

Karuna - building the straw bale dream

To build an affordable self-build roundhouse, which is fully compliant with national building regulations and brings the large scale 'reciprocal' roof structure into the mainstream, is not an easy task. Janta Wheelhouse and his family embarked upon a major permaculture project in the West Midlands and the roundhouse is the latest addition to the project. Here Janta demonstrates how inspirational, beautiful, creative and practical such a building can be and how it can involve the wider community as part of a diverse, multifunctional agro-forestry demonstration site.

Life is mysterious. Various forms of energy are available to us at different times. We should not forget that energy is manifested in our lives in different ways, some material, and some spiritual. Few can have it all at once and when energy we need most is missing, and then arrives from 'out of the blue', right on time, we should feel blessed, give thanks and flow with the current in order to reach where we need to arrive.

Until we invested all our savings in a piece of land we had never been money motivated. However, we quickly realised that land requires money and other forms of material energy if we intend to develop it in a sustainable way and keep it well maintained.

By the end of 2013 we had just about managed to scrape enough funds (£13,000) together to lay down the foundations and floor of our roundhouse. This had been made possible by working hard to fund raise - we had a positive response from the initial campaign we started. Trickle of cash gradually came in from the kind, generous, supportive community that had developed around Karuna. Much support arrived as a result of the challenges we initially had with the local and national planning system, as well as through our network of volunteers and students who had greatly benefitted from their experience of 'Karuna'. We have been establishing Karuna for several years as a permaculture demonstration site with regular courses.



The original barn, this is where the house now stands.

The planning fiasco over our right to remain and work on our land set us back a total of 5 years, which had been somewhat traumatic and debilitating, to say the least.

We had invested 'all' our life's savings in the purchase of the land. The savings came from the sale of the cottage we spent 7 years renovating in west Wales. We are land lovers and sacrificed our home to obtain a larger piece of land. We see a lot of land that is poorly managed or intensively used and we wanted to create an area where we could live in harmony with nature. We bought 18 acres of fields to design and diversify, creating a nature reserve side by side with a multi-functional agroforestry educational facility.

We had significant dealings with local and national planning authorities, including several formal hearings, public enquiries and high court appeals but we persisted. Throughout this time we continually struggled to develop and maintain our land. We planted a mixed woodland area with over 10,000 trees and the remainder of the land formed an edible landscape - our concentrated unique



'Insight Design' approach to food security. As the land was previously poor, overgrazed grassland I consider this a large 'recycling example' of what might better be done with similar areas of land. We developed the educational aspect of the project by running various courses on forest gardening, permaculture, scything, healing and crafts. Previously I worked in healing as a Thai Yoga masseur. Sadly Merav, my wife, is a sufferer of Huntington's disease (HD), for which there is no known cure. However, a good healthy environment helps slow down the degenerative process of HD, so for me it is also about the creation of a healing space - we are healing the land, ourselves and all those who visit Karuna!

So, we were successful in our campaign to raise funds for the foundations and floor. It felt great to know that people were behind us. But how would we ever be able to move on and see the final completion of the house? It would require at least three times more funding. As it is a private house potential funding bodies would not view it as part of the CIC project, even though we feel it actually is.

Moving forward seemed out of reach

From the very first time I set foot upon the land and had a vision for it I sensed destiny would provide for us. But, it is a very slow process and I often question myself. Is it destiny for the land? Will we see our vision fulfilled before I'm dead and buried?

... destiny slams in!

Miraculously a private funder, a couple, stepped forward offering a loan. I guess they were impressed with all our efforts, our commitment and what we had achieved across the site with so very little money ... primarily the result of a single family's hard work - myself, my wife and two young sons. The couple had attended two courses so hopefully resonated with the project's aims. They also understood how we'd been victims of an unfair planning system and sympathised. They told us; "you deserve to have your house built and lived in".

We had to get started with building fast. We put our feelers out for straw bale builders and eco-architects. Rachel Shiamh was our first point of contact. She built the first two storey straw bale house in Wales. However, after visiting our site she decided not to take our job on but it was essential to have the work completed by the end of summer. However, she was helpful and introduced us to eco- architect, Michael Howlett, who also visited and agreed to help with the next stage of drawings for approval. Fortunately Michael is one of the partners of a company called 'Straw build', pioneers in straw bale building. The other partner, Bee Rowan, agreed to help and we arranged a date for her to run and teach a 'Straw build' course at Karuna.



