

Biodiversity Village Award 'Baldati Bi'ati'

Salma N. Talhouk & Lama Tawk

American University of Beirut

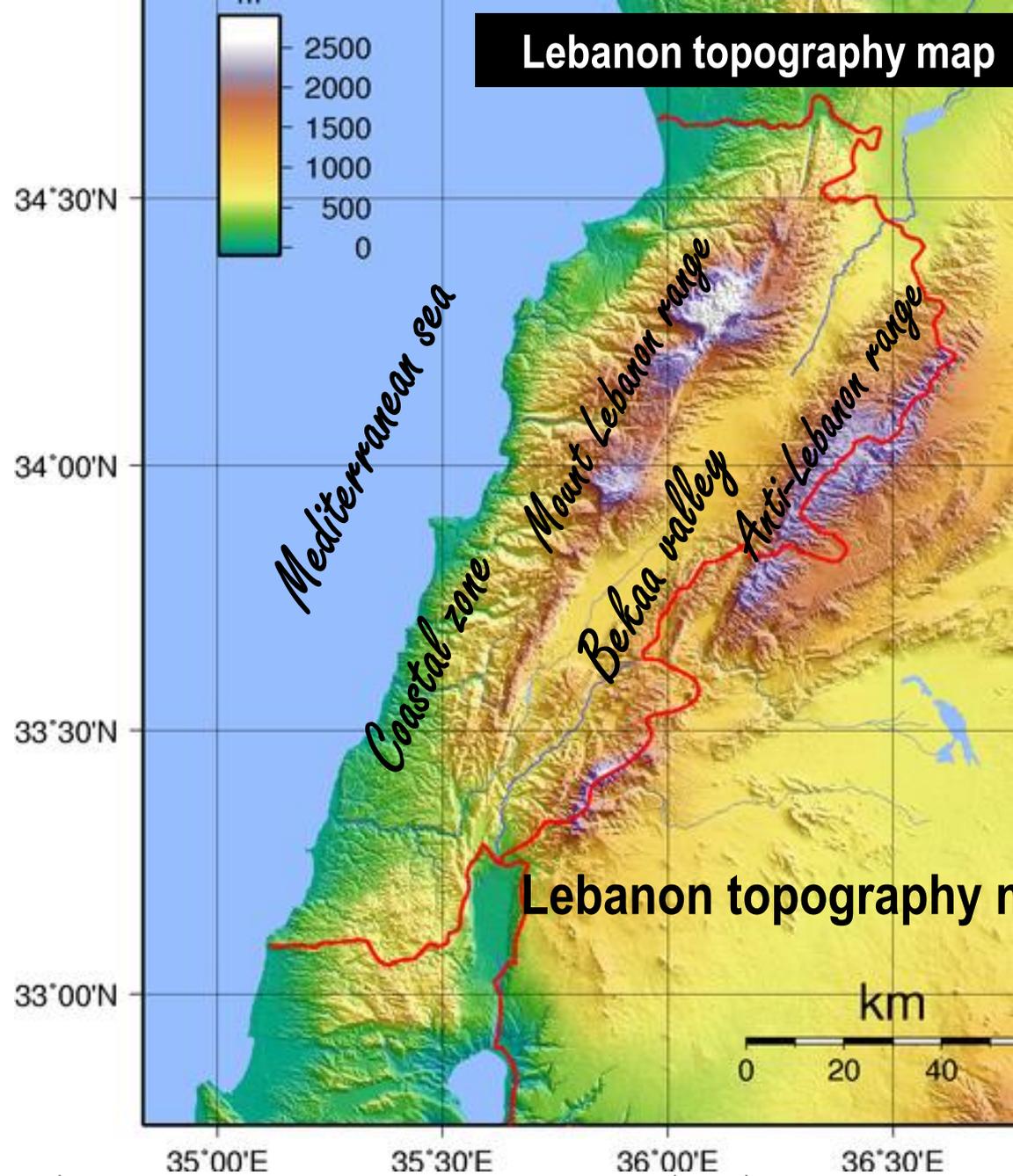
Faculty of Agricultural and Food Sciences

Department of Landscape Design and Ecosystem Management

AUB Nature Conservation Center (NCC)

Lebanon contains typical Mediterranean plant communities, that include botanical elements from temperate, arid, and tropical biomes

It is part of the Mediterranean Basin Global Biodiversity Hotspot, with an estimated 3000 plant species



5th SGA Network meeting, Dubai, UAE, 26th-28th October 2014

Community involvement in the conservation of biodiversity through use necessitates local empowerment that starts with community based data generation.





