



• Creativity • Collaboration • Continuity • Community

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FEATURE STORY

COMING SOON: AFIR BEEKEEPING AND NATURE DISCOVERY CENTER

Three years ago, I was sitting with my friends *Bassam Khawand* and *Alexis Baghdadi* (co-founders of SOILS) in **Saidoun** talking about how Bassam could develop his small beekeeping business without turning to an industrial scale, having thousands of hives scattered in different regions. We agreed that the only way would be for him to diversify his sources of income and develop different products and activities. As the evening drew on, we outlined a project in which we could invest our different personal skills and also engage other locals in income-generating activities and help them reconnect with their natural environment.

This is how the idea of a beekeeping center was born, a center that would offer different products and services related to bees and nature. And we couldn't think of a better place for the center than the oldest vernacular stone house in the village. The house also happened to belong to my brother Pascal, who lives in Beirut and wanted to put it in the service of a good cause. He had bought the house years ago to save it from a potential destruction, and renovating it would be the next logical step in preserving this heritage.

As with most of our new ideas, we started with a little test. In September 2013, Bassam conducted an introductory beekeeping workshop for us and some friends, and it proved to be fun. After we founded **SOILS Permaculture Association Lebanon** in **January 2014**, we conducted some more workshops and we soon found that they were generating growing interest.

The bigger idea of the center kept lingering in our minds until we decided to participate in the **National Competition for Sustainable Development** (organized by Leba Association) in **September 2014**. We worked on a structured project plan and... **we won first place!**

The project structure became clearer but we still needed to find funding to launch the first phase. Finding funds to renovate an old house is always a challenge. However, with patience, perseverance and some luck good things start happening.

Last year, *Guillaume Serillon*, a French volunteer residing in Lebanon, put us in touch with the International Department of the PACA (Provence-Alpes-Côte d'Azur) region, who have a cooperation agreement with the region of Jezzine and wanted to support a project in the region. PACA agreed to fund the establishment of the educational apiary, including beekeeping...

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... equipment, trainings by French experts, and the development of some educational material.

On the other hand, last fall we were approached by **LUSH** - an ethical cosmetics company founded in the UK that collaborates with farmers and cooperatives in different countries to source its raw ingredients. The company had developed the **Sustainable Lush (SLUSH) Fund** in 2010 to support community and permaculture projects. SLUSH awarded us a grant to start up the project (visual identity, staff, plants, training, etc.) and kick off the first phase of the house renovation. Yippee! *Agnes* and *Simon* from SLUSH visited Saidoun this past May and we discussed our different projects to find out there was a real partnership going on with us.

So here we are finally, starting to develop the **AFIR Beekeeping and Nature Discovery Center**. Once established, it will offer activities like beekeeping workshops and apprenticeships, guided nature walks, etc., and locally sourced products and crafts including honey, propolis, herbs and oils, soaps, natural crafts, etc. It will encourage beekeepers to adopt more eco-friendly practices, and teach locals to manage natural resources sustainably. It will act as an ecosystem creating beneficial relationships and diversity among its different elements: for example farmers will be asked to grow a variety of raw materials for crafts and oils, which will then be processed by the artisans, thus benefiting different people and saving on the energy needed for shipment. Young people will be trained to become animators for the different activities depending on their preferences. Although beekeeping will be a core activity, it is also a general theme that will help us raise awareness on other interrelated issues like wild pollinators, bio-diversity and pesticides.

But such big projects cannot be implemented at once, they need to be realized in phases to establish deep local connections. This year we will equip the educational apiary and develop the curriculum of a year-round apprenticeship for those who would seriously like to start keeping bees. We recently began the renovation of the old house in collaboration with our friend and architect *Jean-Pierre Zahar*. The renovation will use Lebanese traditional building techniques especially in plastering, and more modern ones to maximize insulation and energy efficiency. In the fall we'll collaborate with local farmers to plant aromatic herbs (rosemary and lavender) in combination with "forgotten" native trees and bushes (carob, hawthorn, laurel, myrtle, capers, etc.). The aromatic plants attract bees and pollinators and could be harvested as of next year for drying and distillation, while the trees are getting established. We'll also organize workshops on transforming beeswax and propolis in September in collaboration with **Apiflordev**.

We are lucky that *Toni Khawand*, a young active man from Saidoun who is pursuing his doctoral studies in France, will be here during the summer to help us with research on flora and fauna, hiking trails, heritage, history of beekeeping, etc. - subjects he is passionate about.

