

## Bustan Qaraaqa

Permaculture farm and guesthouse,  
Wadi Hanna Saad,  
BeitSahour,  
Bethlehem,  
Palestine



Period: May 29 to November 11<sup>th</sup> 2011

### Dear friends,

As summer gives way to autumn here in Palestine, we gather in our olives and almonds, adjust our working pattern to the shorter, cooler days, give thanks for the decline in temperature and hope that the rain will come soon. It seems a long time since the heady, work-filled days of the late spring and our last newsletter.....probably because it is quite a long time.....nearly 6 months to be precise. So much for quarterly updates! So let us fill you in on what has been going on here during the long summer months.

We said goodbye to spring with a fish wrestling festival. On our last trip to Dor we were gifted one enormous carp (nick-named Brutus the Brute) alongside the many smaller models we also stocked the cistern with. We decided that the slow growth of his compatriots could be a consequence of his dominance, and so came to conclusion that The Brute Must Die. Never ones to miss an opportunity for a party, we invited everyone we knew to come and help us catch the monster from our cistern, luring people with a succulent fish b.b.q. and a raffle to help us raise funds for materials needed to continue our site development projects. Everyone had lots of fun and there were some surprising *lucha libre* costumes; thanks Tom! After some wonderful shots and suspense, we all thought we were never going to eat that fish, but Philippe with great agility and cunning seized the monster fish from the murky, mungy, mire of the cistern so that we could stuff him with garlic and rosemary and bake him over the hot coals!



Philippe, the winner!



Anais and Max



The fight!

On the fishy front Philip and Lorena kept on learning about the beauties of aquaponics, Bustan Qaraaqa's system being the trial and error baby. The system had not been working properly mainly because the growing medium we used for the system was limestone gravel, this being the cheap option. We discovered that using alkaline groundwater with limestone gravel sends the pH skyrocketing - it was as high as 10 (that is bad, by the way...)! This prevented the plants from being able to absorb nutrients, leaving us with very nutrient deficient plants. Now, we have changed the limestone for a more neutral stone, volcanic rock. Although triple the cost, it is worth it when you see all the plants thriving.



*Bustan Qaraaqa's aquaponic system evolution*

We believe we have now managed to develop an aquaponic system that works well, and is appropriate for the West Bank. We have developed a system which:

- Uses cheap, locally available materials mainly re-claimed or re-cycled
- Works with the extremely high alkalinity and high pH of the groundwater in the West Bank
- Grows plants which thrive in the local conditions, and are already part of the local diet
- Enables production of plants with high water requirements even during the driest times of the year
- Offers the opportunity to grow "exotic" plant species that are not consumed locally at present, such as basil, lemongrass and butternut squash





*Al-Basma workshops*

Meanwhile at Al-Basma centre – a centre for disabled young adults in Beit Sahour – the aquaponics pilot project was doing much better (benefiting from the knowledge acquired at Bustan Qaraaqa). This second system was used as a focus for delivering training workshops to the staff of Al-Basma centre and other interested individuals, and to run a comparative investigation into water use and cost/benefits of aquaponic farming versus soil farming.



We are happy to announce that we have now completed this pilot project, and got a very satisfying result – Aquaponics 3, soil 0 (water consumption in the aquaponic system was half that of the soil patches; vegetable crop production was 4.5 times greater in the aquaponic system than in the soil patches; overall income generation potential, taking fish, plants and inputs into consideration was 12.5 times greater in the aquaponic system than in the soil). We finally finished writing the aquaponics training manual (but are still waiting on the final Arabic translation!), and finished delivering the workshops. In September we handed over the reins to the staff of al-Basma centre; now they have a fully functional and sustainable aquaponic system, with reproducing fish and alternative fish food production area. We also took this opportunity to learn alongside and share the wonders of aquaponics with the volunteers.





In fact the staff at Al-Basma centre liked us so much, that they have allowed us to start another pilot project – thanks to ELSAMEX for the funding. Now we are starting an all-encompassing aquaponic super-system, which shall be known as: AQUATRON showing off Nutrient Film Technique (NFT), floating raft grow beds and strawberry towers!