Cultivate willingness to conserve
Involve community
Contextualize sites and assets
Provide recognition and incentives
Develop & share adapted technology
Enhance local know how and capacity

People guardians and benefactors
Decentralize - Diversify

Ministry of Interior
Decentralization and
capacity building of
local authorities



Ministry of Tourism
Eco-tourism, green
jobs and economic
opportunities



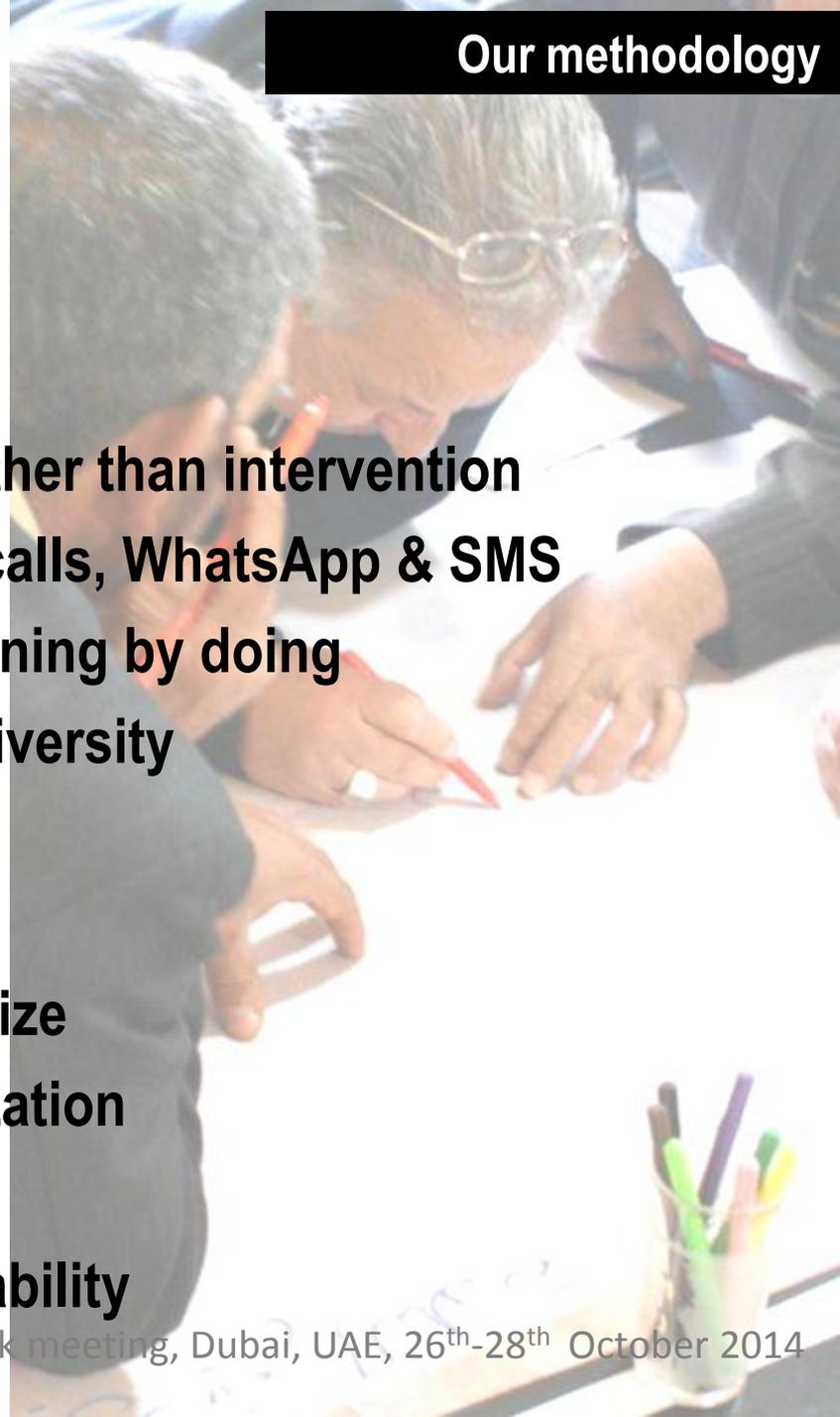
Ministry of Education
Awareness and
knowledge dissemination



Coca-Cola Foundation
Private Sector Sponsor



- **Easy to read aerial maps**
- **Universal icons as “shopping list”**
- **Formation of local committees**
- **Recurrent on-site mapping workshops**
- **Data generation through facilitation rather than intervention**
- **Direct access to researchers through calls, WhatsApp & SMS**
- **Iterative capacity building through learning by doing**
- **Sensitive to gender balance & social diversity**
- **Readily replicable**
- **Promoting best practices**
- **Symbolic incentives – BVA Award & Prize**
- **Through use – Landscape contextualization**
- **Consensus building**
- **Developing local indicators of sustainability**



Easy to read aerial maps

Damour



The 79 icons were organized under three categories:

landscape and nature
eco-culture
eco-threat/opportunities

At total of 1723 sites was recorded.

