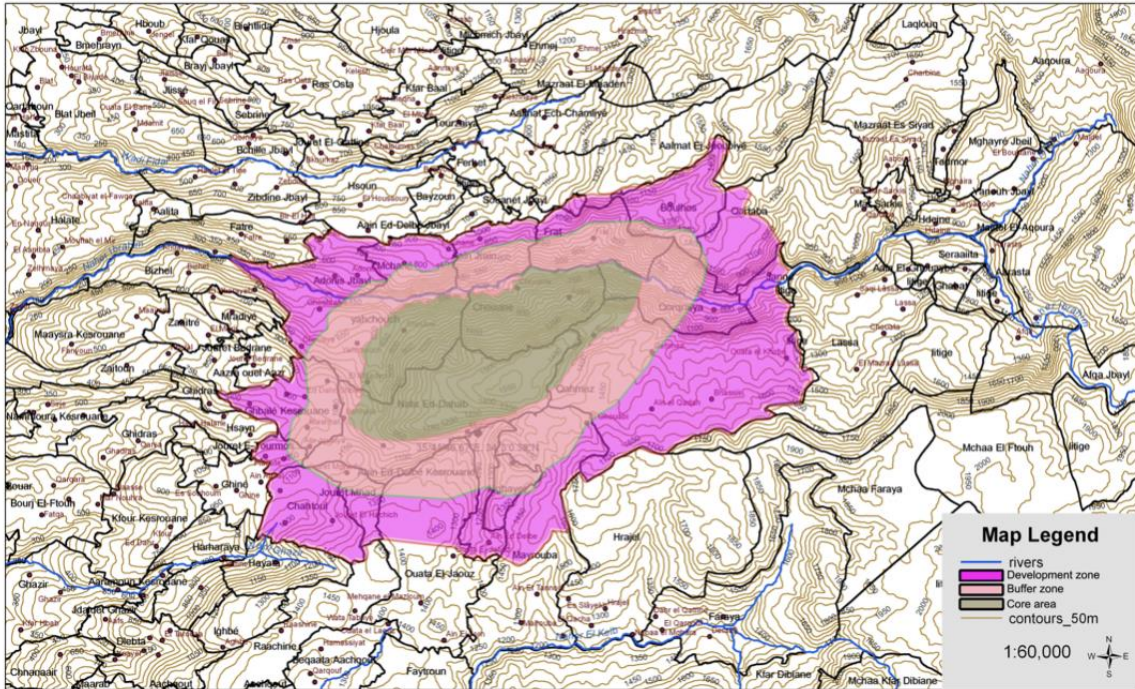


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Executive Summary

This second socio-economic study in the villages surrounding the Jabal Moussa Biosphere Reserve was commissioned by the Association for the Protection of Jabal Moussa (APJM) and carried out between the months of August and September 2020. It aims to assess the impact of the community-based approach to conservation carried out by the association since 2009 through the measurement of awareness and the appraisal of its objectives and activities within the local community. It also seeks to identify new individual and collective potentials destined to cater for growing ecotourism projects within the larger scheme of sustainable development.

The survey encompassed five locations (Chouwan, El Ebreh, Nahr Ed Dahab, Qehmez, and a small part of Yahchouch) selected upon the sole criterion of proximity to the Reserve assuming that constant interaction is an indicator of both interest and concern.

A very high response rate of 86% was registered with a census-like method reaching a total of 141 surveyed households (out of 164). Demographics show that the APJM is dealing with a young gender-balanced population with a low unemployment rate but facing economic challenges prompting it to search for new sources of income. The will to develop agriculture, to improve livestock raising and to produce and sell *Muneh* are indicative of subsistence concerns echoing the generalized economic crisis.

A high level of awareness of the APJM's objectives (72.3%) and of its activities (ranging between 97.8% and 62.2%) is detected within the population with significant differences between villages. Compared to the results of 2009, suggestions and grievances reveal the pressing nature of economic and infrastructural concerns, confirm an increased receptiveness to the actions of the APJM and validate ecotourism as a precious tool for sustainability within the holistic conception of conservation.

Introduction

In October 2009, a primary socio-economic survey was conducted in the villages bordering the then freshly designated Biosphere Reserve of Jabal Moussa in response to the vital need of engaging the local community in the conservation scheme launched by the APJM. The study painted a socio-demographic portrait of Chouwan, El Ebreh, Nahr Ed Dahab, Qehmez, Ghbeleh, Jouret el Tourmos and Yahchouch. It depicted the economic activity in the region and identified the needs and apprehensions of its residents in order to determine areas of intervention and pave the way for sustainable development and ecotourism projects.

The final report of the 2009 survey was published in volume 20 of *Communautés et Sociétés-Annales de sociologie et d'anthropologie* of the department of Sociology and Anthropology of Saint Joseph University¹. It highlighted the challenge faced by the young APJM to act in such ways as to instill the recognition of ecological limits within a community singularly attached to its values and traditions. Since then, the APJM's journey has been dual-pathed: it worked energetically on the implementation of numerous development and ecotourism projects while exercising a form of alertness on the evolution and fluctuation of local reactions to its advocacy about conservation. Determined to dispel the status of "alien" reigning over an isolated landmass, the association had to battle against two types of impediments: on the one hand, the scientifically demonstrated incompatibility of unbridled human needs and desires with the logic of conservation²; and on the other, the propensity for rapid benefit in the Lebanese context where, with the lack of enforcement of state policies, behaviors like overexploitation and neglect are generally overlooked and proselytism about biodiversity falls, more often than not, on deaf ears. As a result of this twofold difficulty, the unseen chasm between man and his natural habitat was necessarily corroborated in the 2009 survey. It did not fail to highlight the belief in spontaneous natural regulation and the widespread tendency to minimize the human-driven degradation of environment.

¹ Abi Habib-Khoury, R. (2011). Enquête socio-économique dans la région de Jabal Moussa, *Communautés et Sociétés-FLSH-USJ*, 20,1-60

² The general difficulty to promote environmental sensitivity is best described through the simple words of German philosopher Peter Sloterdijk stating that "in all our history as a species, our deepest conviction always was that we are the ones who have to be protected by (and from) the powers of nature. Just as a baby cannot carry his or her mother, he says, human beings are not prepared - or not able- to carry nature" (<https://www.dw.com/en/how-do-we-change-peter-sloterdijk-environment-coronavirus-on-the-green-fence-climatechange/a-53533840>)

In this intricate context, the APJM chose to promote a community-based approach of conservation in order to astutely signify to the local community that some aspects of its natural liaison to its surroundings might be unintentionally ill-suited. While pressing threats and violations on the core area of the UNESCO Biosphere Reserve had to be faced and halted, the association suggested ecotourism, rather than abrupt control policies, as a way of prompting the population to plan for the long term and to progressively disavow the culture of immediacy. For the past decade, the APJM raised awareness on ecological challenges, promoted partnerships, sparked economic growth through encouraging craftsmanship and agriculture and empowered women who, up until that point in time, were unaware of their productive potential.

As these relentless efforts shaped the image of the Association in the region, they begot mixed and fluctuating reactions; hence the need for periodic assessment. On the eve of the launching of an essential project that will be part of the APJM's lifeline over the next three years- namely the Cultural Routes for Sustainable Social and Economic Development (CROSSDEV) project- an updated survey should help identify less advantaged locals and less traveled destinations. It will most importantly nourish the dialogue between the APJM and the inhabitants.

In this respect, the present assessment aims to:

- a. Reexamine the underlying assumptions of the 2009 survey;
- b. Compare the two surveys to the extent possible in order to observe the evolution of local perceptions;
- c. Gather opinions and attitudes through face-to-face encounters in order to help the APJM in readjusting policies and strategies;
- d. Unearth individual skills and local competencies for forthcoming projects.

1. Methodology

1.1. The population

The exploratory nature of the first survey prompted by the need to get acquainted with the local community was matched in 2009 by the extension of the perimeter of interest around Jabal Moussa. In the present study, the APJM chose to narrow down the scope of investigation and to concentrate on the Reserve's immediate vicinity. As a matter of fact, the gained familiarity with the area showed that a keener approach to conservation is to focus on the population that has a fated and constant relation with the mountain. Reaching to a small-scale level of observation is bound to yield finer and more relevant information by evacuating larger regional and/or political considerations.