*The aquatron*

Talking about finishing projects, the Halawe community tree planting pilot project (funded by ActionAid Australia) – has successfully finished. After planting 100 trees in 4 different locations, Alice and Tom visited the community weekly to lead a series of workshops on water harvesting, soil management, orchard design and plant propagation; and to gather data for a socio-economic survey to serve as the basis for making recommendations for future work. Following this fun came a month of brutal slaving to produce a beast of a report that we hope will satisfy our current sponsors and amaze others (shock and awe!). We hope that we will be able to build on this experience to do even more tree planting in the up-coming season and are actively seeking sponsors.....so if anyone has any suggestions, please get in touch (the report is available on request).



Having thus successfully emptied our tree nursery, the work of re-stocking could begin. We made several successful forays into the Judean desert to collect seeds, and spent some time digging out the beds, lining them with plastic to prevent rooting through, filling bags with compost and finally treating and planting the seeds themselves. We are happy to report that next year's tree planting arsenal is well on its way, and includes a new-comers (fun things we had never previously collected or had failed to germinate in the past) such as *Bosea cypria* (a Cyprus endemic plant used as a stock barrier and prized for its red fruits that can be made into jam – collected by Alice on a holiday to Cyprus), *Balonites egyptica* (a native of the Middle East whose fruits contain saponin and can be used in lieu of laundry detergent – collected by Alice, Anais and Anne in Wadi Qilt), and *Geoffoea decorticans* (a native of South America that is both frost and drought tolerant and produces delicious fruits that contain more sugar than dates and taste like caramel – kindly donated by Gur from Adamama farm in Israel). We have been religiously watering these babies all through the long, hot, dry months and are happy to say that as we enter the autumn, the nursery is looking good... so well done to everyone for their hard work keeping the farm alive through the savage heat of summer!

With the start of Ramadan in early August everything started to slow down, so Bustan Qaraaqa staff took some time off to cool down and chill out. Philip and Lorena escaped for a month for some family and sailing fun; Alice took the peak of summer as a hint to escape away on some European hitch-hiking adventures; Tom took a short trip to visit his family, and Lyra stayed to make sure everything was in order.



The end of the spring planting season gave us the chance to return to a long postponed construction project, the Greenhouse (later dubbed the *beit iqzaz*). This core component of the Bustan Qaraaqa permaculture system will enable us to improve our on site resource management; providing water, food, cooking, laundry and shower facilities and more. Three years after starting work on the site we returned with enthusiasm. Working two days a week with aid of volunteers - both local and from abroad - the site was cleared and new skills and building techniques were developed to utilise materials amassed on the farm in its construction.

The walls are built of glass bottles (hence the name *beit iqzaz*) set in a natural 'cement' (made from soil, manure and sand) and framed in reclaimed steel. The soil for the tropical fruit trees and other crops to be grown inside the building is enriched with compost made on site and the roof is being constructed from discarded plastic water bottles. Other salvaged materials were used for the doors, windows, kitchen and laundry room.



This new structure will provide an alternative to the fossil fuel dependent kitchen and one-use-only grey water shower and laundry systems we inherited with the farmhouse. Just as we now use a purpose designed compost toilet instead of the flush toilet, we are creating alternative kitchen, laundry and shower facilities to maximise water and fuel conservation. The aim is to entice the guests and volunteers to use the more sustainable alternative system by offering practicality, convenience and beauty.