الثقافة والمجتمع

- موقع ثقافي
- مركز/ موقع فني رسم ونحت
- دورات مياه عامة
- حقي مختلط
- مستشفى/ مستوصف
- مركز للبلدية أو مراكز حكومية
- شبكة انترنت
- مركز استعلامات
- نصب تذكاري
- حقي ذو طابع تراثي
- متحف
- مطاعم ومقاهي
- تعليم بيئي
- مدرسة
- ساحة ديوان البلدة
- مراكز دينية
- مكتبة عامة
- مقياس للتلوث البيئي
- نوادي وجمعيات بيئية
- مركز للشؤون الاجتماعية
- موقع تاريخي
- موقع أثري
- مركز/ مشغل حرفي
- مركز/ موقع فنون
- مركز/ موقع فنون مسرح
- مركز اجتماعي
- مدافن
- موقع تطوعي
- خبير بيئي
- موقع صالح للأولاد
- موقع صالح للكبار السن

المياه

- مورد مائي
- مياه نبع
- بركة جمع مياه الأمطار
- محطة إعادة تدوير المياه

التلوث والمخاطر

- مصادر ضجيج غير صحية
- موقع طبيعي مهدد
- مصدر تلوث مائي
- كسارات ومراجل
- غابة او حرش مهدد من القطع العشوائي
- أماكن كوارث طبيعية
- مصدر تلوث هوائي
- مكب نفايات

الحياة المستدامة

- زراعة بعلية
- زراعة عضوية
- مشتل
- تشجير أشجار موطنية سنوياً
- سطوح خضراء
- بيوت مبنية على الطريقة التقليدية
- تربية النحل
- مرجع للسياحة البيئية
- مولدات للطاقة الشمسية
- مولدات للطاقة الهوائية
- إعادة تدوير
- إعادة استعمال
- أجار موسمي
- بضائع بيئية

الطبيعة والنشاطات بيئية

- غابات واحراش
- معلم جيولوجي
- شجرة مميزة
- طريق مزروعة بالأشجار
- منتزه على ضفاف المياه
- أماكن مميزة لمشاهدة الطيور والفرشات
- حزام نزوح الطيور
- طيور بحرية
- حيوانات برية
- ساحة عامة
- حدائق عامة
- دروب البلدة
- أراضي مستهدفة للتسليق
- مخيمات بيئية
- ممرات دراجات هوائية
- أماكن تزلج ونشاطات ثلج
- مسبح
- نشاطات رياضية نهريّة
- نشاطات رياضية بحرية
- مشاهد غروب/ شروق الشمس
- مشاهد مميزة
- أماكن لمشاهدة النجوم

Formation of village committees



Recurrent on-site mapping workshops



Direct access to researchers through calls, WhatsApp



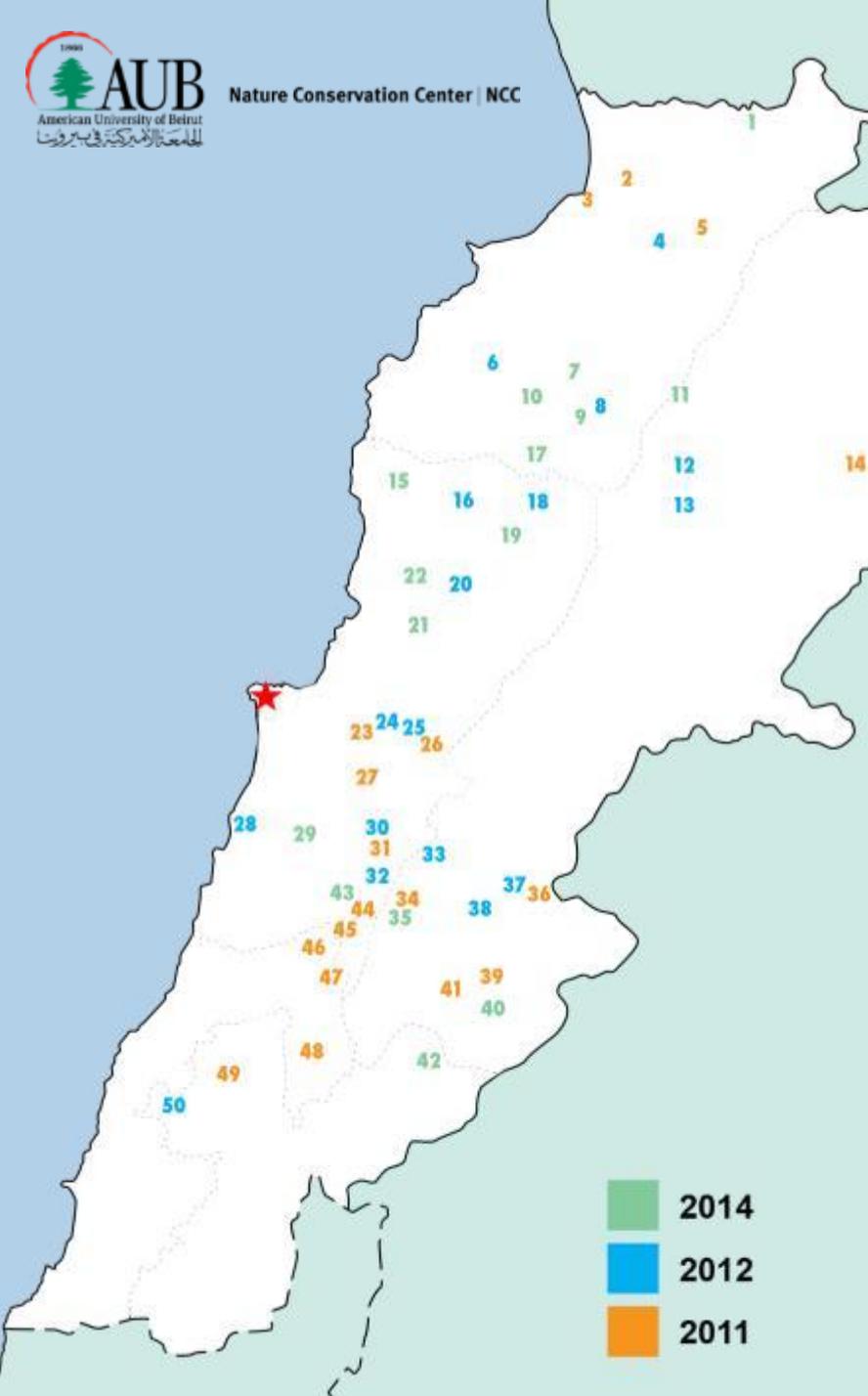
Explore new and diverse venues that better align with local cultural perceptions and expectations to broaden participation in the creation of Village Maps