Our exceptional friend and master craftsman Peeve (Mark Arbon) is a local bespoke cabinet maker and designer. He agreed to make the sole plate, which then led on to him getting involved with making window sleeves, framework, wall plate and the tricky 'up-stand' for the large central dome skylight we got made in Belgium.

Peeve made all the sections for the sole and wall plate at his home workshop in Bishops castle. He loved the challenge of doing something on a much larger scale to his usual bespoke cabinet making jobs. I worked with him on the assembly of the wall plate. Each section was built from locally sourced larch. It was an incredible moment when we located the final section and it fitted with such precision. I don't know how we'd have done it without Peeve - the man's a genius!

During a visit to see Keith Hall, editor of Green Building, the offices of the Green Building Press, he easily convinced me of the strength of load bearing walls using a sole and wall plate. He sat and sketched out a simple diagram that showed how the single indestructible link (wall and sole plate) would work best. I call it the 'magic ring' because that's exactly what it is, it secures everything, links everything together and makes the whole structure 'one'. The Straw build course went very well. Over 20 people attended, mostly in response to the adverts we put out on our Facebook page 'Karuna Insight Design'.

The sun shone down each and every day throughout the course. A new friend, Hassen, had volunteered on two of my small projects. I noticed he was exceptionally helpful and enthusiastic, and a very nice young guy who is definitely destined to become a future teacher in the permaculture type projects he is presently focussing on. Bearing in mind that he had already done a 'Straw build' course at the Centre for Alternative Technology and also because I just liked him. I offered him a free place to ensure we had a good man around to assist with the teaching etc. By the end of the course he was teaching small groups himself. Hassen went on to volunteer with a few other projects and

now sometimes works for Straw build. Both my sons, Caio & Soma, were involved and learning a lot, getting lots of practical experience and enjoying helping to build their own home! It always feels good to help others move on in a positive direction, trying to help create a better future world is what it's all about!

Dr Jan Martin was leading the '3 day introduction to permaculture' course, at the same time we were straw building. I can think of no better back drop for the group. From their outdoor classroom they could observe a straw bale building rapidly going up right before their eyes in zone one. - so inspirational and fortunate to see that during a permaculture introduction course.

It started slow but we picked up speed and achieved a lot in a short span of time.

Just before the walls were all up and compression of the bales was done I called our old friend, Simon Dale. Simon is the master of the reciprocal roof. I was very surprised at his response when I popped the question; "would you like to come over and lead the reciprocal roof construction?" He said: 'Yes I think I'd like to help you, and I have always wanted to visit Karuna anyway ...'. Another little miracle!

Disappointingly we were let down with our log order. However, just in time after suffering lots of stress seeking out another supplier, we made a new contact who came to our rescue and supplied us with Douglas fir and Larch poles at a reasonable price, freshly cut to order from an estate not too far away, in Welshpool. It was imperative to keep the momentum going. We de-barked the logs and a few days after, with the assistance of numerous volunteers and our good local friend Julian (of 'Small Earth'), who operated the Manatu, with Simon leading we located the 13 rafters, and built the inner henge, which acts as a security measure within the design. This is not really structurally necessary in my personal opinion but certainly required by the structural engineer. Simon Dale kindly provided us with drawings for the upstand, which Peeve again took pleasure in building for us.

The most important work to do next was to protect all the work we had achieved. Some people stayed on as volunteers after the course. They had become hooked on low impact building and thirsty for more hands' on experience. The group made large curtains from DPM to hang from the wall plate to keep the bales protected from



the rain. This was my idea and I am pleased to say it works really well compared to cheap tarpaulins that simply do not last or serve the purpose properly. I was extremely proud of both my sons who took full, daily responsibility checking that everything was water tight throughout this period.

Then, round about this time, we received some devastating news... our funders were no longer in a position to support the project! We are unable to apply for public funding, and neither are we eligible for a bank loan. We had invested every penny we had into the build. Some materials were already delivered and mostly paid for.

