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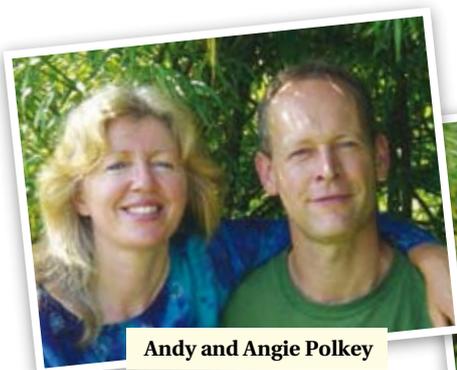
# The Permaculture smallholding

In the second part of our series, Stuart Anderson talks to two couples who have been practising the techniques and principles of permaculture on their smallholdings in Wales

**P**ermaculture has three ethics: earth care, people care and fair shares. Taken together, this means limiting population and consumption and sharing the resources we have equitably. To achieve that, we in the richer countries must learn to consume less, which has been the approach of Chris and Lyn Dixon ever since they purchased seven acres in Snowdonia National Park, North Wales, some 26 years ago. "One of the things that really appealed to me about permaculture design was learning to live more lightly on the land," Chris says.

Of course, in trying to be ecologically sustainable, a smallholding has to survive

PHOTO PATRICK WHITEFIELD



Andy and Angie Polkey



Chris and Lyn Dixon



Clockwise from top left:

- Ash branches cut from a regeneration site at Chris and Lyn's smallholding and used as animal fodder.
- Andy and Angie foraging for wild food – blackberries and rosehips.
- Chris harvests softwood in his wilderness regeneration project.
- Lyn fells willow as livestock fodder to be browsed in the field. The animals eat the leaves, buds and strip the bark. Lyn uses bench felling so branches don't fall on the fence





## The tale of the bantams and the gooseberry sawfly

Angie and Andy Polkey had a problem: the gooseberry sawfly *Nematus ribesii*, which attacks gooseberry and currant bushes during late spring and summer. If they found it incredible how quickly the sawfly could defoliate their fruit bushes, then the solution was equally impressive.

Adding five bantams to the orchard proved an instant cure. Their natural behaviour is to scratch about under the fruit bushes, where they disturb and eat the cocoons in the soil.

Between April and September, there will be three to four generations, so plenty of time for the bantams to break the cycle. "We've never had gooseberry sawfly since," says Angie.

Any doubts that the bantams are responsible are dispelled by the continued presence of the pest on the fruit bushes in the woody windbreak, where the chickens don't currently have access.

Their season's work done, the chickens are herded into the vegetable patch, along

with their portable ark, where they forage over winter, eating pests, scratching weeds and fertilising. It really does work and really is that simple.

Of course, the chickens sometimes eat what she'd prefer them not to, but Angie's solution is to plant more of it. When she noticed they had a penchant for sorrel, for example, Angie added more, dotting it around the forest garden, so there's enough for everyone now.

economically and Chris explains the practical element behind permaculture's green ambitions: "The fewer resources we have to buy, the more we can provide from our holding and the fewer things we actually need, the lower the income we can live on." Is this approach a bit radical? Despite a small living space and no mains electricity, Chris is adamant that their style of low-impact living is a "very comfortable low level".

### DON'T RUSH

Over the years, Chris and Lyn have kept goats, pigs, sheep, a cow—all small scale, he modestly says—plus hens, geese and ducks. But he'd advise someone new to smallholding to avoid getting caught up with animals in the early stages, suggesting they should get the environment right before introducing them. This reflects oft-repeated permaculture wisdom: observe for a year, seeing your land through four seasons before making planning decisions.

This is wise counsel, but enthusiasm and economic reasons often mean we want to get started as soon as possible, in which case we should heed complementary advice: start small. Better to get one bit functioning well than exhaust yourself trying to do it all at once. Permaculture is an intensive system, trying to get the most out of the smallest bit of land, and this makes it particularly interesting to the scale of smallholdings.

### LEARN BY OBSERVATION

The Dixons fought a 26-year battle before finally getting planning permission for a barn conversion dwelling on their land in 2008. In fact, it was six years before they were even allowed to live on their land in a caravan. During that time, they lived four miles away, which restricted how intensively they could work the land. This meant that one of Chris's first projects was a one-acre patch dedicated to "wilderness regeneration". They planned to plant trees in this area but decided to "wait a year and see what happened first".

## Observe for a year, seeing your land through four seasons before making planning decisions

Chris said: "Six years of daily observation of the transformation of the landscape was a hugely rewarding and valuable experience." It taught him "that land is inherently dynamic unless we intervene by ploughing or grazing livestock on it". Having seen plants springing up and regenerating the land by making good any deficiencies—such as nitrogen fixing gorse—he now believes that mixed forest/field systems in temperate climates can be highly productive, providing smallholders with a great

diversity of product options.

It was learning about permaculture that made Andy and Angie Polkey, both professional conservationists, decide to become smallholders. They applied permaculture principles to help them plan this life change and then chose the land. Searching in areas they could afford, they looked at not only the aspect and resources of the land but also its proximity to local communities, as they planned to sell produce and run training courses.

They settled on 3½ acres in Ceredigion, West Wales. Angie explains that the days of season they lose by being 700 feet above sea level is countered by the south facing slope catching as much of the sun's energy as possible. Like Chris, they also chose to dedicate a section of their plot to woodland, which illustrates another principle of permaculture, that of multifunctionality.