Iterative capacity building through learning by doing



Sensitive to gender balance & social diversity





- 1 Menj
- 2 Miniara / منيارة
- 3 Bebnine / بينين
- 4 Hrar / حرار
- 5 Michmech / مشمش
- 6 Kousba / كوسبة
- 7 Ehden / إهدن
- 8 Bsharreh / بشري
- 9 Hasroun / حصرون
- 10 Qnat / قنات
- 11 Oyoun Orgosh / عيون ارغش
- 12 Barqa / برقة
- 13 Deir El Ahmar / دير القمر
- 14 Aarsal / عرسال
- 15 Bentaael / بنتيل
- 16 Ehmej / إهمج
- 17 Tannourine / تنورين
- 18 Aakoura / العاقورة
- 19 Qartaba / قرطبة
- 20 Hrajel / حراجل
- 21 Reifoun / ريفون
- 22 Chahtoul / شحتول
- 23 Ras El Matn / راس المتن
- 24 Deir El Harf / دير الحرف
- 25 Al Qalaa / القلعة
- 27 Shinai / شانيه
- 28 Damour / الدامور
- 29 Bsheftine / بشتفين
- 30 Ourhaniye / ورهانية
- 31 Barouk / الباروك
- 32 Maaser El Shouf / معاصر الشوف
- 33 Aana / عانا
- 34 Ain Zebde / عين زبدة
- 35 Saghbine / صغبين
- 36 Aita El Foukhar / عيتا الفخار
- 37 Manara / المنارة
- 38 Kamed El Loz / كامد اللوز
- 39 Dahr Al Ahmar / ظهر الأحمر
- 40 Rachaya / راشيا
- 41 Kawkaba / كوكبا
- 42 Kfeir / كفير
- 43 Baadaran / بعدران
- 44 Mrousty / مرستي
- 45 Niha / نيحا
- 46 Jezzine / جزين
- 47 Bkesine / بكاسين
- 48 Rihan / الريحان
- 49 Deir Zahrani / دير الزهراني
- 50 Sinay / سنياي

Applied to 50 villages successfully



Identifying ongoing practices in each village that can serve as national benchmark and inspiration of sustainability to neighboring villages.



Available on YouTube as
“Lebanon Green Initiatives”



Symbolic incentives – Map exhibit for private and public s



Contextualization of conservation opportunities

Landscape and Nature	(n=35 villages)
Wildlife habitat	97%
Scenic vista	94%
Sunrise / sunset site	94%
Star gazing site	94%
Water feature	91%
Special tree	91%
Migration zone	89%
Public forest / natural area	80%
Drinking water source	77%
Streetscaping	57%
Water front / riverside park	43%
Garden	43%
Geological feature	40%

Eco-cultural landmarks	(n=35 villages)
Birds and wildlife watching	83%
Hiking trails	14%
Kayaking sites	0%
camping sites	80%
Snowshoeing	23%
Local Market	100%
Eco-Agriculture	83%
Bicycle sites	63%
Ecotourism Resources	31%
Museums	6%
Green schools	3%
Pollution monitors	3%
Public WiFi Spots	3%
Public libraries	26%

