



# Finca Verde Regenerative Permaculture Agri-Food Project

## Case Study Q3 Y1 2023

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# Objectives for Y1

## High Level Objectives

- Research, documentation and development of practical solutions to major challenges of our time including water shortages, loss of biodiversity, food production and strengthening local economies.
- Research & documentation of a case study over three years producing an annual report of solutions, trials and results.

## Team Objectives – Specific Measurable Achievable Relevant Time-bound

Split budget across our four main themes following the seasons:

Water shortages (spring/summer)

- Optimizing irrigation practices
- Maintenance/repairs to irrigation system
- Documenting & optimizing water catchment systems already in place

Strengthening local economy (all year)

- Document participate and promote local exchange practices
- Collaborate with local initiatives including the seed-bank, permaculture initiatives

Food production (spring to autumn)

- Optimizing and document farm harvests from main crop, foraging and wild foods

Biodiversity (quarterly)

- Put in place scientific survey practices to document changing levels in biodiversity
- Document creation and effects of micro climates through changes in water management

## Objective: water shortages (spring/summer)

- optimizing irrigation practices
- maintenance/repairs to irrigation system
- documenting & optimizing water catchment systems already in place

## Building Soil for better water management, pest control and increased bio-diversity

After the last report we continued to work on the ground with a volunteer who stayed for 4 weeks splitting time between moving firewood and harvesting almonds.

We have also continued monitoring the health of the trees as the hot weather really ramped up and the water for irrigation was the lowest during these months, we have not been irrigating using the drip feeders and instead concentrating our watering efforts on the terrace on which the house it at. The reason for this is that using the larger drip feeds leaves even for an hour depletes the deposit more than it can refill in 12 hours.

On the Fraskito side of the land, the opposite side of the valley from the house, where there is no water storage we have been irrigating with what little water has been coming.

There were 3 weeks where we decided that so little was coming that it was not worth the effort and so we shared our water supply with the neighbours that keep animals instead.

We had no rain during the whole period, the land is dry but the pruned trees are noticeably greener and more productive when compared with our neighbors.

In this case it is a three way comparison, the neighbor which has not been coming to water all year, the trees are very dry showing dry branches and very small and wrinkled olives.

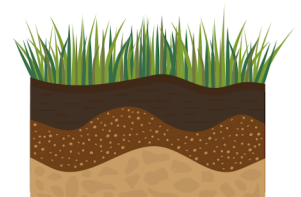
Another neighbor which comes every week and keeps the land tilled and the trees unpruned, the trees show signs of some water distress but not as severe as the first neighbor.

Our trees which did not have fruit on them last year are this year full, we have noticed some olive fly damage and we keep monitoring the situation.

Irrigation will restart once the rainy season comes later in late October / November hopefully to flesh out the olives before harvest in December.



At the moment the olive leaves and chipped material lie on the ground sheltering the soil from the sun. We will continue monitoring the buildup of organic material and the effects of the soil as the seasons change and with more water on the ground. This is mostly wood carbon material which is not rotting down due to lack of moisture that would enable the decomposition to start.



10th October 2023

## Objective: water shortages (spring/summer)

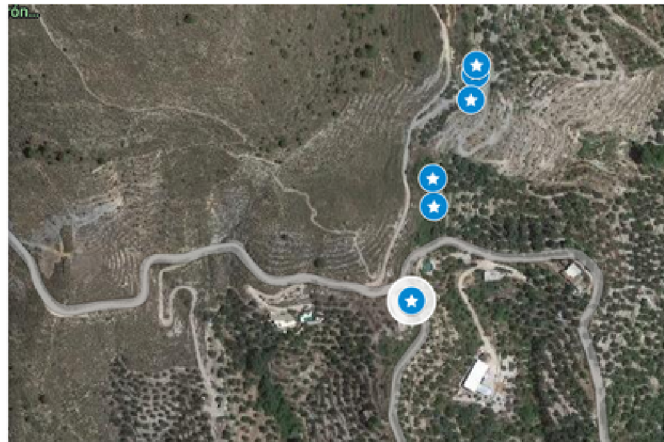
- **optimizing irrigation practices**
- **maintenance/repairs to irrigation system**
- **documenting & optimizing water catchment systems already in place**

Much of the irrigation system passes through communal parts, the acequia is an ancient channel system to direct spring water through farms for irrigation. The maintenance of the acequia is a community effort, it is a system which splits the work and the costs between the farms using the water.

In the first instance it is apportioned by the number of hours of irrigation a farm gets and then people get a discount depending on the hours put in, if they put in more work than they are due to pay then additional monies can be paid to them from the main pot.