It will be some time before the center is officially open to the public but we're enjoying the process. We're continuing our beekeeping workshops, and hopefully in September we'll kick off the year-round beekeeping apprenticeship.

You can keep up with the news from AFIR on its Facebook page:
<https://www.facebook.com/AFIR-Beekeeping-and-Nature-Discovery-Center-510296895832762/?fref=ts>

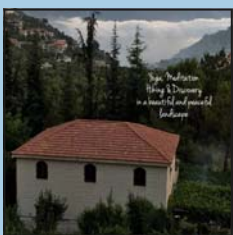
Shared by Rita Khawand



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UPCOMING EVENTS

"AKOURA YOGA WEEKEND"



AUGUST 19, 4:30 p.m.
AUGUST 21, 1:30 p.m.
Akoura, Mount Lebanon
Yoga and meditation classes, hiking, vegetarian food, campfire and more.

Fees: \$170-\$400 per person (different options)
Reservation: Contact Maya 03-119 465
<https://www.facebook.com/events/320809004974738/>

"CITY PICNIC BEIRUT" OUTDOOR FOOD AND GAMES



AUGUST 21, 2016
11:00 a.m. - 11:00 p.m.
Beirut Hippodrome
Games, music, food and drinks.

Free entrance
Food and drinks available for purchase inside
<https://www.facebook.com/events/262871550742941/>

"TUSK STRIKES BACK" BAKERY CELEBRATION



AUGUST 31, 2016
Starting at 6:00 p.m.
Badawi, Al Nahr Street, Beirut
Fresh baked goods for free, music and fun

Free entrance
Alcoholic drinks available for purchase
<https://www.facebook.com/events/607022046125210/>

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LET'S SHARE OUR NEWS

THE FIRST ADVANCED PERMACULTURE DESIGN COURSE IN LEBANON

From **19 to 26 July** we had the chance to host permaculture designer *Daniel Halsey* (USA), who conducted **the first Advanced Permaculture Design Course in Lebanon** at the **Saint Joseph University** in **Beirut**.

We had met Daniel last year when he was in Lebanon for a **vermi-composting project** at the **American University of Beirut**, and we stayed in touch. Following our third **Permaculture Design Certificate (PDC)** course this year, we decided to organize an advanced course to help PDC graduates progress. Most people after the PDC felt overwhelmed and found it difficult to design on their own even a small balcony. We were also hoping the course would be a chance to discover some design talents and gather basic data specific to our climate.

8 participants joined the course, out of which only two had done a PDC with us. Most of the participants had actual sites they wanted to design, located on different altitudes and in different regions, from **Akkar** to **Thoum**, going through **Beirut**, then south to **Adloun**, **Jezzine**, **Ar-noun** and **Hasbaya**, what a variety! I was happy to participate in this course as a trainee and not just an organizer - it was the first time I was able to do this since I co-founded SOILS.

We spent a lot of time practicing map drawing, from the base map, to the sectors, to functional spaces, to plant guilds; moving from pattern to details. Daniel likes to focus on plants, so he had us practice designing a **perennial polyculture guild** (a big tree surrounded by smaller trees, shrubs and cover crops) first from a list he gave us, then each tried to come up with local guilds adapted to his/her own site based on Daniel's plant database in addition to local plant lists such as the American University of Beirut's list. Permaculture or ecological design differs from usual landscape design in that we take into account the ecological functions of plants (barriers, erosion control, nitrogen fixer, etc.) before looking at their aesthetics.

We also got the chance to visit two sites. The first one was in **Beirut**, located in *Adib Dada's* under-construction apartment, and we explored the possibility of using the vertical space as the site is small. Adib would like to have a productive garden while cycling nutrients (composting) and resources (greywater for irrigation) as much as possible - a much needed step in an urban environment - and eventually open the garden to visitors and workshops.

The second site belonged to *Ghassan Al Salman*, a member of SOILS, in **Adloun**. It is a 3 dunum banana and citrus orchard that he took over from his parents 3 years ago, and in which he has been doing small modifications. Ghassan stopped spraying herbicides and pesticides, replaced some banana trees with other trees and shrubs to increase biodiversity. He practices mulching (chop and drop) and has noticed this year an increase in the organic matter in the soil and a decrease in the frequency of irrigation (mulch reduces evaporation). We also took aerial pictures of his site using a small drone, which will help him in the design.

I worked on the design of my family's house and garden, which also happens to be the site of the SOILS headquarters. I didn't get the chance to finish the design but at least I got started with a good base map and functional spaces. It's funny that as co-founder of SOILS I haven't done a proper design yet, but I have spent 2-3 years observing the space and building my own capacities. Because I spend so much of my time dealing with the organization of SOILS activities, I don't get a lot of time to do other things, but I will get there eventually.