Eco-threats/ Opportunities (n=35 villages)	
Waste dumps	17%
Water pollution sources	86%
Recycling sites	17%
waste water treatment plants	29%
green roofs	30%
Solar Energy sites	1%





Future Plans (top three priorities)	(n=35 villages)
Reforestation	91%
Hiking trails	63%
Rain water collection ponds	57%
Water treatment plants	43%
Forests and Woodlands protection	40%
Camping sites	31%
Solar Energy	30%
Recycling Site	29%

7

Community based Geo-referenced database

	Region	Village Name (Latin)	Village Name (arabic)	Upper right corner lat	Upper right corner long	Lower left lat	Lower left long	Surface Area (km ²)	Altitude (m)	Population	Built area %
	Bekaa	Ain Zebde	عين زبده	33.639096	35.721354	33.616084	35.676594	5.46 km ²	980-1100 m	3650	1.98%
2011	Aakar	Miniara	منيارة	34.547174	36.068365	34.526847	36.054847	1.393	100-200	8000	30.5807% built
2011	Akkar	Bebnine	ببنين	34.527822	35.997999	34.488124	35.976242	6.85	0-120	24000	21.7258% built
2012	Akkar	Hrar	حرار	34.470753	36.153205	34.446542	36.101109	8	750-1150	4700	7.5698% built
2011	Akkar	Michmech	مشمش	34.478929	36.2342	34.412678	36.11953	33.77	700-2000	26000	1.6793% built
2012	North	Kousba	كوسبة	34.328801	35.866987	34.287071	35.835506	6.1	450	9000	11.4571% built
2012	North	Bsharreh	بشري	34.311774	36.142746	34.2065	35.98808	60	1400-3080	70000	3.03424% built
2012	Beqaa	Bar'a	برقة	34.213839	36.166719	34.156952	36.104804	40	1400-2300	3000	1.3210% built
2012	Beqaa	Deir el Ahmar	دير الأحمر								2.9970% built
2011	Beqaa	Ersal	عرسال	34.23459	36.62439	34.046194	36.32793	436	1450-1600	35000	2.3933% built
2012	Mount Lebanon	Ehmej	إهمج	34.148061	35.864373	34.112178	35.763599	17	1000-1450	4500	1.7853% built
2012	Mount Lebanon	Aakoura	العاقورة	34.165164	36.015176	34.039767	35.855048	120	1450-2100	14000	0.5828% built
2012	Mount Lebanon	Hrajel	حراجل	34.047556	35.829144	34.010387	35.781095	12	1450	10000	8.1746% built
2011	Mount Lebanon	Ras El Matn	راس المتن	33.864182	35.690351	33.828254	35.612245	13	500-1000	14000	7.6221% built
2012	Mount Lebanon	Deir El Harf	دير الحرف	33.857784	35.674564	33.841068	35.706246	2.4	1050	800	11.184% built
2012	Mount Lebanon	Al Qalaa	القلعة	33.846393	35.734407	33.830352	35.721318	2	1050	800	23.167% built
2011	Mount Lebanon	Hammana	حمانا	33.832225	35.768535	33.795142	35.718324	8.2	1050-1500	1500	13.0662% built
2011	Mount Lebanon	Shinai	شانية	33.799589	35.673381	33.776406	35.645314	2.44	1050-1200	7000	20.9918% built
2012	Mount Lebanon	Damour	الدامور	33.736864	35.480061	33.687101	35.416632	2000	150	20000	12.1209% built
2012	Mount Lebanon	Ourhaniye	ورهانيه	33.739096	35.691573	33.708314	35.659331	1760	1200	2000	9.44460% built
2011	Mount Lebanon	Barouk	الباروك	33.715354	35.759992	33.675063	35.665753	18	1250-2220	12000	2.6609% built

Community based Geo-referenced database

Community based conservation and planning

	Bekaa	Ain Zebde	عين زبده	33.639096	35.721354	33.616084	35.676594	5.46 km ²	980-1100 m	3650	1.98%
2011	Aakar	Miniara	منيارا	34.547174	36.068365	34.526847	36.054847	1.393	100-200	8000	30.5807% built
2011	Akkar	Bebnine	ببنين	34.527822	35.997999	34.488124	35.976242	6.85	0-120	24000	21.7258% built
2012	Akkar	Hrar	حرار	34.470753	36.153205	34.446542	36.101109	8	750-1150	4700	7.5698% built
2011	Akkar	Michmech	مشمش	34.478929	36.2342	34.412678	36.11953	33.77	700-2000	26000	1.6793% built
2012	North	Kousba	كوسبة	34.328801	35.866987	34.287071	35.835506	6.1	450	9000	11.4571% built



Partnership with local and national authorities to promote sustainable living

Participatory planning for community-based tourism to promote local economies

Local planning and implementation of reforestation projects on communal village lands

Local participatory stocktaking of environmental issues as preamble to their remediation