Each valve point may be shared with a smaller subset of people who work together to maintain the valve, in our case there are 2 shared valves.

name  
Irrigation Point - L'Arquetta



The L'Arquetta valve is shared by all pipe users below it that's 5 farms including our own.

Unfortunately, the way that this is set up it has been causing another farmer an inconvenience when he goes to switch it over to a different one.

Last year in a fit of rage the farmer broke the concrete base and the person who manages the community of irrigation reassured us that we do not need to worry about this. Eventually the damage was repaired but the men still would not talk to each other.

It turns out that human relationships are critical to the maintenance of the waterways, without these it would not be possible to bring water to the farm at all.

Even with water rights enshrined on the property deeds the system hinges on ever more strained and tested relationships.

We strive to maintain good relations and mutual aid within the area.

Now we have received a letter from the man's lawyer addressed to the community of irrigation to cease and desist from impeding irrigation water access.

This is a situation which is slowly escalating into something more serious. We've been suggesting some mediation in order to resolve this.

At a time when water is scarce disputes about water access are critical and can turn violent.



## **biodiversity (quarterly)**

- **put in place scientific survey practices to document changing levels in biodiversity**
- **document creation and effects of micro climates through changes in water management**

Since we have had to put in so much time and money towards the processing of the wood pruning the surveys had to take a back seat however we have been observing the creation of micro climates especially in 3 different places which have been effected greatly with the water management changes we have put in place.

### **Fully Oxydized Septic Tank**

Further to our last report we've found that the correct frequency for our system is to have the pump on 15min on every other 15min ie 15 min on, 15min off and so on.

We have also fixed the tripping wire issue so now when it rains the pump does not trip the house electricity.

### **Observations**

The mint is thriving, along with diversity, even in the driest and hottest month it remains odorless.

The pump makes a slight hum which could be deterring large animals from going near it.

There is horsetettle growing there and this is presenting an education challenge as people often mistake the small red berries with tomatoes, and they are toxic.

Another observation is that care needs to be taken to reroute the rain water so that it does not go into the pit where the tank is set up, the danger is that with enough water the tank will float despite it being full.

This problem quickly made itself known when it was first installed as it floated after the rains and had to be dug in again.



**10th October 2023**

## **biodiversity (quarterly)**

- **put in place scientific survey practices to document changing levels in biodiversity**
- **document creation and effects of micro climates through changes in water management**

The height of summer was so hot and dry that we saw a decline in sightings of larger mammals, such as foxes, wild boar, and ibex. There was a significant increase in sightings for migratory birds in our fig tree. Wasps made a large nest near our water deposit and the fig tree, which resulted in very few honey bees being around, and eventually attracted hornets that feed on the wasps.

### **Observations**

The area is very green and overgrown even in the height of the summer heat.

We've been able to keep watering this at least once a week with the water that has been coming through the acequia despite the drought.

There was a concern that some plants may become water logged but the hardy winter vegetables seem to be doing fine.

The olives and the orange trees on the same terrace are also looking good with fruit on them.

Insect populations, lizards, bumblebees are visibly more active here than areas which have bare soil and no water.

The areas where the water channel leak water thrived despite water being redirected into the pipes for the summer months. These areas did not lose any of their vitality or green cover which indicates deep absorption of water and access to these plants long after watering.

The lemon tree which is at the tail end on one such leak has produced a lot of fruit but also lost most of its green leaves in the summer months.





## **Objective: Food production (spring to autumn)**

- **Optimizing and document farm harvests from main crop, foraging and wild foods**

### ***Working with volunteers during harvest season***

During the almond harvest season we had the help of one volunteer for around 4 weeks, unfortunately the person had mental health issues which we were not aware of before his arrival which made living with this person very difficult.

He was not able to work unsupervised making the output of his work poor along with other issues such as dealing with drunk and disorderly behavior leading to hospitalization, breaking of farm equipment which then we had to foot the repair bill for and overall bad personal hygiene and high paranoid behavior.

When were able to work with him this led to some harvest of almonds but overall this was an untenable situation and we had to ask the person to move on.

After he had left, members of the community in the town let us know that there were also issues with unpaid bills, drunk and disorderly behavior also in the town bars.

We share this experience to highlight how derailed harvest plans can become when relying on unknown variables such as working with volunteers.

The cost of training, housing and feeding a volunteer be can up to 100€ per week.



### **Retrospective**

#### ***What went well?***

Not much went well in this case, we provided housing and food to someone who may not have had housing for four weeks.

#### ***What could have gone better?***

We could have screened the volunteer before arrival however this was made difficult by him turning up to our pre-volunteer chat with all his belongings.

## Objective: strengthening local economy (all year)

- **document participate and promote local exchange practices**
- **collaborate with local initiatives including the seed-bank, permaculture initiatives**

Members of the Finca Verde Team were invited to the Reforesta Festival to hold permaculture workshops.

