



Richard Ballard, co-founder, Zero Carbon Farms, London, January 2022

STRANGER THAN SCIENCE FICTION

For her latest project Joanna Vestey, recipient of the 2021 TPA/RPS Environmental Bursary, looks at the futuristic world of regenerative agriculture and food production

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It's interesting how science fiction gets it wrong.

To date, there are no cities filled with flying cars, nor self-tying shoelaces of the kind dreamed up in *Back to the Future*. No make-up masks or roast chicken pills as used by the protagonist of *The Fifth Element*.

Technological advances, though, are happening right now in the agricultural sector that are just as mind-blowing as anything we've imagined – robotic tractors that kill weeds with lasers, guilt-free meat grown in a lab from purified animal fat, neon-lit underground grow rooms ...

This is the fascinating and futuristic world that Joanna Vestey, recipient of the 2021 TPA/RPS Environmental Bursary, invites us to explore in her latest project *Metamorphosis*, introducing pioneering scientists, groundbreaking researchers and radical farmers striving to achieve food security across the length and breadth of the UK.

"It's such a vast topic," says Vestey over a video call from her from her studio in Oxford. "From food producers to regenerative farms, agro ecologists to carbon sequestering projects – it would have been wrong just to focus on one group because they're all contributing to the same story."

Growing Underground, the first initiative she documented, is a 65,000 acre site 33,000 miles below Clapham Common. Here micro-herbs are cultivated in former World War Two bunkers using a hydroponic, water-based growing system powered entirely by renewable energy. The produce goes on to make an appearance on the artfully arranged plates of the capital's Michelin-starred fine dining establishments.

Over in Scunthorpe, Jones Food Company (JFC) is taking farming upwards, growing stacks of basil 12 metres high, covering an area equivalent to 26 tennis courts. The controlled nature of the indoor environment means the plants produce pesticide-free crops 365 days, with no risks from pests and water pollution. The pink, scarlet, violet-hued iridescence of the LED lights used in these growing spaces lend the images a cosmic feel, as if we're looking at farms on far-flung galaxies, not London or Lincolnshire.

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While it's hard to suppress a childlike thrill at the imaginative flair showcased by these inventions, there's a serious underlying context to Vestey's work. At projected population growth rates, there will be 10 billion mouths to feed globally by 2050, according to the United Nations, requiring a 70% increase in food production. In the years leading up to 2015, hunger steadily decreased but since then it has been on the rise, with the number of undernourished people on the planet increasing from 650 million to 810 million between 2019 and 2020, figures from the World Health Organisation show.

Brexit, the Covid-19 pandemic and the war in Ukraine have made the UK's capacity to feed itself more difficult, explains Dr Elisabetta Aurino, honorary fellow in food security at Imperial College Business School, London. “These factors all hinder food security – the ability to access enough nutritious food for a healthy life – through



Still life, Jones Food Company. Scunthorpe, January 2022



Isabella Tree, author and co-creator of Knepp Wildland, Knepp, West Sussex, May 2022

increases in food, energy and input prices such as fertiliser costs, as well as by decreasing the availability of European workers to UK-based food producers.

“EU workers used to play a key role in the UK food system, from picking fruits to driving lorries that distributed groceries from the fields to the supermarket shelf. Rising food prices – predicted to reach a 20% increase in the third quarter of 2022 – will squeeze the purchasing power of low-income households, leading to spikes in hunger and in the consumption of cheaper, often nutritionally poor, alternatives. This is a key threat to health in a country already characterised by wide and growing health inequalities.”

Yet the UK, along with Germany and the Netherlands, is at the forefront of these expanding industries. Vertical farming is predicted by Forbes to be worth \$22 billion (up from \$3 billion currently) in 2026. JFC is a major player, with the largest vertical farms in the world.

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“There’s a lot of investment in startups in this sector from venture capitalists,” Vestey says.

Climate crisis reporting can tend towards doomsaying, and understandably so. The facts are alarming. Psychologists now refer to a condition known as ‘climate anxiety’ which particularly affects the young. An international 2021 study by *The Lancet* showed that 59% of 16-25 year olds were “very or extremely worried about climate change”, with 84% experiencing “moderate” worry. Researchers based their findings on a survey of 10,000 respondents in ten countries.