We were really humbled by Daniel's generosity and passion to share his knowledge. We took advantage of his visit to Lebanon this year (as a volunteer through the **Farmer to Farmer** program managed by **Land'O Lakes** and funded by **USAID**) to also organize an introductory workshop, which was held on **Saturday, July 23** at the **Dammeh Cooperative** in Ashrafieh. It gave us the chance to meet new people who have land and are eager to learn more about ecological design.

It will probably be a while before we have local people who are able to do proper permaculture designs, but working in teams might be a good start. Just as we collaborated during the course: we had an architect and landscape designer who obviously were very good at the map work, and we had other people who were more knowledgeable about plants and had hands-on experience in gardening. Nurturing mutually beneficial relationships and collaborating rather than competing is the only way I believe we can create more sustainable livelihoods.

Shared by *Rita Khawand*



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LET'S SHARE OUR NEWS

MICRO-GARDENING WITH REFUGEES IN THE BEKAA

In the beginning of **June 2016**, we started yet another project, the most challenging for us to date: establishing micro-gardens in **6 small refugee camps** in the **Bekaa**, while providing training and follow up for the residents. The project is part of a bigger project about food security implemented by **Mercy Corps** and funded by **WFP (World Food Program)**.

We selected the camps based on the regions defined by the donor, and on the residents' interest in gardening. We also chose camps that had a maximum of 20 tents in order to be able to work with all the residents at once and not exclude anyone. *Amani Dagher* from **SOILS**, known for her big sense of endurance, accepted to coordinate the project. The first challenge then was to find the team of facilitators who could deliver the curriculum and be sensitive to humanitarian causes. After receiving a lot of applications we settled on 6 great people whom we paired, matching one person with a solid theoretical agriculture background with another with more hands-on experience in planting and **permaculture**.

We then invited our friend *Andrea Petterson* from **Sweden** to conduct a Training-of-Trainers (TOT) program for the facilitators. Andrea had initiated last year a gardening project in one camp in collaboration with the NGO **Syrian Eyes**, and had documented the results in a paper she wrote for her university, so we thought it would be great to have her among us. During the TOT the team of facilitators were simultaneously conducting the assessment in the camps: drawing base maps with sectors (especially sun/shade aspects, sources of water, etc.) and meeting the *shawish* (person in charge of the camp), taking contacts, checking interest, etc.

Each pair of facilitators was responsible for designing micro-gardens for 2 camps. The proposed designs were shared with the rest of the team and Andrea, and different gardening techniques were tried out. The teams spent several days dismantling pallets, piling jute bags, and experimenting to find the best way to hang plastic bottle planters vertically. We also had the help of our friends from **Graines et Cinema** for the planting techniques, and from *Aida Hussein* who helped the teams better understand the psycho-social dimension of the camps. The NGO **Sawa for Development and Aid** hosted us in their garden in **Bar Elias** for the gardening trials.

The micro-garden designs were influenced by many elements: space available, sun and shade, locally available materials, and restrictions imposed by the Lebanese government on using the existing soil for gardening in camps (the use of containers or raised beds was imperative).

The gardening containers consisted of the following prototypes: used shipping pallets that were dismantled and turned into raised beds, jute bags used either vertically or horizontally, used big oil cans or plastic containers that can rest on the floor or be hung on tents. The growing medium we used consisted of soil brought in from nearby sites (70%), and local compost from treated cow manure or agriculture waste (30%). We selected crops that are either high in nutrition or act as a support species: 3 main crops were selected by the donors as being highly nutritive (tomatoes, Armenian cucumbers and okra); other vegetables were requested by the residents (aubergines, pumpkins and strawberries); we chose climbers to fill the vertical spaces (lima beans), as well as nutritive cover crops (purslane and parsley) and herbs and flowers that help deter pests, give a nice smell and can be used in infusions (lavender, verbena, marigold, rosemary, etc.).

The timing was a major challenge for us. Due to administrative restrictions, we had to start planting in the second week of June in the first two camps, so by the time we reached the fifth and sixth camps, we were already near end-June and temperatures reached 40°C. It was also the month of Ramadan, which made it difficult for the residents to be active and responsive. In some camps, strong wind destroyed seedlings which had to be replaced. Watering practices required great care during the first 2-3 weeks.