This was a great event with a lot of good people in it included members of the Semillistas, the local seed-bank and members of the permaculture project in Malaga who brought permaculture books and a stand made of local reeds with them.

There were also a number of local artisans, with whom we made some connections that might help turn some of our raw materials into wearable art or items that can be used in the kitchen, for example olive wood bowls and cutlery.

Members of our team also took some of our open source seed stock to show the local seed-bank along with the matching documentation and exchanged for some seeds for our vegetable garden.

This event was held at a local camp site. The location lends itself well to festivals with not having many neighbours and having a big area for stalls and a music stage.

The workshops were offered free of charge and the cost for attending the event, the transport, camping and the food including the festival tickets were covered by the project.

### ***What went well?***

A lot of connections which are really exciting in particular one which may be the birth of a new permaculture academy in our region.

A connection for paid work through another funded project which is participating in an Erasmus programme.

Caught up with some previous connections from other events. including other permaculture teachers, members of Semillistas and the local rasta community.



### **Retrospective**

#### ***What could have gone better?***

It went better than expected, we had a great time.



## Objective: strengthening local economy (all year)

- document participate and promote local exchange practices
- collaborate with local initiatives including the seed-bank, permaculture initiatives

After the Reforesta Festival permaculture teachers from Finca Verde started a collaboration with other local projects to use Finca Verde as a permaculture demonstration site.

This is likely to be a long term project as we continue working on the farm regenerative practices, building the soil and building on the relationships in the community.

In particular other permaculture teachers in the area Liselotte Willemijn and John(Ras) Craswell have discussed how this could work to bring students who come to the area to learn permaculture to these different sites to see more permaculture in action.

From the farm perspective we have started the process to review our project from the iLAND requirements perspective to bring the farm into the register.

Now that we have good relationships with relevant associations in our area we can start proposing more concrete collaboration including sharing knowledge, resources and discussing more in-depth ways to share more widely what we are doing.



### What went well?

A lot of connections which are really exciting in particular one which may be the birth of a new permaculture academy in our region.

The start of work for the farm to become a demonstration site.

### Retrospective

#### What could have gone better?

It went better than expected, we had a great time.

## Objective: strengthening local economy (all year)

- document participate and promote local exchange practices
- collaborate with local initiatives including the seed-bank, permaculture initiatives



The Finca Verde Team attended this whole day workshop offered by Semillistas run in Almocita.

The workshop covered the preparation of seeds for agricultural use including germination, priming and storage of seeds.

This included information about different types of seeds from wild to GMO, in detail explanation about latency/dormancy in seeds, different phases of germination and priming. Of particular interest to us was a technique to improve the germination rates of older seeds by controlling hydration.

The full notes of the course are provided as an annex to this report.

### **What went well?**

We will be applying these priming methods to optimize use of seeds on the farm. The session was very informative and triggered a lot of ideas for the upcoming permaculture design of the secano (unirrigated) plot on the upper part of the farm.

We made a lot of new connections and caught up with some previous connections from other events, including other permaculture teachers, HackLab Almeria and members of Semillistas and Association Trotamundos.

### **Retrospective**

#### **What could have gone better?**

Better blankets for sleeping in the car or rented accommodation.



## **Objective: strengthening local economy (all year)**

- **document participate and promote local exchange practices**
- **collaborate with local initiatives including the seed-bank, permaculture initiatives**

## ***Local Exchange***

The Finca Verde Team participate in exchange programs with members of the local community.

In this instance members of our team helped a local photography project with time and expertise. This included development of a website and setup of social media accounts.

It also included one-to-one training sessions so that the group could maintain these systems independently.

We hope that this provision of services can be exchanged later on when we need photographic services.

In another similar exchange the team is helping with web content management and website maintenance in exchange for language classes to help members of our team improve their Spanish and thus improve their integration within the local community.

Another exchange was with a member of our community who minds the farm whilst we traveled to the UK during this time Charlie dogsits for us and in return we dogsit for him later on in the year.

Whilst these exchanges may seem small mundane actions they are important parts and a reflection of how the local economy still relies on these now highly commodified exchanges to work.

Were it not a part of the culture we are in to lean on to the mutually beneficial exchanges it may well be that some of these would become financially prohibitive to access.



## **Retrospective**

### ***What went well?***

The exchanges were meaningful and had concrete outcomes for the team to follow up on.

Relationships with the people we help really feel like friendships which we could lean on in times of challenges.

Mutual help systems are now in place for referrals that lead to paid work or other meaningful exchanges within the community.

### ***What could have gone better?***

It actually went as well if not better than expected.

**10th October 2023**