Using the only criterion of proximity to the Reserve, the survey focused on five locations: Chouwan, El Ebreh, Nahr Ed Dahab, Qehmez, and a small part of Yahchouch (El Snawbar and El Sreij). Zooming in on these critical areas also meant the possibility to aim at a census-like survey by visiting the quasi totality of households (141 surveyed households out of 164). In fact, the investigators were able to reach the very high response rate of 86% by multiplying visits to the targeted area.

Table 1: Surveyed population and Response rate

	Proximity to the Reserve in Km	Surveyed	Unreached	Refusal or questionnaire almost empty	Total households	Response rate
Chouwan	0	13	1		14	92.9%
El Ebreh	0	14	1	1	16	87.5%
Nahr ed Dahab		34	6	2	42	81%
<i>Mcheteh</i>	0	23	2		25	92%
<i>Nahr ed Dahab</i>	0	11	4	2	17	64.7%
Qehmez		65	5	3	73	89.0%
<i>Broqta</i>	0	9	3	2	14	64.3%
<i>Qbeleh</i>	0	28	2		30	93.3%
<i>Qbeleh El Tahta</i>	0	3			3	100.0%
<i>Ras el Karm</i>	0.6	2			2	100.0%
<i>Hay el Cheebah</i>	0.8	4			4	100.0%
<i>El Mawchah</i>	1	3		1	4	75.0%
<i>Wata el Hrajlieh</i>	1.5	1			1	100.0%
<i>Ain el Qadah</i>	2.6	10			10	100.0%
<i>El bahasis</i>	3.3	2			2	100.0%
<i>Ramlieh</i>	4	3			3	100.0%
Yahchouch		15	4		19	78.9%
<i>El Sanawbar</i>	0	13	4		17	76.5%
<i>El Sreij</i>	0	2			2	100.0%
Total		141	17	6	164	86.0%

1.2. The survey period

The data collection was conducted between July and September of 2020 by two teams of investigators who worked for a total number of 22 days. The period was largely dictated by the governmental measures linked to the Covid-19 pandemic. The compulsory confinement enabled the data collectors to visit a significant number of seasonal residents fleeing larger agglomerations and supposedly increased the probability of finding more than one respondent within the households at the moment of the visit.

1.3. The questionnaire

The questionnaire was adapted based on the 2009 survey. It is noteworthy that in both surveys, the questionnaires were not anonymized. The need to locate individuals ready to cooperate with the association and the will to follow up and eventually rectify a situation dictated the identification of respondents.

The 2020 questionnaire targeted both the individual and the collective (household) levels. It aimed at balancing quantitative information and attitude measurement in a gender and generational perspective. It was divided into 7 sections:

- Residence and type of residence
- Socio-demographic data
- Relation to Jabal Moussa
 - Awareness of the objectives of the APJM in the local community
 - Awareness of the activities of the APJM in the local community
 - Appraisal of the activities of the APJM by the local community using a 5-point Likert scale allowing respondents to express to what extent they agree or disagree on particular questions
 - Possibility and willingness to cooperate with the APJM
- Agriculture and animal production
- Craftsmanship and cultural production
- Ecotourism
- Suggestions and grievances

1.4. The investigators

Contrary to the common practice aiming at reducing biases by engaging uninvolved investigators in order to give free rein to speech, the decision was taken to implicate the APJM's team in the data collection. Since the questionnaire was not anonymous to begin with, the idea was to take advantage of the field work to enhance the association's knowledge of the region. The face-to-face encounters were used as a means to:

- Favor a better understanding of the cultural context in which the association operates;

- Provoke a new level of awareness amongst the APJM members about inadvertently triggered reactions and the unintended consequences of their decisions and actions;
- Understand the issues that might be obscuring the APJM's relationship with the local community;
- Improve the two-way dialogue initiated through the surveys (2009 and 2020) and extend it beyond those surveys.

1.4.1. The training of investigators

The APJM's team participated in two specifically designed training sessions destined to prepare them for the field work. They also prepared a debriefing session following the data collection.

Session 1: The questionnaire in social sciences: biases and difficulties

(Trainer: Roula Abi Habib-Khoury)

- Designing individual questions;
- Designing the questionnaire;
- Administrating and completing the questionnaire;
- Recognizing biases produced while completing the aforementioned steps;
- Anticipating communication barriers between investigators and respondents.

The outcome of the session was an annotated version of the questionnaire with extensive instructions in dialectal Lebanese used as a practical guide for fieldwork.

Session 2: Coding and data entry

(Trainer: Jacqueline Harfouche Saad)

- Testing the questionnaire:
 - o Pilot-testing of the questionnaire on a subset of the intended population;
 - o Role-playing to:
 - test the prescribed wording and order of questions;
 - fix the definitions and explanations for each question;
 - Prepare the investigators to the eventual requests for clarification;
- Data coding;
- Data entry.

Session 3: Debriefing and evaluation

(by Christelle Abou Chabke, Elie Khalil, Roula Mezher and Marc Atallah):

- Summarizing the findings;
- Describing field experience;
- Evaluating aspects of team work;
- Expressing personal observations.

1.5. Data entry and data analysis

Data entry was done by the investigators themselves on a period of 20 days (8 days for Team A and 12 for Team B). Data analysis was performed using the Statistical Package for Social Sciences (SPSS) version 22.0. In the descriptive analysis, continuous variables were presented by means and standard deviation; and categorical variables by percentages.

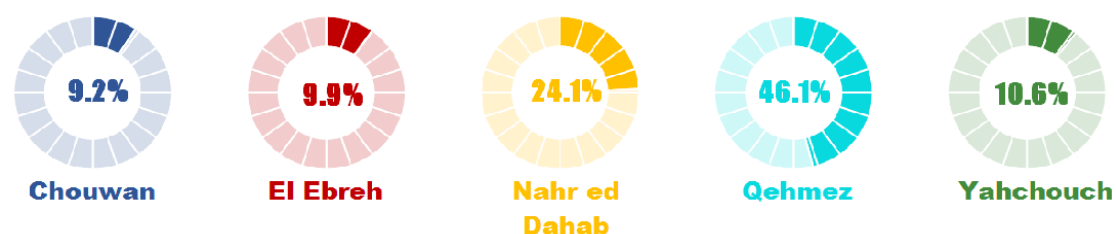
2. Findings

2.1. Characteristics of the surveyed population

2.1.1. General characteristics of the surveyed population

Qehmez is the biggest agglomeration adjoining the Reserve (65 households) followed by Nahr ed Dahab (34 households), the two neighborhoods of Yahchouch (Al Snawbar and Sreij) (15 households), El Ebreh (14 households) and Chouwan (13 households).

Figure 1: Representativeness of villages within the population



Only 23.4% of the households visited in 2020 were surveyed by the students of Saint-Joseph University in 2009. The answers of the twice surveyed households, albeit underrepresented, were used in the analysis of attitudes. Below is their geographical breakdown by village:

Table 2: Proportion of the twice surveyed households ((2009 and 2020) by village

	Surveyed in 2009
Chouwan	38.8% (4)
El Ebreh	14.3% (2)
Nahr Ed Dahab	23.5% (8)
Qehmez	16.9% (11)
Yahchouh	53.3% (8)
Total	23.4% (33)

The proportion of seasonal residents was higher this year compared to 2009 (65.2% vs. 34.6%). This could be explained by the periods during which the surveys were conducted. In October 2009, an important part of the seasonal residents had already left the region with the beginning of the new school-year; whereas during the period of August to September 2020, the emergency state imposed by the Covid-19 pandemic propelled families retreating to underpopulated areas to extend their stay in the surveyed villages. It should be noted that there were no significant differences between the answers of permanent and seasonal residents throughout the survey. This might be the result of long periods of cohabitation (long stays of seasonal residents in the area) usually homogenizing perceptions between different categories of respondents. It might also be attributed to the virtually nonexistent rural/urban dichotomy in perceptions since most of the primary residences are located in equally rural regions in Kesserwan (89.1%), and Jbeil (5.4%).

