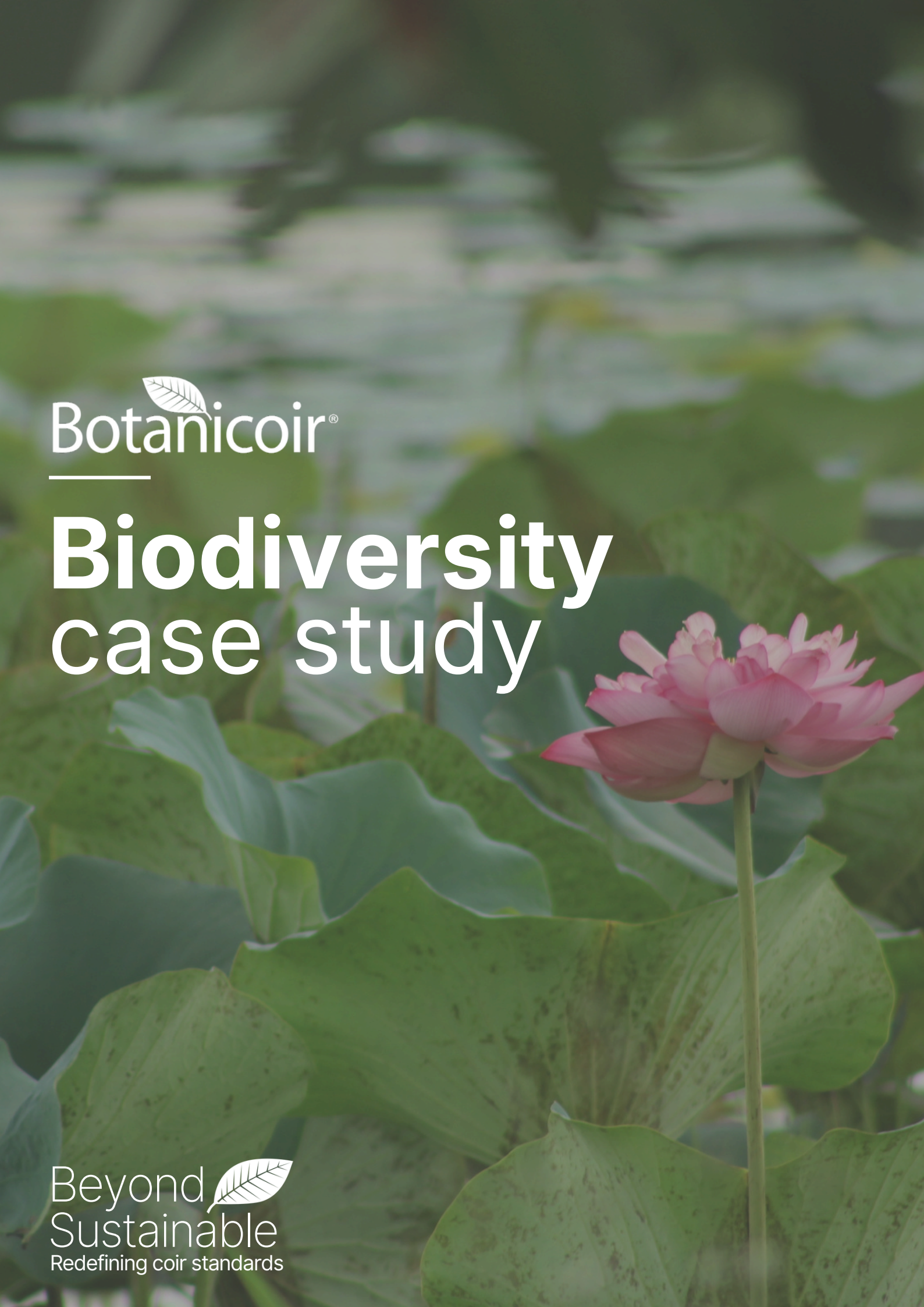


Botanicoir®

Biodiversity case study

Beyond Sustainable

Redefining coir standards

Beyond Sustainable

Our Beyond Sustainable initiative goes beyond standard stewardship of our planet, we are dedicated to taking one step further and make industry-wide improvements. We aim to demonstrate how the success of businesses should continually feed back into their roots, enriching their local environment and uplifting the communities supporting them.

Founded in the home of the coconut, we are committed to caring for and bettering the coconut industry worldwide. With the global demand for coconuts rising, we invest in local communities, infrastructure, and excellent working conditions, further strengthening the long-term sustainability of the sector and helping to cultivate a resilient and reliable coir industry to support the future of global food production.

