

The Crofter: Sustainable Communications

SECTION EDITOR



Louisa Ludwig-Begall
louisa.ludwig-begall
@evidera.com



Sarah Kabani
sarah.kabani@chu-nimes.fr

Editorial

The Walrus and the Carpenter

Were walking close at hand;

They wept like anything to see

Such quantities of old debris:

"If this were only cleared away,"

They said, "it would be grand!"¹

Greetings from your new Crofter co-section editors! We have taken liberties with Lewis Carroll's humorous poem "*The Walrus and the Carpenter*". In the 1871 original, the poem's eponymous protagonists are disappointed with the "quantities of sand" at the seaside. Modern-

day beachgoers may nowadays weep to see plastic debris pebbles the shore. Indeed, EMWA member Catarina Leitão was so shocked by the amount of plastic waste she encountered on a Costa Rican beach holiday in 2015, that it sent her on an enduring journey of discovery and "down the rabbit hole" of sustainability.

In her article "How close are we to sustainability?," she tells of her involvement in non-governmental organisations focusing on environmental clean-ups and a circular economy and describes the challenges she unearthed in digging deeper. In her interview "Beautiful

Flower Breathes: beyond an environmental project" with Cátia Godinho, she presents the inspiring story of how the creation of an urban agroforest brought a community closer together and breathed a new spark into her writing.

Sarah and Louisa

Reference

1. Adapted from Carroll L. *The Walrus and the Carpenter*. Poetry Foundation. 1871 [cited 2024 March 16]. Available from: <https://www.poetryfoundation.org/poems/43914/the-walrus-and-the-carpenter-56d222cbc80a9>

How close are we to sustainability?

Catarina Leitão

Medical Writer, Evidenze
Lisbon, Portugal

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Correspondence to:

Catarina Leitão

catarina.c.s.d.leitao@gmail.com

Abstract

I have always loved nature. When I was a kid, I preferred watching wildlife documentaries to cartoons. Those documentaries taught me about the diversity of life and landscapes and the need to preserve and respect nature. Recycling, avoiding consumerism, and using public transport have always been some of my actions to protect the environment. However, in 2016, I felt the need to volunteer at non-governmental organisations (NGOs) dedicated to sustainability and to understand sustainability strategies being implemented at a macro level. I discovered how complex sustainability can be. Here, I share my discoveries.

Motivation for volunteering in non-governmental organisations

The call to get actively involved in sustainability projects resulted from a trip to Costa Rica in December 2015. There, I saw breathtaking landscapes and luxuriant nature, but also plastic waste on the beaches where there was greater tourist pressure. And it hit me that we, nature-loving tourists, were contributing to this plastic waste and the destruction of nature (we drank bottled water and stayed in newly-built tourist accommodations). I thought about the Portuguese beaches back at home, which – whilst not to the same extent – were also being colonised by plastic.

Back in Portugal, I started to work with Ocean Alive,¹ a non-governmental organisation (NGO) focused on changing behaviours and protecting the oceans and the seagrass meadows, which are home to many species and sequester large amounts of CO₂. As a volunteer, I was first involved in cleaning up the banks of the river Sado, and later in raising awareness of the negative impact of plastics on the ocean.

Months later, in an attempt to find out more about how society could move towards sustainability, I discovered the concept of circular economy and joined the Circular Economy Portugal Association,² where I volunteered at the Repair Café (a project to prevent electronic

waste)³ and in the Beautiful Flower Breathes project (a project to build an urban agroforest; please read my interview with its leader Cátia Godinho, below, to find out more).⁴

Circular Economy Portugal Association's founder Lindsey Wuisan, a Dutch expert in circular economy policies, passed on her knowledge and triggered my curiosity about strategies driving a possible transition towards sustainability. However, my research has led me to realise that many current solutions that alleviate certain issues, in turn, aggravate others.

Plastic versus biodegradable materials

My initial work as a medical writer involved covering medical congresses. Over the years, I saw the transition away from plastic cups, plates, cutlery, and bags towards paper or bamboo cups, plates, cutlery, and bags, in a bid to make these events more sustainable. I was curious to know more about the advantages of these changes, but my findings were unexpected.

Plastic, invented in the 19th century, has become a ubiquitous part of our everyday lives (in textiles, health appliances, electronic devices, construction, fishing, farming, packaging, etc.). In the 20th century, plastic bags replaced paper bags as a seemingly sustainable measure to reduce felling trees. However, over 99% of plastic is



Photo: Freepik

produced unsustainably from chemicals sourced from fossil fuels.