Table 3: Proportion of permanent residents and mean household size by village

	2009			2020			Mean households size (SD)
	Sample of households (n)	Permanent residents Distribution	Proportion	Sample of households (n)	Permanent residents Distribution	Proportion	
Chouwan	8	5	62.5%	13	7	53.8%	3.1 (1.3)
El Ebreh	10	4	40%	14	5	35.7%	3.4 (1.3)
Ghbaleh	164	108	65.9%	-	-	-	
Jouret El Termos	46	34	73.9%	-	-	-	
Nahr ed Dahab	50	30	60%	34	18	52.9%	4.0 (1.2)
Qehmez	52	13	25%	65	7	10.8%	4.1 (1.4)
Yahchouch	178	138	77.5%	15	12	80%	4.5 (1.5)
Total	508	332	65.4%	141	49	34.8%	4.0 (1.4)

2.1.2. Socio-demographic characteristics of the local community

The 141 surveyed households present an average size of 4 members (562 individuals in total) with a high proportion of young unmarried children (112 out 283 sons and daughters) between 18 and 35 years old representing 50.3% of the population. Only 8 married children live with their parents. The sample of individuals (562) presents a rather balanced gender distribution (52.3% males and 47.7% females). The average age of males is 39.3 and that females is 37.5.

Table 4: Average age of parents and children

	Head of household	Spouse	Son / daughter	Other family member	Total
Less than 18 years old			32.9% (93)	13.9% (5)	17.4% (98)
18 – 35 years old	5.9% (7)	10.5% (13)	39.6% (112)	8.3% (3)	24.1% (135)
36 years and above	86.6% (103)	77.4% (96)	17.3% (49)	50% (18)	47.3% (266)
Missing	7.6% (9)	12.1% (15)	10.2% (29)	27.8% (10)	11.2% (63)
Sample of Individuals	119	124	283	36	562

2.1.3. Education level and economic activity

30.2% of females vs. 17.7% of males have a university degree. 55 individuals (out of which 10.9% of men) have a degree in technical education. The unemployment rate is relatively low (4.1% for men, 3.7% for females) and 153 individuals (mostly women) are inactive (not seeking employment).

Table 5: Education level and economic activity

	Male	Female	Total	(n)
	Mean (SD)	Mean (SD)	Mean (SD)	
Mean age	39.3 (22.0)	37.5 (21.7)	38.4 (21.9)	141
	Proportion	Proportion	Proportion	Individual sample
Education level				
Primary school level or less	38.4%	32.1%	35.4%	199
Complementary	19.7%	14.2%	17.1%	96
High school	12.6%	13.8%	13.2%	74
Technical education	10.9%	8.6%	9.8%	55
University degree	17.7%	30.2%	23.7%	133
Missing	0.7%	1.1%	0.9%	5
Economic activity				
Working	60.2%	30.2%	45.9%	258
Studying	21.8%	19%	20.5%	115
Unemployed / seeking work	4.1%	3.7%	3.9%	22
Inactive (out of the labor market)	12.6%	43.3%	27.2%	153
Very young	1.4%	3.7%	2.5%	14
Sample of individuals	294	268	562	562

2.1.4. Trades and occupations

An interesting number of the surveyed individuals works in agriculture (55 males and 5 females). 7.4% of the sample of individuals are civil servants and 25.9% of working women are in the private sector.

Table 6: Distribution of currently employed individuals by occupation and gender

	Male		Female		Total	
	n	%	n	%	n	%
Skilled agricultural workers	50	28.2%	5	6.2%	55	21.3%
Private sector employees	15	8.5%	21	25.9%	36	14%
Craft and related workers	27	15.3%	4	4.9%	31	12%
Liberal professions (engineers, dentists, lawyers...)	9	5.1%	11	13.6%	20	7.8%
Public sector employees	14	7.9%	5	6.2%	19	7.4%
Company owners, businessmen, independent workers from the private sector	15	8.5%	2	2.5%	17	6.6%
Small traders	7	4%	9	11.1%	16	6.2%
Laborers	10	5.6%	3	3.7%	13	5%
Armed forces and Internal Security Forces	8	4.5%	3	3.7%	11	4.3%
Life science and health professionals	2	1.1%	9	11.1%	11	4.3%
Teaching professionals	4	2.3%	7	8.6%	11	4.3%
Drivers and mobile plant operators	10	5.6%	0		10	3.9%
Missing	6	3.4%	2	2.5%	8	3.1%
Sample of currently employed	177	100%	81	100%	258	100%

2.2. Agriculture and livestock

In 2009, agriculture stood out as an important activity in the surveyed villages despite the fact that only 11.4% of the surveyed households considered it to be their main source of income. A significant proportion (65%) of households owning unused arable land had expressed their will to exploit it. Back then, households appeared to be self-sufficient in vegetable and fruit production.

In 2020, 139 out of 141 households use their arable lands for agriculture. With the galloping economic crisis, the production destined to domestic use has surged in a remarkable way as well as the will to put up for sale more items and larger proportions of the production.

Table 7: Production and possibility of selling part of the harvest to APJM

	2009				2020			
	For self-use	For sale	No production	(n)	For self-use	For sale	No production	(n)
Vegetables	42.5%	10.4%	47%	508	65.2%	22%	12.8%	141
Fruit and seeds	18.9%	9.8%	71.3%	508	61.1%	27%	12.1%	141
Herbs and shrubs				508	64.5%	9.9%	25.5%	141
Livestock				508	42.6%	1.4%	56%	141
Animal products	12%	3%	85%	508	31.2%	7.8%	61%	141
Muneh (Food storage) and traditional dishes	23%	2.2%	74.8%	508	82.3%	7.1%	10.6%	141
Charcoal and firewood	5.1%		94.9%	508	15.6%	9.9%	74.5%	141

2.2.1. Vegetables, Fruit and seeds, Herbs and shrubs

Contrary to 2009 where respondents found it fastidious to enumerate the vegetable and fruits and state whether they wish to sell or to keep it for domestic use, investigators were able to constitute quasi exhaustive lists of vegetables, fruits, seeds, herbs and shrubs mostly for sale (details in annex).

68.1%

Wild herbs harvesting (تسليق) appears to be a growing activity in the region practiced by 68.1% of the surveyed households. Some of them complain about non-locals illicitly picking thyme depriving them of what is “naturally” theirs.

Table 8: Number of households practicing wild herbs harvesting by village

	Chouwan	El Ebreh	Nahr ed Dahab	Qehmez	Yahchouch	Total
Sample of households (n)	13	14	34	65	15	141

2.2.2. Livestock

While poultry -which does not involve substantial investments- remains the first source of self-reliance for households, the numbers show a significant rise in the breeding of goats and in apiculture.

Table 9: Proportion of households raising livestock 2009 and 2020

	2020					2009	
	Raise animals	For sale	Do not raise animals	Households having livestock	Sample of households	Households having livestock	Sample of households
Chickens	48	4	89	36.9% (52)	141	17.7% (90)	508
Goats	26	1	114	19.1% (27)	141	2.8% (14)	508
Bees	16	1	124	12.1% (17)	141	2.8% (14)	508
Sheep	12	1	128	9.2% (13)	141	3.3% (17)	508
Cows	7		134	5.1% (7)	141	3.3% (17)	508
Donkeys	3		138	2.1% (3)	141	-	-
Pigs	2	1	138	2.1% (3)	141	-	-
Rabbits	1	1	139	1.4% (2)	141	0.4% (2)	508
Mules	1		140	0.7% (1)	141	-	-

2.2.3. Muneh (traditional food conservation) and Animal products

Since the launching of the Jabal Moussa local product brand in 2012, Muneh, as a typical feminine activity in Lebanese villages, has become a profit-making occupation. A growing number of women want to participate in training sessions, some villages demand that new collective kitchens be created in their locality and the enhancement of sales has become a major concern for the locals. In annex, the list of 31 items of Muneh out of which 23 items are for sale. Similarly to 2009, animal products are also put up for sale:

Table 10: Animal products

	For self-use	For sale	No production	Rate of productive households
Eggs	30	9	102	27.7%
Honey	9	7	125	11.3%
Cheese	11	4	126	10.6%
Dairy	9	4	128	9.2%

2.3. Awareness of the objectives of the APJM in the local community

A substantial part of the questionnaire aimed at assessing the locals' attitudes toward the APJM through the measurement of their awareness of its objectives and through the aggregation of their evaluations of its activities.