Record keeping of local village heritage

Developing local indicators of sustainability

Conservation of Village Communal Lands	
	<i>Protection</i>
4	Assigning conservation status
3	Regulation of access
2	Fire or other hazard prevention management
1	Grazing management
	<i>Sustainable Use</i>
1	Rain water collection
1	Wild edible plants & medicinal plant collection
1	Beekeeping
1	Eco-agriculture
1	Ecotourism
	<i>Communal Consensus</i>
2	Law enforcement + Communal consensus
1	Communal consensus
Increasing green spaces on communal lands	
	<i>Tree planting</i>
3	> 1000 trees / year
2	500-1000 trees/ year
1	< 500 trees/ year

Eco-tourism	
	<i>Hiking</i>
3	Footpath + signage or maps
2	Footpath
1	Dirtpath + truck track
	<i>Eco-Information (EI)</i>
3	Local NGO
2	NGO
1	International Organization
	<i>Camping (CP)</i>
3	Managed Campsite (Location & signage or maps)
2	Informal camping
1	Built, energy consuming sites

50 villages attended workshops



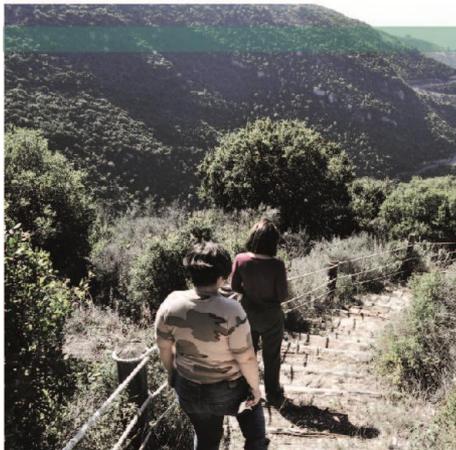
Conservation through Use



WORKSHOP #1 at MoT:
Developing community-based tourism per cluster of villages

WORKSHOP #2 at MoT:
Guest house operation and environmental practices

Conservation through use



Forest



Bentael Nature Reserve, suitable for walks and hikes under the dense pine canopy .



Situated at 250 to 850 m altitude, the woodlands harbors several **vertical cliffs** of bare rock with many small caves and crevices.



Open to the public **upon reservation**. Access fee to be paid upon arrival.

www.bentaelreserve.org



Hiking



Get information about the Nature Reserve trails from the **Reserve team**. (009619738330)



Local NGO

Volunteer at the Bentael Nature Reserve headquarters. www.bentaelreserve.org



Bee Keeping

Get near the Bees! Schedule a bee hives tour, and buy your **freshly produced natural honey**.



Architecture



Pass by the village of **Behdaydat** known for it's **9th century frescoes** on the walls at **Saint Theodore Church**.



Special Tree

Greet the special tree! Take photos of the old **Carol Tree** at the **Carob gate** of the reserve.



Agriculture

Walk the lush orchards. Make sure to visit during the **olive, carob, almonds and fig harvest seasons**.



Historic Site



Spot the history hidden within the lush forest.



Inside the Reserve there are **St. John's rock-cut hermitage and chapel**.



This **12th century dwelling** is located **8m above the ground**, and can be reached from the hiking trails **2, 1 and 3**.

It is composed of three cavities.