Nowadays, plastic bags are being increasingly replaced by paper (mainly), cotton, or hessian bags. In parallel, bamboo has become a popular alternative material for disposable plates and cutlery. However, large-scale production of these biodegradable materials often depends on monoculture, an intensive agriculture practice with negative environmental impact.⁵ Monoculture causes loss of biodiversity (only one species is planted and pesticides/chemicals are used extensively), soil erosion (all plants compete for the same soil resources and microorganisms that maintain soil fertility are killed by pesticides), and high-water consumption.

It seems to me that rather than replacing one resource with another, and continuing to produce and use disposable objects, the solution is to reuse durable products. This viewpoint is also being adopted by EMWA, which requested that the 2024 EMWA Spring Conference venue use crockery rather than disposable objects and suggested that participants bring a refillable cup or water bottle and their own paper and pens whenever possible.⁶ I hope that EMWA's example serves as inspiration and becomes a common practice at conferences globally.

Electronic devices and energy

To save paper, digital alternatives are increasingly used and e-billing, e.g., has become common.⁷ Nevertheless, computers, smartphones, data

storage in the cloud, and artificial intelligence (all crucial tools for our work as medical writers) consume energy. It is estimated that telecom networks are going to more than triple their energy consumption with Long-Term Evolution and fifth generation mobile networks.⁸

To reduce the digital carbon footprint, a global commitment is in place to transition from non-renewable to renewable energies, and to transition from fossil-fuelled to electric vehicles.

However, again there is no "easy fix" for sustainability, as renewable energies and electronic devices depend on raw materials obtained from mining activities, which have an effect on the environment. Moreover, the demand for lithium and cobalt (rare metals used in the batteries of many devices, including computers, solar panels, wind turbines, and electric vehicles) is growing rapidly: by 2030, the European Union is likely to need 18 times more lithium and five times more cobalt to cover the demands of electric vehicle batteries than in 2020.⁹ The rush for cobalt is intertwined with human rights violations and environmental destruction in the south-eastern Democratic Republic of the Congo (DRC) where 70–75% of global cobalt reserves are located.¹⁰ Siddharth Kara, the author of the book *Cobalt Red: How the Blood of the Congo Powers Our Lives*,¹⁰ has emphasised that global decarbonisation must not be achieved at the cost of violence against people and the environment in the DRC.

Is recycling the solution?

The United Nations recently noted that electronic waste (e-waste) has become the fastest growing domestic waste category in the world and poses a threat to health and the environment.¹¹ Considerable amounts of e-waste are shipped to low- and middle-income countries where workers dismantle electronic devices to extract valuable materials, exposing both themselves and the environment to toxic residues.¹¹ The Global E-waste Statistics Partnership stated that, in 2019, 53.6 million tonnes of e-waste were produced and only 17.4% were recycled.¹²

Recycling has been advertised as the primary solution to manage waste, but again, the reality is complex and not all materials are easy to recycle. Ongoing research is being developed to improve recycling of hard-to-recycle materials (including those – often plastic-coated – paper cups so beloved of conferences).¹³ However, most plastics remain impossible to recycle or degrade with successive rounds of recycling and thus cannot be perpetually recycled.¹⁴ I continue recycling plastics, but consider this only a short-term mitigation strategy.

Sustainable policies might be better channelled towards the other Rs of waste management – Refuse, Reduce, Reuse, Repair, Repurpose – rather than Recycle. Only this will reverse the events of Earth Overshoot Day, i.e., the date when the consumption of resources and generation of waste by humans exceeded nature's ability to absorb waste and generate new resources.¹⁵ Earth Overshoot Day was attained on August 2, 2023,¹⁶ and, although the trend has flattened in recent years, reaching an equilibrium between resource consumption and nature regeneration remains a distant goal.

How can we get closer to sustainability?