A high proportion of the surveyed households (72.3%) is aware of the designation of Jabal Moussa as a Biosphere Reserve by UNESCO. This information is actually important because serious endorsement by an international instance is most likely interpreted as evidence of legitimacy and reliability. The same high percentages were found when measuring the awareness of the three specific objectives put forward by the association (85.1% for the preservation of natural heritage, 76.6% for the preservation the cultural heritage and 68.8% for contributing to sustainable development).

A much foreseeable difference in the levels of awareness was detected between the twice surveyed households (2009 and 2020) and those visited for the first time in 2020:

Table 11: Proportion of households aware of:

	Surveyed in 2009	Not surveyed in 2009	Total
The designation of JM as a Biosphere Reserve by UNESCO	84.8% (28)	68.5% (74)	72.3% (102)
The objectives of APJM			
Preserve the natural heritage	90.9% (30)	83.3% (90)	85.1% (120)
Preserve the cultural heritage	90.9% (30)	72.2% (78)	76.6% (108)
Contribute to sustainable local development	84.8% (28)	63.9% (69)	68.8% (97)
Total and Sample of households (n)	23.4% (33)	76.6% (108)	100%(141)

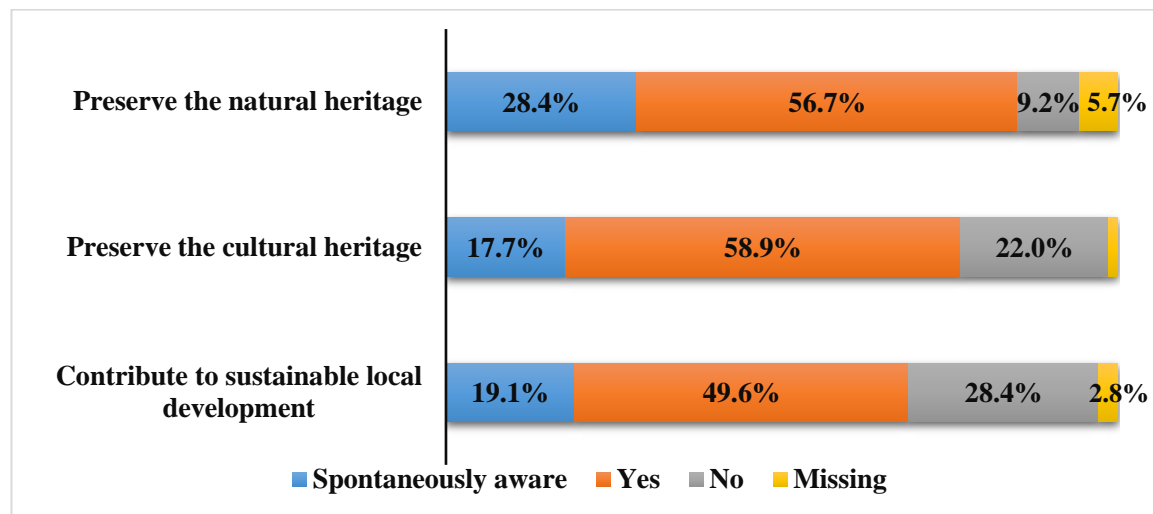
When closely examining the recognition of the objectives, three types of answers were identified (Figure 2 below):

- a- The *unprompted and thus well-informed* answers detected in households where at least one member spontaneously asserted that he/she knows about the main objectives of the association without being given possibilities (marked “spontaneously aware” in the figure below). This category measures the interests of the respondents and, to a certain extent, the efforts of the association to call attention upon its objectives. The numbers show that 28.4% of the population is mostly marked by the objective labeled “Preserve the natural heritage”, 19.1% of the population by the objective labeled “Contribute to sustainable local development”, and 17.7% by objective labeled “Preserve the cultural heritage”.

- b- The *reminiscent* responses detected in households where at least one member recognized the objectives of the association after they were mentioned before him/her (marked “yes” in the figure below). This category is linked to recollection. It suggests that the respondents have heard about a particular objective but do not necessarily value it /or have not seen it materialize. This category speaks of a lower level of awareness (Preserve the cultural heritage (58.9%), Preserve the natural heritage (56.7%), Contribute to sustainable local development (49.6%).

- c- The *oblivious* responses detected in households where no member recognized the objectives of the association even after those objectives were mentioned before him/her (marked “no” in the figure below). This small category shows that some households are unaware of the APJM’s raison d’être. Apart from deliberate denial which might occur in high tension contexts, this obliviousness is usually the result of indifference.

Figure 2: Awareness of the objectives of the APJM



2.4. Awareness of the activities of the APJM in the local community

The activities of the APJM, as sets of tasks that accomplish its objectives, constitute a visible dimension susceptible to be recognized and evaluated by the population. The table below shows high levels of awareness (ranging between 97.8% and 62.2%) linked to the various activities in all the surveyed villages.

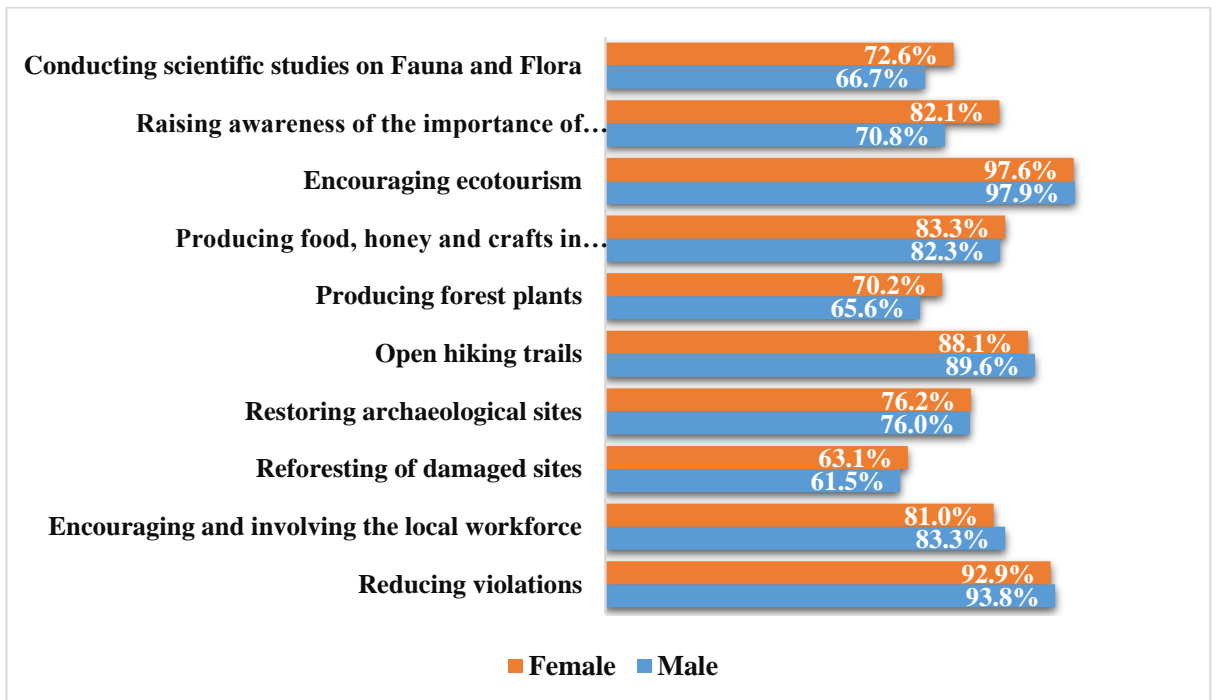
Since the list of activities was read before the respondents, their visibility cannot be solely attributed to memory or hearsay. It is essentially linked to the direct interests of the respondents (what appeals to them) and to their current economic situation (what concerns them). Hereafter is a classification of activities according to their general visibility by village in descending order.