Conservation through use

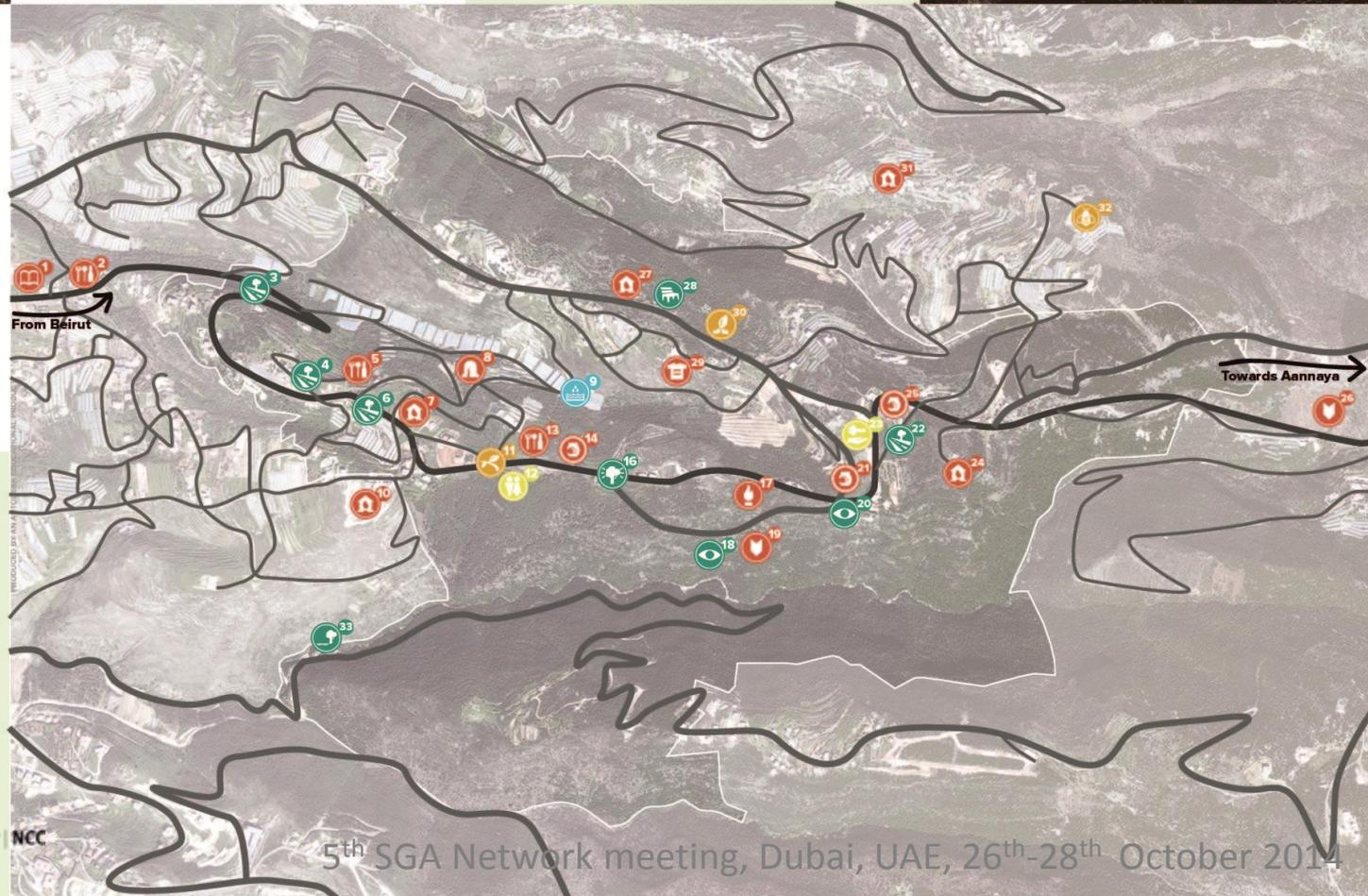
BENTAAEL
community tourism map



- 1 "Kfar Mashoun Mar Abda" church and public library
- 2 "Matta" Bakery
- 3 Street planted with Jacaranda trees
- 4 Plant nursery
- 5 Seasonal snack "Marhaji"
- 6 Street planted with Carob trees
- 7 Mar Adna Church
- 8 Mar Adna Cemetary
- 9 Rain water collection pond, used to irrigate the cut flowers
- 10 Convent
- 11 Plant nursery
- 12 Toilets
- 13 "Chez Sahebna" snack and bakery
- 14 Sculpter "Kerellos"
- 15 Traditional Lebanese guest house (Contact eco-guide on 009613838982)
- 16 Carob gate with an old Carob tree
- 17 Simon Sakr memorial
- 18 Scenic view from the rocks
- 19 Roman stele
- 20 Scenic view from the nature reserve tour
- 21 Bentaael small scale winery
- 22 Bentaael small scale winery
- 23 Guest house (Contact eco-guide)
- 24 Mar Sarkiss & Bakhoss church
- 25 "Michel Sakr" copper workshop
- 26 Roman stele
- 27 Mar Mama church
- 28 Maronite Scouts headquarters, Group of Mar Youhana headquarters and the Bentael Nature Reserve Committee
- 29 The house of the natural reserve is an eco-information center and the departure point of the annual independence run
- 30 "Mar Theodorus" church
- 31 "Kaddoum" honey bee keepers
- 32 Riverside picnic spots along seasonal stream at the bottom of the Bentael Nature Reserve

RESEARCH BY SALMA TALHOUK AND LAMA TAWK
MAP DESIGN BY JOY YOUNAN

- Nature and Outdoor Activities
- Water
- Sustainable Living
- Culture and Society
- Services
- P parking



☎ Bentaael Nature Reserve
009619738330
Eco-Guide Raymond Khoury
009613838982

- 5 nearby coffee shops and restaurants
- Spend a weekend in an old traditional Lebanese house at Bentael guest house

Altitude
650 m above sea level

Population
300

AUB Nature Conservation Center NCC

50 short documentaries
50 municipalities
50 km travelled by car
435 local committee participants
60170 green maps
304 participatory mapping workshops
1723 ecological sites mapped

MONDAY, DECEMBER 16, 2013

AUB signs MoU with MOT



A memorandum of understanding has been signed between the Tourism Ministry and the Nature Conservation Center at the American University of Beirut aiming to achieve cooperation in the field of eco-tourism through the exchange of information and expertise. The memorandum was