To me, it starts with the awareness that sustainability implies behavioural changes rather than changes in resource exploitation. We all have the power to make individual changes. However, sometimes our will is hampered by external constraints. For example, I have sometimes been unable to repair or upgrade electronic devices either because replacement parts were no longer produced or the device was designed to prevent upgrading. At other times, high cost and long repair delays (due to the lack of components in stock and a shortage of repair specialists) have led me to buy a new device. The good news is that policies are changing: in 2023, the European Commission introduced measures to make repairs easier and more attractive to consumers.¹⁷ A common charger for all mobile phones will be

introduced by the end of 2024 and one for laptops will follow in 2026.¹⁸

Overall, my volunteer work has led me to learn more about sustainability and to begin the journey of applying the “Refuse, Reduce, Reuse, Repair, and Repurpose” principles more often. I must confess that it has been a challenge to change certain ingrained behaviours. Making more sustainable choices in my personal and work life has been a slow process with setbacks, but it is very rewarding when I manage to integrate a new behaviour that brings me closer to sustainability.

Take-home messages

- Choose durable and reusable products over single-use and disposable products.
- Refuse, Reduce, Reuse, Repair, Repurpose, rather than Recycle.
- Change behaviour instead of resource exploitation.
- Choose an electronic device designed to be upgraded or repaired.
- Ensure that the replacement components of devices will continue to be produced and easy to obtain.
- Ensure that there are enough repair specialists to repair/upgrade the device you are considering purchasing and if it is economical to repair/upgrade the device.

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Disclosures and conflicts of interest

The author declares no conflicts of interest.

References

1. Ocean Alive. 2015 [cited 2024 March 16]. Available from: <https://www.ocean-alive.org/>
2. Circular Economy Portugal. 2022 [cited 2024 March 16]. Available from: <https://circulareconomy.pt/en/>
3. Circular Economy Portugal. Repair Café [cited 2024 March 16]. Available from: <https://circulareconomy.pt/en/projects/repair-cafe/>
4. Circular Economy Portugal. Bela Flor Respira [cited 2024 March 16]. Available from:

<https://circulareconomy.pt/projectos/bela-flor-respira/>

5. Horizon. The EU Research & Innovation Magazine. The rise and fall of monoculture farming. 2021 [cited 2024 March 16]. Available from: <https://projects.research-and-innovation.ec.europa.eu/en/horizon-magazine/rise-and-fall-monoculture-farming>
6. European Medical Writers Association. EMWA Spring 2024 57th Conference. 2024 [cited 2024 March 16]. Available from: <https://valencia.emwa.org/reducing-our-environmental-impact/>
7. Moodie A. Is digital really greener than paper? The Guardian. 2014 [cited 2024 March 16]. Available from: <https://www.theguardian.com/sustainable-business/digital-really-greener-paper-marketing>
8. Nastu J. Telecoms to triple electricity consumption, boosting growth of distributed energy generation. Environment + Energy Leader. 2021 [cited 2024 March 16]. Available from: <https://www.environmentenergyleader.com/2021/02/telecoms-to-triple-electricity-consumption-boosting-growth-of-distributed-energy-generation/>
9. European Commission. Critical raw materials resilience: Charting a path towards greater security and sustainability. 2020 [cited 2024 March 16]. Available from: <https://ec.europa.eu/docsroom/documents/42849>
10. Kara S. Cobalt red: How the blood of the Congo powers our lives. New York: St. Martin’s Press; 2023.
11. UN News. “Digital dumpsites” study highlights growing threat to children: UN health agency. 2021 [cited 2024 March 16]. Available from: <https://news.un.org/en/story/2021/06/1094052>
12. The Global E-waste Statistics Partnership. Surge in global e-waste, up 21 per cent in 5 years. 2020 [cited 2024 March 16]. Available from: <https://globalewaste.org/news/surge-global-waste/>
13. Doward J. Why Britain’s 2.5 billion paper coffee cups are an eco disaster. The Guardian. 2020 [cited 2024 March 16]. Available from: <https://www.theguardian.com/environment/2020/apr/26/why-britains-25-billion-paper-coffee-cups-are-an-eco-disaster>
14. Center for Climate Integrity. The fraud of plastic recycling. How Big Oil and the plastics industry deceived the public for decades and caused the plastic waste crisis. 2024 [cited 2024 March 16]. Available from: <https://climateintegrity.org/plastics-fraud>
15. Earth Overshoot Day. Past Earth Overshoot Days. 2023 [cited 2024 March 16]. Available from: <https://overshoot.footprintnetwork.org/newsroom/past-earth-overshoot-days/>
16. Earth Overshoot Day. This year’s Earth Overshoot Day lands on August 2: The trend is flattening but still far from reversing. 2023 [cited 2024 March 16]. Available from: <https://www.overshootday.org/newsroom/press-release-june-2023-english/>
17. European Commission. Right to repair: Commission introduces new consumer rights for easy and attractive repairs. 2023 [cited 2024 March 16]. Available from: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1794
18. News European Parliament. Long-awaited common charger for mobile devices will be a reality in 2024. 2022 [cited 2024 March 16]. Available from: <https://www.europarl.europa.eu/news/en/press-room/20220930IPR41928/long-awaited-common-charger-for-mobile-devices-will-be-a-reality-in-2024>