Table 12: Awareness of the APJM’s activities by village

	Chouwan		El Ebreh		Nahr ed Dahab		Qehmez		Yahchouch		Total	
	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
Encouraging ecotourism	20	100%	19	90.5%	41	100%	70	100%	26	92.9%	176	97.8%
Reducing violations	16	80%	19	90.5%	40	97.6%	68	97.1%	25	89.3%	168	93.3%
Open hiking trails	18	90%	18	85.7%	36	87.8%	67	95.7%	21	75%	160	88.9%
Producing food, honey and crafts in cooperation with women and local farmers	20	100%	17	81%	35	85.4%	55	78.6%	22	78.6%	149	82.8%
Encouraging and involving the local workforce	14	70%	18	85.7%	34	82.9%	61	87.1%	21	75%	148	82.2%
Raising awareness of the importance of protecting Jabal Moussa	14	70%	13	61.9%	36	87.8%	56	80%	18	64.3%	137	76.1%
Restoring archaeological sites	14	70%	17	81%	30	73.2%	55	78.6%	21	75%	137	76.1%
Conducting scientific studies	10	50%	15	71.4%	31	75.6%	52	74.3%	17	60.7%	125	69.4%
Producing forest plants	14	70%	15	71.4%	30	73.2%	43	61.4%	20	71.4%	122	67.8%
Reforestation of damaged sites	13	65%	19	90.5%	23	56.1%	36	51.4%	21	75%	112	62.2%
Respondents	20		21		41		70		28		180	

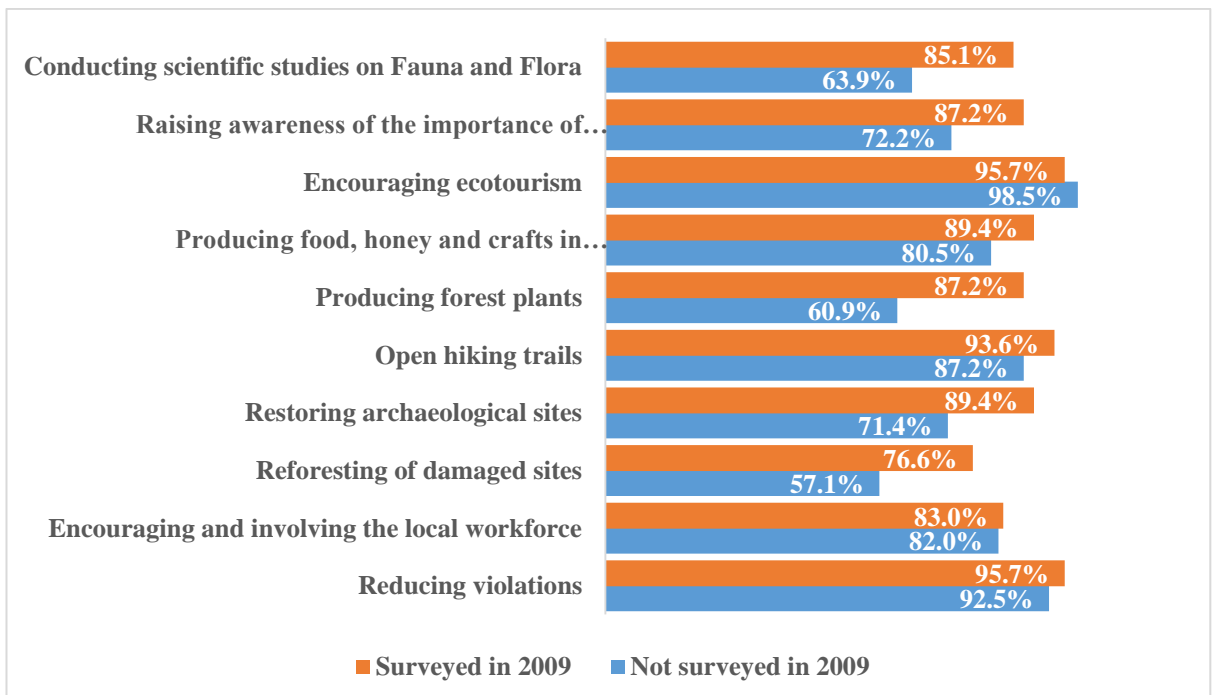
When answers about the awareness of the APJM’s activities were grouped on a gender basis (Females =mothers and daughters / Males=fathers and sons) regardless of the almost nonexistent generational differences, there appeared a slight female tendency to single out the “conduction of scientific studies on fauna and flora” and “raising awareness on the importance of protecting Jabal Moussa”:

Figure 3: Awareness of the APJM's activities by gender



The same observation was made when comparing the awareness of the activities in twice surveyed households (2009 and 2020) and those surveyed only in 2020.

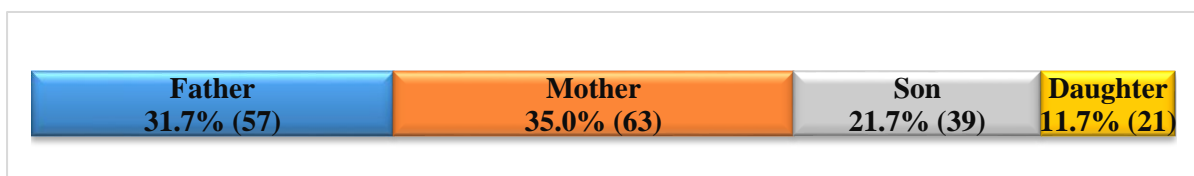
Figure 4: Awareness of the APJM's activities in twice surveyed households



2.4.1. Appraisal of the APJM's activities by the local community

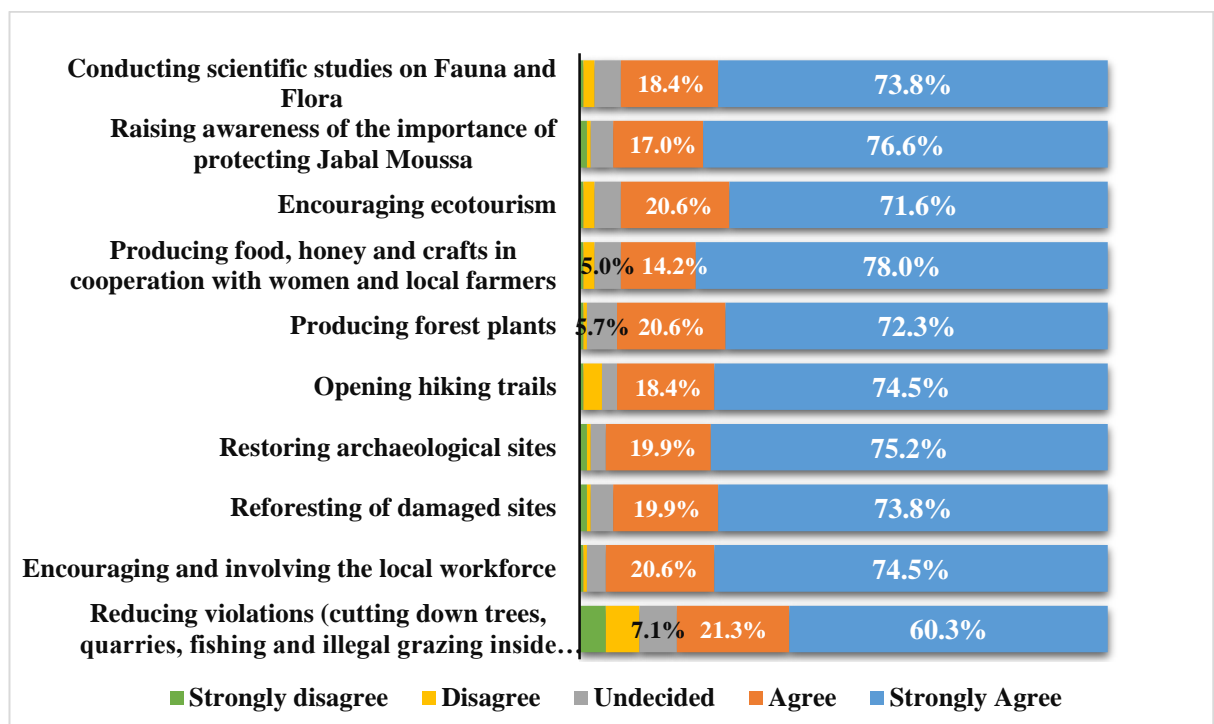
The question intended to measure the agreement upon the importance of the APJM's activities was asked separately to the head of households, their spouses, their male children and their female children. A total of 180 responses were collected in the 141 households (in 111 households there was only one respondent at the moment of the visit and in only 30 households, more than one respondent). Because of the high number of absentees, and contrary to expectations, the analysis did not yield meaningful generational or gender differences in attitudes within the households.