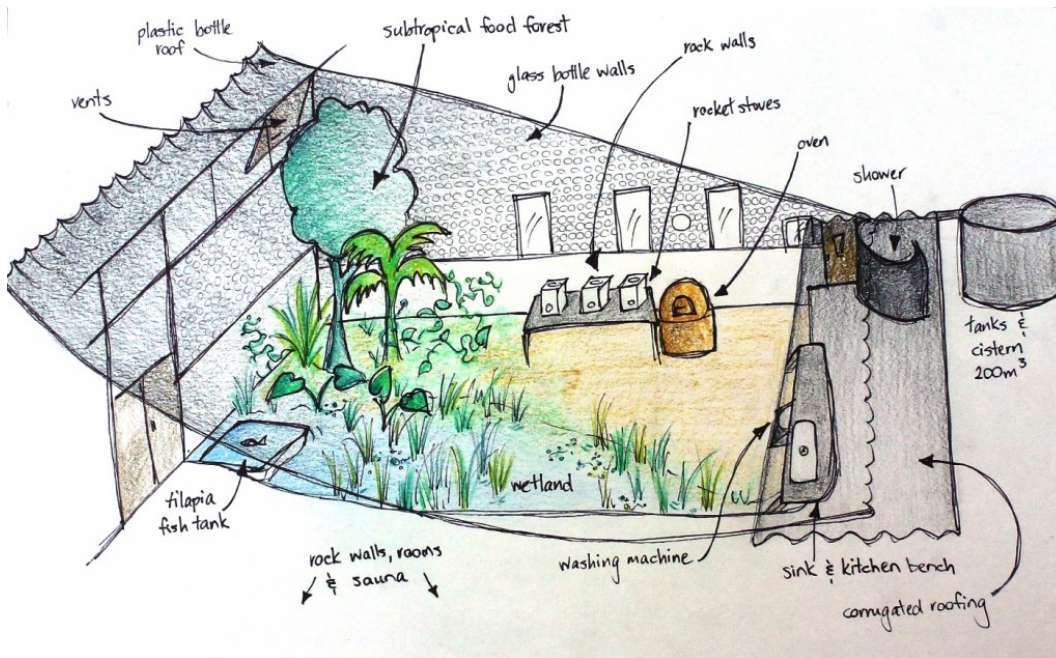


*Recycled glass bottles make the majority of the beit igzaz walls*

The *beit igzaz* is designed according to the principles of permaculture and will serve as a resource hub integrated into zone one of the farm system. Not only will the structure facilitate a move towards sustainability and economy in domestic life, but will also support the Bustan Qaraaqa project's aim of environmental education as an impressive demonstration site.

The roof, made of recycled plastic bottles could collect over 100m<sup>3</sup> each year of clean rainwater, draining to trees, storage tanks and cisterns. This clean water will be distilled using a solar still before drinking or used directly in the shower and kitchen. The washing machine can be filled with fresh water or directly with hot, soapy shower water. All the grey water will flow through a constructed wetland system created inside the building, then into a tilapia fish-breeding tank and on to irrigate tropical fruit trees such as banana and avocado. The water-collecting bottle roof will allow enough sunlight to warm the rock and the water channel, but will trap the warm air under it, raising the temperature inside on cold winter days. In the summer, a system of vents and ducts will keep the atmosphere cool.

Although still very much a building site, the *beit igzaz* has risen in the last eight months thanks to sustained volunteer effort in the forms of labour and design. At time of writing, the roof is poised to be suspended, thus closing the building for the winter. That notwithstanding, all the major construction work is done so now we can relax a little to design and build the remaining interior components. Many thanks to all those who have worked on the bottle house and thanks to those who gave us their empty bottles – we couldn't have drunk them all! For more pictures and info click here: [making sense of things](#)



A diagram of the *beit igzaz*

Of course we are still keeping an eye on our on-going community projects. We have kept on visiting Abed and helping him in whatever he needs for his land. We have also returned to Artas to check on the carp (*Cyprinus carpio*) that we put in last year. Some of our most artistic volunteers made some ingenious fish traps from recycled materials, which, we're happy to say, worked better than the bought one! We also returned to Artas to help one of our long-term community partners, Awad, dig a new rainwater catchment system in his land. Awad has helped us greatly during the past years (mainly unpaid work), so it was an honour to be able to do something in exchange. Not to mention this kept the volunteers very fit and dusty.



In early September, Alice and Tom made tracks to Wadi Rum in Jordan to participate in the 10<sup>th</sup> international Permaculture Convergence. This was a well attended and exciting event that gave us the opportunity to connect with the global permaculture community, exchanging knowledge and ideas and accumulating inspiration in truckloads. We were honoured to receive the delegates at Bustan Qaraaqa during their subsequent tour in Palestine, and then surpassed ourselves by convincing two highly skilled and motivated volunteers, Carly and Jean, to stay with



us for the next couple of months (very luckily for us, since they have proved to be instrumental in driving the project forward in recent weeks).