A major purpose of the trees is as a windbreak but, Angie says, designing elements of the system to do more than one thing creates the chance of "big wins". The trees also provide a harvest of nuts, fruit and firewood. The other side of this complexity in systems is to have each function supported by several elements, which builds resilience — putting our eggs in several baskets.

Over the years, how has their understanding of permaculture evolved? Chris Dixon says that the fundamentals haven't changed: the ethos

of living lightly on the land and learning through observing nature, its basics being its ethics, principles and design tools. Angie agrees and says that the depth of understanding and skills such as observation improve with experience: over time you learn what you should be looking for and how to interpret it better.

## HANDS OFF

One thing that's really struck a chord with Chris is watching his experiments veer off into unexpected territory. He has learnt that a 'hands-off' approach can pay dividends, allowing systems to demonstrate their own evolution. Don't try and steer it all the time, he advises. "Quite often the system will move in a way that generates something much more interesting and more productive than we could have done in the first place." Angie agrees, advising "stepping back, looking at the big picture, rather than reacting immediately" and avoiding the temptation to go for the quick fix.

Chris's wilderness regeneration project is a case in point. When bracken and gorse took hold, he "nearly panicked and rushed in to cut it all back". He resisted the temptation and learnt a lesson. "Bracken accumulates potash and provides a dense mulch that suppresses grasses. Once the tree canopy opens out above it, it more or less disappeared." The gorse added nitrogen to the soil, suppressed grasses and acted as natural deer protection, helping young trees to get going. He also learnt that gorse was used traditionally as animal fodder, providing just over half the protein percentage of oats.

Surely, this is an indulgent waste of valuable productive land? Over 1990-1, the fifth year of regeneration, Chris attempted to record the yields from this two-thirds of an acre patch and estimated its economic worth at £334. This included, for example, calculating the equivalent price in straw and hay of bracken used as bedding and gorse as fodder (see his website for details). Before they purchased this land, sheep ran over the rough pasture, which would have produced two or three animals per year at roughly £30 per animal. Sometimes, less is more.

"It's far more complex and interesting than anything I could have designed," says Chris, who believes that observing ecosystems demonstrating their own evolution can teach us to design and steer our own food production systems to become both highly productive and resilient to ecological and economic pressures.

## NICHE

Something else we observe in nature is the concept of 'niche'. Only one species can occupy a niche, which is why the red squirrel is having such a hard time surviving in the same niche as the more successful grey. In contrast,

there are three species of British woodpecker that happily exist alongside each other as they occupy slightly different niches, in terms of what they eat and where they nest. Chris uses this idea to inform his business planning.

In choosing maincrop outputs for their smallholding, Chris Dixon considers the environment, community and self. Niche is about being unique, so he asks how is the smallholding unique in relation to its neighbours. Is it soil, aspect, shelter, water supply, species? Then he looks at the unique needs of the local community and finally considers the skills and interests of himself and Lyn. He then tries to match these things together, asking himself: "How can I use something that's fairly special to me, in my landscape with its unique features, and how can I then feed that out into a local clientele."

**It's far more complex and interesting than anything I could have designed**

To optimise the profitability of your smallholding, Angie suggests looking beyond your plant growing and animal husbandry skills and look rather at the whole system that is your smallholding to identify where your resources, energy and finance are being drained.

Such an analysis might highlight "something that's not central to your smallholding operation but it saves you so much that you don't have to worry quite so much about the business margins". Saving energy by insulating your home might be a good example or, like Chris did, designing his own low energy lighting system.

## Reading suggestions

### **Introduction to Permaculture**

Bill Mollison

### **Permaculture: Principles and Pathways**

David Holmgren

(from the co-origins of the Permaculture concept)

### **The Living Landscape,**

Patrick Whitefield

(learn how to read your land)

### **Thinking in Systems**

DH Meadows

(introduction to systems thinking)

...and don't forget the list in the first article

PHOTO HANNAH THORGOOD



**Chris with permaculture design course students from Fordhall Farm at his wilderness regeneration project**

## Resources/contact details:

Chris Dixon [www.konsk.co.uk](http://www.konsk.co.uk)  
Angie Polkey teaches introductory and a full permaculture design courses. For more info email [info@purposefulpermaculture.co.uk](mailto:info@purposefulpermaculture.co.uk)  
Another option for busy smallholders wishing to do a permaculture design course: Patrick Whitefield is putting the finishing touches to an online course that will be ready for the start of 2013 [www.patrickwhitefield.co.uk](http://www.patrickwhitefield.co.uk)

## PERMACULTURE

Is there a set of techniques we can say are permaculture? Chris says: "It's only a permaculture technique if it's arisen from permaculture principles and ethics and it fits into a permaculture design." A technique that works on one smallholding might not be appropriate in another situation.

These two articles are but a modest effort to explain the concept of permaculture and you will only know if it can benefit your smallholding by investing some time and effort in learning more about it, learning a bit about systems thinking and learning how to read your land.

**About the author:** Stuart and Gabrielle live on their three-acre permaculture smallholding in Brittany. They grow fruit, vegetables and firewood, raise sheep, pigs, chickens, ducks, rabbits and bees and rent out their holiday cottage. [www.permacultureinbrittany.com](http://www.permacultureinbrittany.com)