Figure 5: The number of respondents evaluating the APJM's activities



The average approval rate of the APJM's activities is 74.4%. The only controverted activity (reducing violations: cutting down trees, quarries, hunting and illegal grazing inside the Reserve) scores the lowest on the approval scale (60.3%).

Figure 6: Approval scale of the APJM's activities



By shifting attention to the comparison by village, the table 15 (below) shows that, for virtually every activity, the highest rates of approval are registered in Qehmez and the lowest in Yahchouch. Since the additional analysis of the distribution of suggestions and grievances by village was not conclusive, the real reasons behind the appraisals remain somewhat hazy. The only method likely to explain true motivations is a monograph of the targeted villages. The advantage of this method which consists in a detailed study of villages in a micro-sociological perspective is that it unveils relationships between the inhabitants and explains the dynamics leading to the formation of a prevailing public opinion in each locality.

Table 13: Approval scale of the APJM's activities by village

		Strongly disagree		Disagree		Undecided		Agree		Strongly agree		Total
		n	%	n	%	n	%	n	%	n	%	
Reducing violations	Chouwan	0		1	5%	0		8	40%	11	55%	20
	El Ebreh	2	10%	0		0		8	38%	11	52%	21
	Nahr ed Dahab	0		3	7%	4	1	12	29%	22	54%	41
	Qehmez	4	6%	3	4%	4	6%	5	7%	54	77%	70
	Yahchouch	2	7%	7	25%	3	11%	5	18%	11	39%	28
Encouraging involving local workforce	Chouwan	0		0		0		5	25%	15	75%	20
	El Ebreh	0		0		0		8	38%	13	62%	21
	Nahr ed Dahab	0		0		2	5%	8	20%	31	76%	41
	Qehmez	0		0		1	1%	7	10%	62	89%	70
	Yahchouch	2	7%	4	14%	4	14%	9	32%	9	32%	28
Reforestation damaged sites	Chouwan	0		0		0		6	30%	14	70%	20
	El Ebreh	0		0		0		8	38%	13	62%	21
	Nahr ed Dahab	0		0		2	5%	9	22%	30	73%	41
	Qehmez	0		0		2	3%	5	7%	63	90%	70
	Yahchouch	3	11%	4	14%	4	14%	8	29%	9	32%	28
Restoring archeological sites	Chouwan	0		0		0		7	35%	13	65%	20
	El Ebreh	0		0		0		8	38%	13	62%	21
	Nahr ed Dahab	1	2%	0		2	5%	5	12%	33	80%	41
	Qehmez	0		0		1	1%	5	7%	64	91%	70
	Yahchouch	2	7%	4	14%	2	7%	11	39%	9	32%	28
Opening hiking trails	Chouwan	0		2	10%	1	5%	6	30%	11	55%	20
	El Ebreh	0		2	10%	1	5%	7	33%	11	52%	21
	Nahr ed Dahab	0		0		1	2%	8	20%	32	78%	41
	Qehmez	0		0		1	1%	4	6%	65	93%	70
	Yahchouch	2	7%	6	21%	3	11%	6	21%	11	39%	28
Producing forest plants	Chouwan	0		0		0		7	35%	13	65%	20
	El Ebreh	0		0		1	5%	7	33%	13	62%	21
	Nahr ed Dahab	0		0		3	7%	8	20%	30	73%	41
	Qehmez	0		0		1	1%	7	10%	62	89%	70
	Yahchouch	2	7%	4	14%	5	18%	10	36%	7	25%	28
Producing food, honey, crafts	Chouwan	0		0		0		8	40%	12	60%	20
	El Ebreh	0		1	5%	3	14%	5	24%	12	57%	21
	Nahr ed Dahab	0		0		2	5%	3	7%	36	88%	41
	Qehmez	0		0		3	4%	3	4%	64	91%	70
	Yahchouch	2	7%	4	14%	2	7%	8	29%	12	43%	28
Encouraging ecotourism	Chouwan	0		1	5%	1	5%	9	45%	9	45%	20
	El Ebreh	0		1	5%	1	5%	8	38%	11	52%	21
	Nahr ed Dahab	0		0		1	2%	8	20%	32	78%	41
	Qehmez	0		0		4	6%	5	7%	61	87%	70
	Yahchouch	2	7%	4	14%	3	11%	9	32%	10	36%	28
Raising awareness/protecting JM	Chouwan	0		0		0		8	40%	12	60%	20
	El Ebreh	0		0		3	14%	5	24%	13	62%	21
	Nahr ed Dahab	0		0		2	5%	7	17%	32	78%	41
	Qehmez	1	1%	0		1	1%	4	6%	64	91%	70
	Yahchouch	2	7%	2	7%	3	11%	8	29%	13	46%	28
Conducting scientific studies	Chouwan	0		0		1	5%	7	35%	12	60%	20
	El Ebreh	0		1	5%	1	5%	9	43%	10	48%	21
	Nahr ed Dahab	0		0		6	15%	6	15%	29	71%	41
	Qehmez	0		0		1	1%	4	6%	65	93%	70
	Yahchouch	2	7%	5	18%	4	14%	8	29%	9	32%	28

2.5. The possibility for the local community and its willingness to cooperate with the APJM

Unearthing talents, traditional professions, craftsmanship and individuals ready to cooperate with the APJM is one of the most important aims of the present survey. These resources can largely contribute to the growing activity of the association and are documented in a separate file.

The table below shows that 56 individuals are ready to volunteer with the APJM (most of them “in any area or domain” (43), some of them in tourism services (1), agriculture (1), garbage collection (2), humanitarian action (1), Muneh production (1), organisation and administration (1), participation in festivals (1). Given the current economic conditions, volunteering is most probably viewed as a pre-employment step. 41 respondents have traditional professions mostly in masonry and 65 have special talents in cooking, writing, poetry, playing a musical instrument, Zajal (traditional oral strophic poetry) and other “challenge traditions” such as lifting heavy objects (رفع الجرن). The undeniable success of ecotourism is attested by the high number of individuals (96) ready to provide tourism services. 46 individuals would like to work as tourist guides, 24 as guards, 29 would like to open guests houses or restaurants.

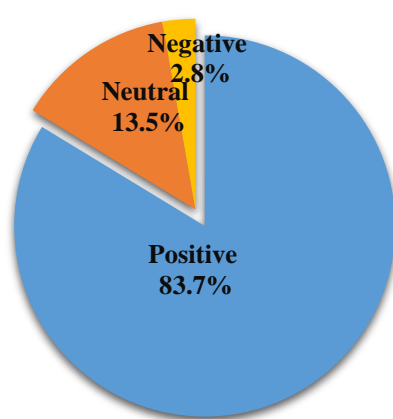
Table 14: Possibility and willingness to cooperate with the APJM

	Chouwan		El Ebreh		Nahr ed Dahab		Qehmez		Yahchouch		Total	
	H	I	H	I	H	I	H	I	H	I	H	I
<i>H= Households</i>												
<i>I= Individuals</i>												
Readiness of family members for volunteering with APJM in order to achieve its goals	7	10	3	4	11	11	16	16	10	15	47	56
Family members skilled in craftsmanship	6	7	1	1	7	7	13	15	9	11	36	41
Talented family member	7	12	4	4	16	18	16	18	9	13	52	65
Member of the family with a traditional profession	3	3	1	1	8	8	14	16	2	2	28	30
Family member ready to cooperate with the association to provide tourism services	9	12	6	9	14	20	32	37	10	18	71	96
Sample of households (n)	13	40	14	48	34	137	65	269	15	68	141	562

2.6. Suggestions and grievances stemming from the local community

The high appraisal of the activities steered by the APJM is validated by the positive attitude sensed by the investigators in 83.7% of the households. The aggregation of suggestions and grievances is meant to put the high satisfaction rates under scrutiny.