There is an important case for exposing the ecological devastation being felt across the world, but to inspire the behavioural shift required for humanity to survive there is also a need to show stories of change already underway.

Vestey takes her cue from fellow photographer Lucas Foglia who has said: “I think photographs about climate change need to focus on possible solutions.” Vestey adds, “Especially after Covid-19, I felt so bombarded with negative information, podcasts, visual imagery. I couldn’t add to that. I wanted to show something positive, uplifting.”

Vestey, born in 1972, first realised photography could be a force for good when, as a child, she would pour over her grandfather's stacks of *National Geographic* magazines. Later, studying photography at Surrey Institute of Art & Design, her work was heavily conceptual, but a student exchange programme took her to the Bezalel Academy of Arts and Design in Jerusalem where she trained in photojournalism, going on to intern with the Associated Press and teach photography workshops to children in Gaza.

Though she worked for many years as a visual journalist for human rights organisations she never felt at ease with the fleeting nature of news coverage, preferring slower stories. "I was always looking around the edge, at the women and children," she recalls.

She holds an MA in social anthropology and development and a practice-based PhD in documentary, but at times has felt "paralysed" by photography theory.

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and they're willing to take a risk"**

"Every time I picked up my camera I would be thinking 'Should I be here? How am I representing people?'"

Over the years her work has embraced more of her poetic, aesthetic leanings, while at the same time exhibiting a growing interest in technology. For the 2017 project *Lecture Series*, for example, she photographed the audio waves of recordings of academic lectures using long exposures on a 10x8 analogue camera, producing abstracted images with vivid colours that foreshadow those of *Metamorphosis*.

Her interest in the trailblazers of sustainable food can also be traced back to her first photobook, *Faces of Exploration*, published in 2006, which highlighted 50 modern-day explorers – polar scientists, anthropologists, cavers, climbers, balloonists. Prints from the series are held in the National Portrait Gallery, London.

The people she photographed for this new series have a similar spirit. "They're driven by curiosity," she says. "They have a little kernel of something and they're willing to take a risk, prepared to spend the time researching, really digging down. They have a degree of grit, I suppose, and of vision." I smile – this could very well be a description of Vestey herself.



Polytunnel, The Apricot Centre, Huxham's Cross Farm, April 2022



Sinead Fenton, Aweside Farm, East Sussex, April 2022

Metamorphosis grew out of bodies of work Vestey has made in recent years about ‘custodians’ – individuals presiding over our cultural and historical archives for the sake of future generations. The farmers and innovators of *Metamorphosis* are also custodians – of the land, adopting regenerative approaches to safeguard the integrity of the environment for posterity.

In Snowdonia we meet the Roberts family, who are undertaking 66 hectares of peatland restoration.

In West Sussex, Knepp Wildland – founded by Isabella Tree – occupies an area that was previously intensive farmland. Knepp uses grazing herbivore animals to spark an ecological transformation in the 3,500 hectares, now home to rare bird and butterfly species.

For many, sustainability is about community resilience as much as the environment. The Apricot Centre in Dartington, for example, is a farm operating organic, biodynamic, permaculture and agroforestry principles that also offers mental health and wellbeing support to children and families.

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The custodian’s role is one of stewardship, recognising that the natural world is not simply ours to plunder but something we must nurture, keeping in mind the needs of future generations. The philosopher Roman Krznaric explores this idea in his 2020 book *The Good Ancestor*; he suggests we should adopt a “legacy mindset”, employing “deep-time humility” to consider the rights of our descendants in the decisions we make today.

“Marina O’Connell, who runs The Apricot Centre, points out how many needs can be fulfilled from a 34-acre plot,” Vestey observes. “Hundreds of teenagers have come through there for therapy. They provide nutritious food for local people, run training courses and have beautiful woodlands. There is so much more going on than you would find in a big old field of rapeseed. It’s got this incredible depth.”

It’s an approach that might just pay environmental and social dividends for centuries.

The TPA/RPS Environmental Bursary is run in partnership with The Photographic Angle.
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