Author information

Catarina Leitão, PhD, has been a medical writer at Evidenze since 2022. She is also a volunteer at the non-governmental organisations Ocean Alive and Circular Economy Portugal. Her volunteer work has included participating in plastic clean-up campaigns, repair cafés, and creating an urban agroforest. She is currently the Chair of the General Assembly Board of Circular Economy Portugal.

Beautiful Flower Breathes: Beyond an environmental project

Catarina Leitão

Medical Writer, Evidenze
Lisbon, Portugal

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I have volunteered in different non-governmental organisations focused on sustainability and have been involved in many interesting projects, but *Beautiful Flower Breathes* has a special place in my heart. It taught me about syntropic agriculture, a technique that combines agriculture and reforestation, and showed me the social impact that the creation of an urban agroforest can have.

I volunteered during the project's first year (2018/2019). Five years later, in 2024, it is still going strong. Here, I share an interview with the person who conceptualised and implemented the project, Cátia Godinho. She explains how the concept was born and how it has evolved. I hope you enjoy this project as much as I do.

The interview

Catarina Leitão (CL): What is *Beautiful Flower Breathes* and how was it born?

Cátia Godinho (CG): *Beautiful Flower Breathes* is an environmental and social project to build and maintain an agroforest in the Lisbon neighbourhood *Beautiful Flower*. The project was born after I discovered the concept of syntropic agriculture, also named successional agroforestry, which combines forestry and agriculture.

Syntropic agriculture does not use chemicals or fertilisers. If well implemented, it can create a continuous photosynthetic matrix and produce large amounts of food in a small space without eroding the soil. I was mesmerised when I was introduced to this concept and wanted to test it in an urban context.

I pitched my idea to council members of Campolide Parish (a district in Lisbon) and they offered up a brackish piece of abandoned land in the neighbourhood *Beautiful Flower*. The land had been used as a dumpsite by locals and posed an interesting challenge: It needed to be cleaned up before it could be used. Our idea was to develop an urban agroforest on the land and organise workshops on syntropic agriculture and other sustainable land use, e.g., composting, permaculture, biodiversity, seed collection, and

conservation. In addition, we wanted to measure the amount of food that we could produce on this small piece of land.

Funding for the creation and maintenance of the agroforest was provided by the Municipality of Lisbon and the project was initiated in November 2018.

CL: What does syntropic agriculture mean and why were you so mesmerised by it?

CG: Syntropic agriculture integrates the forestry principle of species succession. It combines the planting of crops with that of trees and shrubs in a matrix that creates synergies between the different species. For example, sun-loving crops are initially planted alongside saplings but are later replaced by shade-adapted crops as the saplings grow into shade-providing trees. Since syntropy means the complexification of structure and concentration of energy (contrary to entropy, which is the simplification of structures and dissipation of

energy), the approach is called syntropic agriculture.

Syntropic agriculture was developed by Ernst Götsch,¹ a former Swiss geneticist who quit his job to test his hypothesis that it is better to cultivate species in favourable conditions than to create species for cultivation in poor conditions. Götsch states that forest mimicry can accelerate natural processes by capturing carbon, water, and nutrients, and creating balanced diversity. His proof of concept was the conversion of 500 hectares of eroded soil in Brazil into an agroforest in the early 1980s. To this day, this agroforest produces high quality cacao. By mimicking forest development and creating

By mimicking forest development and creating the ideal growth conditions for each plant, he created a diverse, productive, and sustainable farm.

the ideal growth conditions for each plant, he created a diverse, productive, and sustainable farm.

CL: How was the process of implementing the project?

CG: It took around 30 volunteers several weeks



to clear the land. We removed fences, furniture, toilets, carpets, and many other items. People from the neglected neighbourhood suddenly saw young outsiders improving their space. Many thanked us for what we were doing and welcomed our work. One lady was so happy we were cleaning up and improving her neighbourhood that she baked us several cakes. Meanwhile, her husband cheerfully played the accordion as we worked.