Figure 7: Impression of the investigators concerning the overall attitude of the surveyed family



The coding of the open questions about the local community's suggestions and grievances was a particularly difficult endeavor. It started with the combination of 4 categories of information: Suggestions for achieving the objectives of the APJM/ Suggestions for improving ecotourism/ Suggestions about other areas of cooperation (on subjects other than those mentioned in the questionnaire)/ Other subjects that the surveyed wished to raise. The 261 bulk statements that were thereby collected had to be broken down into individual assertions (totaling 291 claims), translated to English, standardized and sorted. Since the assertions were virtually identical throughout the villages, a general thematic approach prevailed. The 291 statements were then grouped in 13 general categories. The table below shows these categories and the number of times they occurred in the completed questionnaires:

Figure 8: Suggestions and grievances of the local community

81		Economic and social concerns
40		Skepticism and apprehension
34		Ecotourism
27		Environmental concerns
25		Potential nuisance or danger
24		Infrastructural concerns
17		Communication and awareness campaigns
12		Involving and Privileging the local community
10		Agriculture and breeding
8		Cultural concerns
6		Ethical concerns
6		Social activities
1		Scientific concern

Economic and social concerns

It comes as no surprise that the economic concerns are at the top of the local community's priorities in this particularly difficult year of 2020. It was already the case in 2009, but the acute economic crisis paired with the sanitary emergency accelerated impoverishment and increased the number of income-related demands (despite the low unemployment rate within the active population). The unanimous plea for job creation shows that the APJM is increasingly regarded as a potential employer. It is even insinuated that it is its duty to recruit large numbers of locals. Some of the demands take a general allure ("Intensify development"), some others favor empowerment ("Organize training sessions for women on cooking, and Muneh") and some are much more straightforward ("Help the poor, procure food aid").

It is noteworthy that, in comparison with 2009, all skepticism about the benefits of Ecotourism seems to have vanished with the unanimous demand to increase the number of coffee kiosks, Saj (unleavened flatbread) Kiosks, and guesthouses. The households suggest "creating more collective kitchens (Qehmez)", "intensifying the production of Muneh", "creating a "house of Muneh"", "encouraging catering for social occasions", "enhancing sales", "adding new items such as eggs, grenadine molasses, saj bread and ice cream to the list of the Jabal Moussa products".

Although providing viable alternatives, the ecotourism activities do not unfortunately turn some of the locals away from overexploitive uses of the land. The massive demand to lift the ban on abrasive activities (Charcoal production/Tree cutting/Grazing/hunting) shows that some of the locals do not grasp or chose to ignore the rationale behind the prohibitions. In comparison with 2009, a sensible increase in the production of charcoal and firewood is to be noted. As shown in table 8, the production for domestic use has risen from 5.1% in 2009 (for a population of 508 households) to 15.6% (for a population of 141 households) in 2020. 11 households are ready to put up charcoal for sale and 13 are ready to sell firewood.

Skepticism and apprehension

The second recurrent theme in the suggestions and grievances is related to the negative perception of the APJM within part of the local community. The approbation of its goals and activities do not neutralize some conscious and unconscious dubiety mostly expressed through “dos and don’ts”.

Within this category, the first allegation is the one picturing the APJM as a controlling and punitive association: “Find a solution for penalties and tickets”, “The APJM should not interfere outside the boundaries of the Reserve”, or more avertedly: “Keep away from us”, “Our land, our freedom” (knowing that in 2009, 9 households declared owning land within the protected mountain and 16 others said they owned land within and around the mountain), “Enough is enough. They sent the police to confiscate the wood. This is an Ottoman-like behavior”. The ban on grazing, tree cutting and charcoaling is perceived as form of oppression and are linked to “undeclared objectives” and to hidden agenda.

Another group of claims within the same category is the one attributing negative actions and attitudes to the APJM: “Encourage the APJM's employees to act conscientiously”, “Increase control and monitoring of APJM's actions”, “Avoid clashes with the local community”, “Be positive with the locals”, “What the APJM is doing has negative downfalls on the long run”, Restore things back to normal (the old houses in the Reserve), “the APJM’s president and administration should be replaced”. In the same vein, the APJM is accused of favoritism and is demanded to “stop sowing discord between residents”, and “put residents on an equal

footing”. Villages are thus engaged in a form of benign competition (“the APJM should devote more attention to Chouwan”, “you should recruit more guardians from our village”).

Another attitude is denying the APJM its accomplishments: “The Association started on the wrong foot, they did not raise awareness”, “It prohibited supposedly abrasive activities without providing alternatives”, “There is no real development in the region”. One respondent denounced the inanity of the whole conservation scheme by stating that “there is nothing in Jabal Moussa to conserve in the first place”.

One last detected claim within this category is sheer indifference (1 occurrence) attributed either to anger and disapproval or to genuine coldness towards the subject (“We don’t care about the environment”).

Ecotourism

In 2009, 94.4% of the surveyed households agreed on introducing ecotourism to the region although they did not fully understand what it meant. Their definition of the concept seemed to be closely linked to the existence of archaeological remains within the mountain enclosure and to urban types of tourist attraction. For some, tourism rhymed with big hotels, large shopping centers and cable cars. Today, the local population is totally favorable to ecotourism from the standpoint of the informed and the “practitioner”. Now that this activity yields concrete benefit, the locals have started thinking of ways of enhancing it. They are henceforth attentive to every detail. They think that the number of official entrances to the Reserve should be increased (Add entrances in El Ebreh and Nahr Ed Dahab in order to favor a better distribution of tourists) and that the entrances of the Reserve need improvement (“plant trees”, “put seats in the shade”, “organize recreational activities”, “lawn the grass” and “create permanent selling points”). Locals have also thought about camping. Some of them wish to allow camping and to create campsites within the mountain while others demand the APJM to find a solution for camping near the lake. They are also full of ideas to enhance ecotourism activities. They suggest:

- A project of religious tourism
- A Jabal Moussa Marathon
- Seasonal themed events (Tomato paste day, Bulgur day)

- Tour organization in villages
- Visits for school children and university students school and university students visits/
- Boosting internal tourism
- Buying buses to transport tourists from one entrance to the other
- Introducing pack animals to carry visitors unable to walk
- Give a special attention to trails and paths : clean paths, create new paths, draw zipper lines, light paths leading to the old houses and to the Cross especially on the Feast of the Cross
- Create parking lots/ Rent parking lots near churches in El Ebreh.

Inevitably, some of the locals are annoyed by the intrusive foreigners who trespass over their private property. They wish that ecotourism activities be limited to the boundaries of the mountain. Some others complain that non-locals are illicitly harvesting thyme in the region. They demand that this kind of action be prohibited by the APJM. Noise, littering, inappropriate behavior and indecent clothing within the perimeter of churches were also part of the raised issues. Some household wish that the APJM keep an eye on tourists at the riverside in Nahr ed Dahab.

Environmental concerns

In 2009, it was survival rather than living in harmony with nature that preoccupied the surveyed households. The moral considerations governing the ecological relationship with nature were therefore poorly developed in the collected data. Although the economic situation has worsened since, a slight upswing in interest towards the environment was detected in the answers of 2020. A number of suggestions were indeed motivated by a genuine will to protect the environment:

- Garbage collection / Putting garbage bins
- Planting trees (walnut trees) along the roads/ Reforesting damaged areas
- Tree pruning to prevent fires
- Encouraging people to weed out their land to prevent fires
- Creating a lake at the top of the mountain for fire extinguishing reasons
- Prohibiting sand quarries
- Introducing new animal species to the Reserve (gazelles)

Potential nuisance or danger

Like in 2009, the relationship to wildlife is still dominated by the fear of wild animals. If the protection of nature is somehow perceived as legitimate, the protection of “predators” is still unjustified in the eyes of the locals. The worry about potential nuisance or danger is formulated in demands such as: “Laying a fence around the mountain to keep out wild animals”, “Reducing the number of hyenas” (perceived as totally villain) and even threats “to hunt down the beasts”.

Infrastructural concerns

Like in 2009, the surveyed pollution highlighted the deficiencies in infrastructure throughout the region. The most pressing infrastructural concern is the state of the roads. It is as if the APJM is required to act in place of the State or of the municipalities: locals demand better roads, road signs, streets and paths lighting, retaining walls, snow removal and road paving. Some of them demand the opening of the road between Mcheteh and Qehmez.

Communication and awareness campaigns

Increasing publicity, marketing efforts and communication around the Reserve has become a necessity especially to those involved in ecotourism. The locals advise a more extensive use of social media, creating a magazine for Jabal Moussa, a leaflet about Qehmez's monuments, a promotional short film and organizing symposiums.