We struggled but finally got the roof on. Brian, our good forester friend, made a special effort to assist us with the secondary rafters which, by way of design, proved to be very difficult to build. But with his help, we eventually sorted





All photographs courtesy of the author.

the roof rafters out. The green roof growing media was expensive but it was essential to get it on once the rubber pond liner was up on the roof. We'd now hit financial rock bottom and no longer had funds to continue progressing at the same rate. Professional worker friends had already kindly agreed to work on the project at a reduced rate of £10 per Hour. Recognising our desperation, some of them even offered to give their time free as a donation to the project. We are extremely grateful to them for their helpfulness and generosity, I guess they had been part of the build for long enough to realise that it's not just all about Janta and Merav's house ... it's about the bigger picture of the project's aims, and how committed we are to seeing the whole vision come to fruition within our lifetime.



I was introduced to Allan 'Clay' Middleton, the 'clay wizard' ('Clay is the way': www.clayistheway.co.uk). Most of his earth/clay experience is in warmer climates, Israel, Egypt, and Spain, but he's an adventurer and always willing to take part in the creation of something interesting, new or different. His passion with clay rendering is equal to my own passion for a creative, low impact life style and land development. With the help of the 'clay wizard' we organised and ran a successful weekend workshop on internal clay plastering. This was great and messy fun and went down very well with all the wonderful course attendees that turned up from near and far. The top quality clay we used has zero travel miles as it came from the dugout foundations directly from below the walls, which are now plastered and awaiting the final coat.



When it came to lime rendering the outside walls we had no option but to get started late in the season in September and October for the second coat. I worked with a friend who showed me how to use a big hired compressor to apply the first coat. The following day I almost had a small nervous breakdown. I had two girls helping me with the mixing but it was raining. I was exhausted and wet from the rain runoff on the roof saturating my back - I'd had to change my clothes four times that day; constantly up and down the scaffold tower with the heavy lime mix gun. It was dangerously slippery, my goggles constantly steamed up and needed washing and cleaning every time I came down to reload with mix and by the time I was set up ready in front of the walls I could barely see and the lime was burning my face badly. I'd raise my goggles to take in the general view, replace place them, aim and blast away! Eventually we got it all done and the job was done pretty well considering the traumatic and difficult circumstances.



October arrived. The exterior renders should be applied only between the end of April and mid September, unless the local micro climate is frost-free for longer. The NHL2 limes are reasonably similar in properties to the fat



limes, and may be used on straw bale buildings in certain circumstances. For example, they may be applied late in the year. Their breathability is said to be reduced and the rigid set is more like cement. So, as always we were forced into taking a bit of a risk again, nothing ventured nothing gained! Such a true expression.

Twenty years back I rendered my own cottage indoors, by hand. I got our good general builder friend, Jon, to come over and help us out and we cracked it in four days. Though under pressure, I actually really enjoyed the task of applying the second coat render by hand. On reflection I think it was a good way to go - although we needed to keep our fingers crossed that the lime render would have sufficient time to carbonate before the frosts came. Before starting the job, we sought advice through online groups

When we looked back and observed how much we'd achieved over the summer it was, by anyone's standards, impressive. We had made a lot of progress! But with funding now gone we realised the only way we could get the property habitable for winter was to raise some funds to protect what we had built so far. We launched our second crowd funding attempt to achieve this. We failed in our aim to raise £14,000, but we did succeed in raising £4000. This has helped us move on with some aspects of the build, such as the chimney and wood-burning stove, windows and lobby.

We are now awaiting spring, ready to start up again with work on the cordwood walls, roof insulation, wooden flooring throughout and the internal room walls.

There's meant to be a veranda built on the south side. It's on the original plans but seems something of an additional luxury now and probably won't get done for some time unless we see some change in our financial circumstances. We still don't know exactly how we are going to fund the completion of the build over the summer - trickles of cash from courses, hard work, volunteer helpers, lots of organisation - but we will not stop until it is completed and standing as a shining example for others to enjoy and to serve as a good source of inspiration.

Janta Wheelhouse

Janta is project manager (Diversity specialist) for the Karuna permaculture demonstration project. The project supports those who seek to live more sustainably. Karuna includes a vision for an eco-hamlet and the sharing of 'Insight design' (I.D) in order to help establish Permaculture and small scale eco-agro-forestry in practice. He provides care and support for his partner through permaculture/horticultural therapy. Karuna provides opportunities for people to live more balanced life through various creative approaches which offer meaningful results and offers people the chance to experience the interconnectedness of nature.

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