Other neighbourhood residents participated in their own way. People who were pleased with the changes took on the role of guardians, protecting the growing agroforest from further fly-tipping.

CL: What you have just described was the first year of the project. Nowadays, how is the involvement of the community in the project?

CG: As intended, community members, mainly retirees and students, are now actively involved and have claimed ownership of the project. Many of the younger participants have been involved with the project since its first year; as children, they played and helped on the land, absorbing vast amounts of knowledge along the way: nowadays, they can explain the importance of every plant and have become agroforest soil experts.

CL: Finally, what was the effect of this project on people's health?

CG: Our matrix of plants guarantees photosynthesis throughout the year and continuously sequesters CO₂. This reduces the city's carbon footprint and positively impacts its residents' health. But this project also had an extraordinary impact on community members' feelings of belonging. I think this mental health improvement may also have improved physical health: we helped combat loneliness.

One striking example of improved physical health is the story of a man who suffered from painful sciatica at the start of the project. Over time, as he found a purpose, company, and good food in the project, his pain lessened, and he confessed that our arrival was one of the happiest events in his life.

The local impact of this project on both mental and physical health was cross-generational. Many retirees abandoned their TVs to talk about agriculture and nature with their neighbours in the agroforest; many children followed their example and also engaged in "agrofitness" (physical activities such as hoeing and digging).

The project was especially valuable during the COVID-19 pandemic when many locals living off temporary jobs stopped receiving an income. In difficult times, they knew they could harvest vegetables from their neighbourhood agroforest.

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The impact of this project on me, a medical writer

I, Catarina Leitão, became involved in *Beautiful Flower Breathes* during a phase of intense work as a medical writer. To my surprise, every time I spent the weekend helping with the clean-up, I became re-energised and my mental fatigue disappeared. This allowed me to maintain my cognitive functioning and benefited my medical writing projects. Ever since, I have integrated nature into my daily routine: regular walks in the park help me to release stress and to maintain my mental health.

Scientific evidence shows that interaction with nature, including urban nature, has a positive impact on human health. Studies have shown that contact with a natural environment reduces stress,^{2,3} symptoms of depression,^{4,5} anxiety,⁴ and chronic pain,⁵ and improves mood,⁴ cognitive functions,⁶ creativity,⁷ and sleep quality.⁸

Thus, based on my experience and backed by scientific evidence, I recommend that you

volunteer in a similar project (and meet inspiring people like Cátia Godinho) or simply walk in nature. Experience the benefits interaction with nature has on mental health and creativity in medical writing!

References

1. Agenda Götsch [cited 2024 March 16]. Available from: <https://agendagotsch.com/en/ernst-gotsch/>
2. Van Den Berg AE, Custers MH. Gardening promotes neuroendocrine and affective restoration from stress. *J Health Psychol.* 2011;16(1):3-11. Available from: doi: 10.3390/ijerph10041250 PMID:20522508
3. Beil K, Hanes D. The influence of urban natural and built environments on physiological and psychological measures of stress – a pilot study. *Int J Environ Res Public Health.* 2013;10(4):1250–67. doi: 10.3390/ijerph10041250
4. Song C, Ikei H, Igarashi M, et al. Physiological and psychological effects of a walk in urban parks in fall. *Int J Environ Res Public Health.* 2015;12(11):14216–28. doi: 10.3390/ijerph121114216
5. Han JW, Choi H, Jeon Y-H, et al. The effects of forest therapy on coping with chronic widespread pain: physiological and psychological differences between participants in a forest therapy program and a control group. *Int J Environ Res and Public Health.* 2016;13(3):255. doi:10.3390/ijerph13030255
6. Mayer FS, Frantz CM, Bruehlman-Senecal E, et al. Why Is nature beneficial?: The role of connectedness to nature. *Environ Behav.* 2008;41(5):607–43. doi:10.1177/0013916508319745
7. Fredericks AD. How exposure to nature influences creativity. *Psychology Today.* 2022 [cited 2024 March 16]. Available from: <https://www.psychologytoday.com/intl/blog/creative-insights/202211/how-exposure-nature-influences-creativity>
8. Grigsby-Toussaint DS, Turi KN, Krupa M, et al. Sleep insufficiency and the natural environment: Results from the US Behavioral Risk Factor Surveillance System survey. *Prev Med.* 2015;78:78-84. doi:10.1016/j.jpmed.2015.07.011