Involvement and privilege of the local community

The mediation between locals and nature triggered feelings of dispossession clearly highlighted in the 2009 report. The need for some residents to take things back into their own hands was occasionally expressed in a violent way through angry flare-ups and less often through suspected actions of sabotage. Ten years later, this attitude is very scarce and has turned into the need to be constantly consulted. In 2020, locals look for privileging signs coming from the APJM as some form of compensation: “further involve the locals in activities”, “involve the community in decision-making” or even “grant free entrance to the Reserve”.

Agriculture and breeding

The acute economic crisis prompts the local community to further develop agriculture and to address a big number of demands to the APJM who is supposed to “help farmers” , “raise awareness on agriculture”, “benefit from the ideas of those studying agriculture and environmental science”, “create a cooperative for famers”, “buy a tractor for the regions”, “create a plant nursery”, “plant Carob trees and thyme instead of useless forest trees”, “ allow planting within the mountain's boundaries” , “organize symposiums on organic farming”, “implement a project of organic farming” , “create animal farms and namely a goat farm in Al Snawbar.

Cultural concerns/ Ethical concerns/ Social activities /Scientific concerns

A number of demands fall under the category of cultural concerns like the necessity to restore Saint George's Convent, to promote folklore and heritage through the creation of a museum and to restore vestiges all over the region. The APJM’s attention is also drawn to children activities that gain to be boosted in the area (parks, educational centers). Also, spaces for social gatherings seem to be a necessity. Only in one household have we encountered an interest for scientific studies on fauna and flora in the mountain. Six households are particularly jealous on “ethical issues”. They advocate “decency near churches”, call upon the APJM’s guards to impose decency” and ask the APJM’s to make donations to the church and token the churches’ surroundings clean.

Conclusions and suggested pointer for action

In a study published in 2016 on the social effects of marine protected areas off the coast of Baja California in Mexico, the author found that “protected areas may actually change the social structure of their associated human communities, inciting both higher degrees of cooperation and competition among community members — but with a net outcome that, in the right circumstances, can give a boost to overall social cohesion”³. The protected area in Jabal Moussa seems to be doing so. Throughout this report and in comparison with the 2009 results, the high numbers of households and individuals willing to cooperate with the APJM, the numerous positive suggestions, the high levels of declared satisfaction paired with the slow but sure erosion of negative attitudes towards the conservation plan, underline the pertinence of the choices and decisions undertaken by the association. While the APJM’s contribution to the transition from an exploitation-centered perception to one acknowledging biophysical limits has seemingly borne fruit, efforts destined to distinguish between (and deal with) legitimate and illegitimate expressions of disapproval and to address inequalities between villages are bound to evolve through constant dialogue and consultation.

Longitudinal periodic quantitative surveys prove to be very useful for understanding the evolution in attitudes but new research suggests that qualitative research and focus groups detecting social micro-processes are more likely to exhume unknown and more interesting cultural phenomena determining the formation of opinions. Extensive face-to-face interactions are in fact known to neutralize the generalizing effect of quantitative approaches in small-size populations. They give the opportunity to test quantitative findings and to determine whether opinions and reactions stem from punctual stimuli (the formulation of a question, the timing of the survey) or if they are rooted in authentic concerns. Largely inductive, qualitative research moves closer to the needs emanating from the local community and enhances the legitimacy of nature Reserves.

³ <https://www.washingtonpost.com/news/energy-environment/wp/2016/03/04/how-protecting-the-environment-changes-human-nature/>

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Annexes

Table 15: Production of vegetables and possibility of selling part of the harvest to APJM

Vegetables	For self-use	For sale	No production	% of households
Tomato	65	51	25	82.3%
Bean (لوبية)	63	47	31	78.
Cucumber	61	31	49	65.2%
Squash	48	23	70	50.4%
Eggplant	22	11	108	23.4%
Potato	22	8	111	21.3%
Cabbage	13	11	117	17.
Onions	16	4	121	14.2%
Pumpkin	7	5	129	8.5%
Cauliflower	7	4	130	7.8%
Lettuce	7	3	131	7.1%
Garlic	6	3	132	6.4%
Corn	8		133	5.7%
Hot pepper	6	2	133	5.7%
Olives	7	1	133	5.7%
Red beans (فاصوليا)	6		135	4.3%
Sweet pepper	4		137	2.8%
Yard-long cucumber (Mekte)	4		137	2.8%
Radish	3		138	2.1%
Beans فول	2		139	1.4%
Broccoli		2	139	1.4%
Carrots	2		139	1.4%
Peas	2		139	1.4%
Artichoke	1		140	0.7%
Beetroot	1		140	0.7%
Green Pumpkin	1		140	0.7%
Kale	1		140	0.7%
Lemon	1		140	0.7%
Okra		1	140	0.7%
Sunflower	1		140	0.7%

Table 16: Production of fruits and seed and possibility of selling part of the harvest to APJM

Fruits & Seeds	For self-use	For sale	No production	% of households
Apple	50	43	48	66.
Cherry	43	16	82	41.8%
Plum	37	18	86	39.
Pear	27	15	99	29.8%
Peach	24	17	100	29.1%
Grapes	35	6	100	29.1%
Walnut	14	7	120	14.9%
Strawberry	5	10	126	10.6%
Berry	9	3	129	8.5%
Pomegranate	7	5	129	8.5%
Fig	8	1	132	6.4%
Apricot	6	1	134	5.
Watermelon	4	2	135	4.3%
Melon	4		137	2.8%
Kiwi	2	2	137	2.8%
Orange	2	1	138	2.1%
Kaki	3		138	2.1%
Quince	1	1	139	1.4%
Carob	2		139	1.4%
Janerik (Sour green plums)	2		139	1.4%
Prickly pear (cactus fruit)		1	140	0.7%
Almond	1		140	0.7%
Avocado		1	140	0.7%
Raspberry		1	140	0.7%
Cranberry		1	140	0.7%
Jujube	1		140	0.7%
Chestnut	1		140	0.7%
Hazelnut	1		140	0.7%

Table 17: Production of herbs and shrubs and possibility of selling part of the harvest to APJM

Herbs & Shrubs	For self-use	For sale	No production	% of households
Thyme	56	21	64	54.6%
Parsley	36	12	93	34.
Sumac	35	10	96	31.9%
Mint	25	3	113	19.9%
Rocca	7		134	5.
Coriander	4	1	136	3.5%
Purslane	3	2	136	3.5%
Basil	2	1	138	2.1%
Rosemary		2	139	1.4%
Chard	1		140	0.7%
Chicory	1		140	0.7%
Laurel	1		140	0.7%
Lavender		1	140	0.7%
Molokhia	1		140	0.7%

Table 18: Production of Muneh and possibility of selling part of it to the APJM

Muneh- Food storage	For self-use	For sale	No production	% of households
Jam	92	13	36	74.5%
Keshek-Kashk	84	18	39	72.3%
Pickles	91	11	39	72.3%
Tomato paste	63	8	70	50.4%
Arak	52	11	78	44.7%
Syrup	41	10	90	36.2%
Verjuice	32	11	98	30.5%
Molasses	21	6	114	19.1%
Karishah- Cottage cheese	20	4	117	17.
Vinegar	11	8	122	13.5%
Rose water	13	5	123	12.8%
Orange flower water	13	3	125	11.3%
Maakroun	8	7	126	10.6%
Wine	11		130	7.8%
Dried mint	3	3	135	4.3%
Ketchup	3	1	137	2.8%
Pomegranate molasses		3	138	2.1%
Grape leaves	1	1	139	1.4%
Grape molasses	2		139	1.4%
Grapes essence (Spirto alcohol)	1	1	139	1.4%
Sfouf cake	1	1	139	1.4%
Tomato juice	1	1	139	1.4%
Essence dried mint		1	140	0.7%
Essence salvia		1	140	0.7%
Grape	1		140	0.7%
Ice cream		1	140	0.7%
Laurel oil		1	140	0.7%
Nammoura (semolina cake)		1	140	0.7%
Olive oil		1	140	0.7%
Olives (processed)		1	140	0.7%
Other arabic sweets		1	140	0.7%
Pomegranate paste	1		140	0.7%