Then came October, with some light but nonetheless welcome rain - the hint for us to start the olive harvest. We brought in 97 kilos this year; our second best harvest to date! We turned most of them into delicious olive oil, and selected the juiciest looking olives to preserve in a range of yummy flavoured brines and vinegars – thanks Alice and Carly! You can see some of our recipes with insightful commentary on Carly

and Jean's blog [making sense of things](#)

As ever, it has been sad to see the departure of some of our dearest friends, but of course as one cycle ends, another begins. We would truly like to thank all of our volunteers; of course, none of this could have been achieved without you! Thank you Max, Anais, Marcel, Gwen, Katerine, Nicolas, Carly, Jean, Jon, Patrick and everyone else! Thank you also to our major donors, ActionAid, Operation Blessing, Elsamex, Lush, BSST, and the Ryklow Trust.

As we struggle to finish reporting on all the work we have done this year, whilst going through the season of lowest volunteer numbers, the project finances are looking distinctly unhealthy. We expect to begin a new round of funding proposals as soon as we have finished the Annual Report (coming very soon!), but if anyone feels like contributing some cash to float us over the jagged rocks of bankruptcy, donations, are, as ever, very welcome (see below for instructions on sending money ☺)

As we prepare for the busiest time of the year at Bustan Qaraaqa, we cannot help but notice that we do not have as many volunteers lined up as we would like. Tree planting is best done with many hands, and so we invite all former volunteers and potential volunteers to descend "en masse" for the November to March planting season - predicted to be a blast by anyone's standards! As Palestine's statehood bid [hangs in the balance at the UN](#), Israel has responded by [intensifying illegal settlement activity](#), annexing more land, ordering more demolitions of Palestinian homes and farms and [appointing a settler as head of the Israel Nature and Parks Authority](#). The [Green Intifada](#) is as timely and as relevant as ever – so don't miss the chance to be part of the action!

That's just about all from us for now. Wishing you all joy and light wheresoever you may be, and hoping to see you again at Bustan Qaraaqa. Merry may we meet!

#### **With love from**

Tom, Phil, Lorena, Alice and Lyra; the Bustan Qaraaqa team.

You can now follow us on Facebook, just look for Bustan Qaraaqa and add us as your friend! You can see updated pictures of the greenhouse, our weekly activities, related news etc...



## Support Bustan Qaraaqa:

As a small and recently founded organisation, we rely heavily on grassroots fundraising for much of our income. Small donations can go a long way in our low budget project. Things we are currently saving up for include:

- Materials to restock and maintain the tree nursery next year (about £250)
- Funding to pay for transport of fish and trees to our community partners (lots!)
- New cistern (£535)

If you would like to donate you can do it in the following way:

**PayPal account:** is now functional, so if you would like to support us financially, you can now do it online by clicking the donate button on our website ([www.bustanqaraaqa.org](http://www.bustanqaraaqa.org))

**Send a cheque to:** The Old School, Lydfords Lane, Gillingham, Dorset, SP8 4NJ, UK.

**Send a bank transfer to our UK account:**

**Bank name:** Lloyds TSB

**Account name:** Bustan Qaraaqa

**Account number:** 00052001

**Sort code:** 30-93-45

**International transfers:** SWIFT code: LOYDGB2L IBAN: GB30LOYD30934500052001

All contributions, however small, are gratefully received. Any questions, comments or ideas please do not hesitate to send us an e-mail to: [info@bustanqaraaqa.org](mailto:info@bustanqaraaqa.org)

.....

**Have you considered becoming a regular contributor to Bustan Qaraaqa?** Our monthly running costs amount to approximately £1500, broken up as follows:

Expense	Cost (NIS)	Cost (£)
Site rent	3,000	565
Utility bills	450	85
Water	600	115
Transport	1,600	300
Staff stipends (5 pax)	3,000	565
Materials	3,000	565
<b>Totals</b>	<b>1,1650</b>	<b>2,195</b>

We can raise £500-£750 in the guesthouse, so if 100-200 people gave us £5 - £10 per month, all the project expenses would be covered and we would not have to worry about writing grant applications, instead being able to turn our full attention to the real work of creating grassroots environmental change in Palestine. If you would like to contribute in this way, please ask your bank to set up a direct debit to our account.