Project Team



Dr. Salma N. Talhouk
Program Director



Khaled Sleem
Plant Production
Coordinator



Wassim Kays
Community Outreach
Coordinator



Lama Tawk
Biodiversity Village
Award Coordinator



Antoine Khalil
Tree planting
Coordinator



Joy Younan
Biodiversity Village
Award Urban Designer



Diane Audi
Administrator



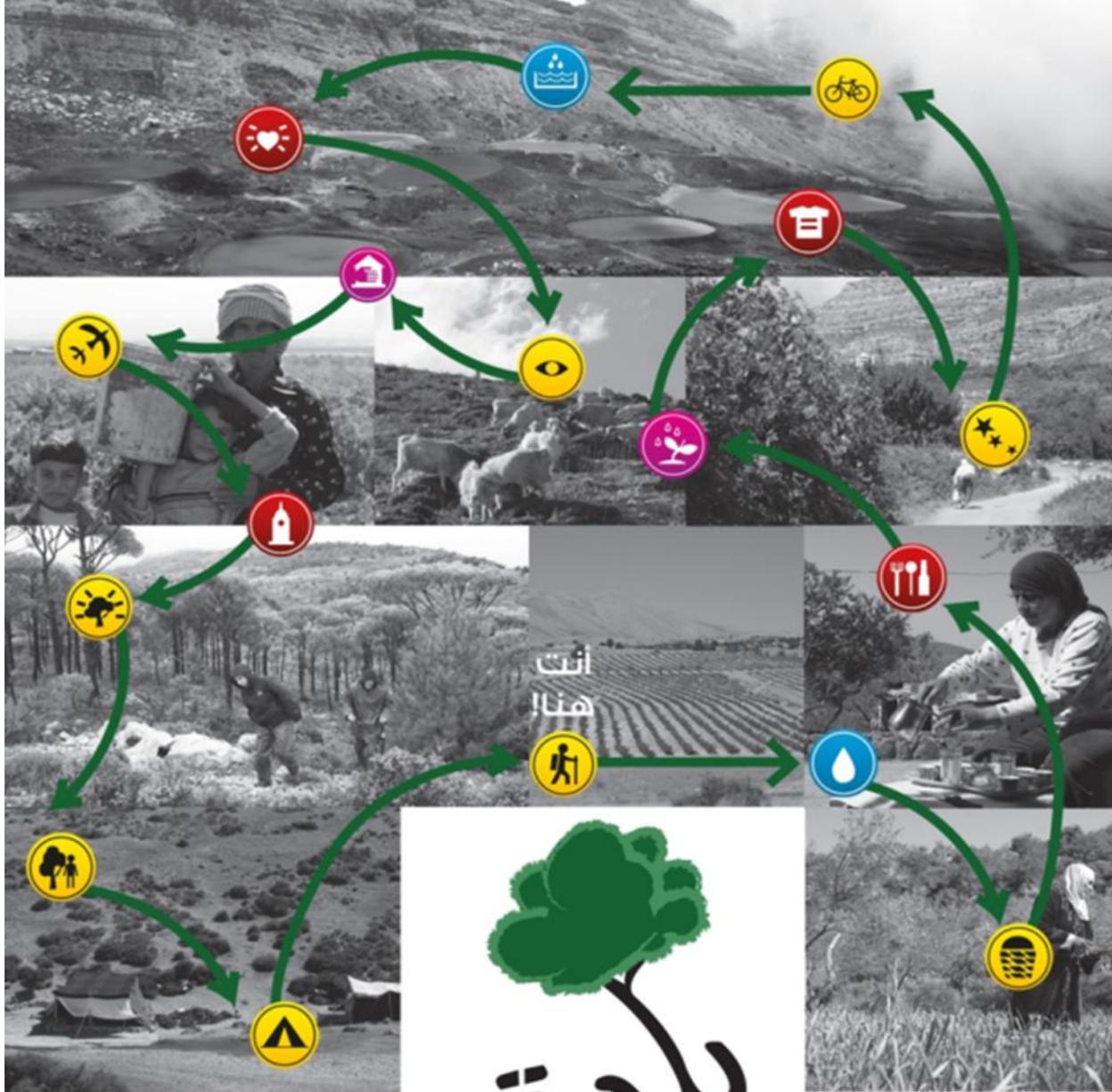
Sabine Khattar
Graphic Designer



Nada Hakim
Biodiversity Village
Award Field Researcher



Raneem Bou Ali
Landscape Designer



شوو بتعرف عن
بلدك؟

بيبياتي



THANK YOU

أنت
هنا!



Biodiversity village award - baldati bi'ati

Salma N. Talhouk and Lama Y. Tawk

The biodiversity village award is a participatory mapping project that has been implemented nationwide in 50 Lebanese towns and villages. The adopted methodology consisted of a combination of conventional and unconventional approaches that optimized the community's ability to build its own local database and generate a village map that features main landmarks and asserts. The presentation will shed light on the methodology and explain how the data was used to build partnerships and influence policy and opinion of decision makers.