We had to install fencing where small animals and youngsters might mess with the gardens. As for irrigation, we brought in separate barrels for water, which we asked the NGOs responsible for the camps to fill, and installed simple gravity-driven drip irrigation pipes where appropriate. We also brought in straw for mulching in order to reduce evaporation and protect and enrich the soil, but many residents resisted what they saw as a new idea or said it would be blown by the wind into the tents, so we weighted the mulch down with cardboard and stones.

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LET'S SHARE OUR NEWS

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Despite numerous other challenges, including the fact that some families leave the camps and some new ones arrive, the lack of motivation of some people, the water shortages, mice attacks, etc., the team did a terrific job and some crops have already been harvested.

As for the curriculum, so far 8 sessions have been conducted out of 12. The first 3 were dedicated to establishing the micro-gardens and planting the seedlings and seeds, getting used to good irrigation practices, etc. Then we worked on soil assessment and fertility (some compost bins will be installed were the residents allow it), on water quality and management (we demonstrated a simple grey water DIY filter), and on IPM (Integrated Pest Management) introducing trainees to the major pests and beneficial insects, while demonstrating some DIY bio-pesticide recipes to be used only in case of necessity (like garlic and pepper, or nicotine). Pests are not a big issue still, some leaf miners and aphids have been observed, but on the other hand some beneficial insects like ladybugs have also made it to some camps.

We noticed that children are more interested than adults in gardening. They are more open and have more motivation. Too bad for the children though, most of the strawberry plants we planted were "cooked" by the strong sun and the heat reflected from the white tents.

We feel very happy when some trainees come up with their own solutions, like in one tent 2 teenage siblings have hung one of their thin bed sheets over the garden bed to protect it from the hot sun.

As I'm writing these words, project coordinator and colleague Amani is lying in bed at home after surviving a car accident which caused a serious injury to her leg. She will continue coordinating the last few sessions from home, and will start working on developing a totally illustrated manual on micro-gardening with the talented graphic designer *Racelle Ishak* specially designed for people who can't read and who live in other camps or have restricted spaces to get started with their micro-gardens. We can't wait to see the results!

The Editorial Team



Wishing you a speedy recovery, Amani, from all of us at SOILS and the micro-gardens team.

Get well very soon, we miss you!

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PERMACULTURE SNAPSHOTS: WHY MULCH MATTERS

The best way to learn about natural growing is to observe how different elements interact with each other in nature: plants, insects, winds, temperatures, etc. Pictures are the next best thing. Ghassan Al Salman from SOILS shares with us pictures from his orchard in Ad-loun - South Lebanon to demonstrate permaculture principles in application.

Sandy soils are usually associated with **drought** and **low fertility**. This is mainly due to sand's natural ability to quickly drain most of the water that falls on it, and with it any soluble nutrients. However, these characteristics can be naturally amended with organic matter accumulation through successions of drought-resistant crops or by laying down garden trimmings like straw or twigs. This organic matter - **mulch** - paves the way for new crops to establish themselves.

The bananas in the first picture on the right were grown in sandy soils and were mulched with their own organic matter (leaves). The mulch helps retain moisture around the roots by acting as a buffer against the sun, wind and heat. It also suppresses competitive weed growth around the plant roots and replenishes soil fertility as it gradually decomposes. I let some weeds grow around the mulch layer to collect dew, create insect habitats and additional organic matter.

In a sustainable system, elements with multiple functions create more efficiencies and beneficial relationships. In the second picture on the right, the mint acts as a living mulch for the banana. Like regular mulch, it suppresses weeds and regulates soil temperature. It is also an edible plant and has medicinal properties as well. Finally, it has the double bonus advantage of attracting beneficial insects while deterring citrus pests - a perfect solution for my orchard which contains both banana and citrus trees.

Shared by Ghassan Al Salman



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LET'S SHARE OUR NEWS

BEESWAX POLISH: YOUR WOODEN FURNITURE NEVER LOOKED SO GOOD

In [Issue 9 of L.E.T.S. Lebanon](#) *Jean-Charles Latouche* introduced us to **natural wood polishes** made from **beeswax and olive oil**. I love working with wood to make furniture items and I had been wanting to try this recipe ever since, but I never really got around to it until now.

My friend *Bassam Khawand* had given me some old beeswax gathered from beehive frames to try to clean it up from impurities. New wax made by bees (or the type you buy in sheets at bee-keeping supply stores) is a pale blond color. As the wax stays in the hive, though, it turns a darker color and gathers dust, pollen residue and other impurities. My plan for this wax was to try to boil it repeatedly to separate the wax from any unwanted substances. After 2 attempts, however, I found that the wax was still a caramel color and gave up... until now.

I decided to try to make an experimental polish out of it anyway and see if the end result would be satisfying. I went back to Jean-Charles' recipe and also read some articles online. The quantity of ingredients in each recipe differed slightly or were measured in different units, but I eventually came to the conclusion that they should be in a ratio of **1:3** (example, 100 gm of beeswax and 300 grams of olive oil).

The first step in my version of the recipe involved breaking the wax in small chunks and melting it in a double boiler (bain-marie) first. Like Jean-Charles, I used an old coffee pot and immersed it in a wider pot (also old) with water. This reduces the direct contact between the fire and the wax - which is flammable. After the wax completely melted, I poured the olive oil over it. Because of the difference in temperature, the mixture coagulated in white chunks at first, but the heat rapidly melted those, and I stirred until the mixture was homogenous.

Many recipes suggest adding a few drops of essential oil (lavender, cinnamon, citrus) to the mixture at this point, but I decided against this because the mixture already smelled great to me. I turned the stove off and poured the mixture in a glass jar to let it cool. Note: once it cools, the beeswax polish becomes solid and hard to remove from the cooling container. For this reason, it is better to pour it into its definitive container right away. The ideal container should not be too tall, and should be wide enough for your hand to reach the bottom. As it cooled, the polish turned lighter but still looked darker than Jean-Charles' results with new wax.

I waited around 24 hours for the polish to harden before using it (depending on the ambient temperature it could cool down and solidify as rapidly as in 30 minutes or a few hours).

Now came the real test. A couple of months ago, I had bought a secondhand wooden bar stool from a neighbor. The stool looked really nice but it had 2 flaws. First, its legs were varnished with a glossy sheen I didn't care for. Some paint remover and sanding got rid of that polish to reveal the solid wood underneath. Second, the seat was made of chipboard with a laminated decorative film, a cheap material that contrasted with the rest of the structure, so I removed it. I tried my beeswax polish on the stool legs first. I dabbed the edge of an old rag into it then wiped it off on the legs in a thin coat, letting the wood soak it up. Within a few minutes, the wood turned a rich, warm brown color.

I then turned my attention to the seat. I happened to have recuperated some discarded wood planks earlier this year so I enlisted the help of my friend and neighbor *Ahmad Khoja* (a talented carpenter and designer) to cut these planks to size and round their edges at his shop. Looking at the unpolished wooden seat, I worried at first because its color was way lighter than the legs, but I decided to go ahead with it anyway. A few minutes after I was done, the white wood had already started growing darker, more organic. It was still lighter than the wood of the original structure, but it blended much better.

I have told a few friends about this polish, and some have seen my stool. Several asked me if I'd sell them some polish., but I told them I was sure they would enjoy making it themselves more. As SOILS is preparing to launch **AFIR Beekeeping and Nature Discovery Center** (see Pages 1-2), beeswax will be among the products we will develop and promote. I would very much like to teach people there how to make their own polish with beeswax and demonstrate to them how it works. It is fun and easy to make, 100% natural and non-toxic. What's not to like?

Check out more photos in our blog post: [DIY Natural Beeswax Polish for Wooden Furniture](#)

Shared by Alexis Baghdadi



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PHOTO OF THE MONTH

You sent us your submissions and you voted for your favorites. Here it is, the PHOTO OF THE MONTH:
To send us your photos, email us on contact.soilslebanon@gmail.com



Crab spider (*Thomisus onustus*) feeding on a honeybee it captured on a bristly hollyhock flower - Falouha, Metn
Photo by Alexis Baghdadi

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GET IN TOUCH, GET INVOLVED


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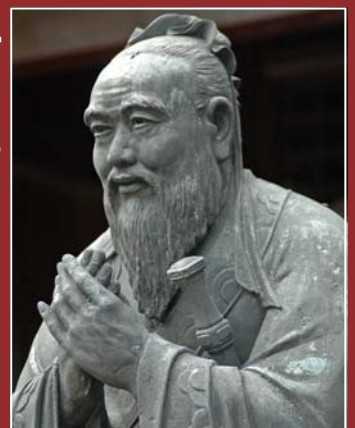
 SOILS Permaculture Association Lebanon

 +961-71-617988

 twitter.com/SOILSLebanon

A THOUGHT TO SHARE ...

**"If your plan is for
one year plant rice.
If your plan is for ten years
plant trees.
If your plan is for one hun-
dred years educate chil-
dren."**



-Confucius (551 – 479 BC)

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