As part of our new Beyond Sustainable initiative, we are working towards sharing our community and environmental projects with our partners and stakeholders, to spread positive change and drive sustainability efforts in the coir industry.

The second key goal of Beyond Sustainable is to support our customers in meeting the sustainability standards of supermarkets and certification bodies, such as LEAF Marque.

Botanicoir has a long history of working hand in hand with our customers to innovate and grow together, and with many supermarkets placing increased pressure on growers to meet sustainability standards, we are releasing a range of resources to inspire our growers in developing their own biodiversity projects and to help build a more collaborative industry, sharing knowledge, ideas and results. Although we may work on different continents and grow different crops, we share a common goal: to ensure agriculture works in harmony with nature.

Section 7 of the LEAF Marque standards (Version 17) contains landscape and biodiversity related requirements. Retailers such as Sainsbury's and Waitrose have targets to support growers and farmers to monitor and enhance biodiversity on site.

This case study focusses on biodiversity and highlights the ways in which we are aiming to enhance and protect biodiversity on our plantation in Sri Lanka. We delve into our reasoning, the challenges faced along the way and how we overcame them.

Through our case studies, we aim to share knowledge, spread ideas and spark discussions about sustainability.



Intercropping

Intercropping

What we do

We grow several different species alongside our coconut trees including cinnamon, turmeric, cassava, mango, banana, pineapple, starfruit, guava, sweet potato and more. On our farm, we grow a range of flowers, fruits and vegetables as well as maintain a nursery for our cinnamon seedings

Why we do it

There are many benefits of intercropping, with new research highlighting just how valuable the practice can be for both people and planet.

Climate change is impacting weather patterns globally, increasing the frequency and severity of extreme weather. It is having disastrous impacts around the world, causing significant challenges to business, livelihoods, wildlife, the economy and more.

Research has proven that more biodiverse agricultural systems have a greater potential to mitigate issues caused by climate change due to improved crop resilience to environmental stressors (Rosset et al., 2011). In short, biodiversity supports resilience against climate change and extreme weather (Huss et al., 2022) .

In Sri Lanka, we often experience fluctuations between dry and wet periods, both of which can often last for many months. Greater plant cover helps to retain soil moisture by reducing evaporation during dry periods (Wallace et al., 1999) and helps to absorb excess water during rainy periods. This helps to combat both weather extremes that is becoming increasingly common around the world.

Root exudates are valuable as they enhance soil nutrient availability (Tshewang et al., 2022) and promote the presence of beneficial microbes which strengthens plant resilence against environmental stressors and plant pathogens (Matilla, 2018). The presence and diversity of root exudates, which mainly consist of organic compounds, is known to vary between species (Vivanco, 2009), therefore, plantations with intercropping projects will have greater soil organic content, soil nutrient content and resilience against pathogens and other stressors.

Extra organic matter input into soil from the presence of intercropped species increases the availability of soil nutrients, which in turn, increases water holding capacity (Morugán-Coronado et al. 2020) . In fact, just a 2% increase in soil organic matter has been shown to double soil water availability (Hudson, 1994).

Finally, plantations which use intercropping can sequester more carbon from the atmosphere than monocultures.

Intercropping

How we got started

Eight years ago, we began our first intercropping trial. Starting with cinnamon, we set up a small trial plot in a corner of the plantation. Over time, we expanded our cinnamon growth and slowly introduced new species such as cassava and papaya.

Challenges faced and lesson learned

Through many years of trial and error, we found that starting small and being prepared to make adjustments along the way was the best course of action. Thoroughly researching the requirements of new species and selecting ones that are compatible with our coconut trees helps to keep maintenance costs and labour at a minimum. We learned that researching market demand, keeping accurate records of costs and yields can help to ensure the success of the intercropping project.

	Challenges	**Solution**
	Competition for sunlight	We selected shade-tolerant species and adjusted plant spacing and pruning regimes to ensure adequate light
	Insufficient water	We developed a detailed irrigation schedule based on crop requirements. Mulching, rainwater collection and reusing water from the coir buffering process also helps to keep costs down
	Lack of space	We carefully selected crops with specific growth habits to ensure they wouldn't excessively compete with our coconut trees or each other
	Increased labour requirements	The plantation maintenance schedule was designed to ensure peak maintenance/harvesting periods between species didn't overlap
	Competition for nutrients	Wastewater from the buffering process is reused to fertigate coconut trees



Ecological surveys

Ecology Surveys

What we do

We conduct regular ecological surveys on our coconut plantation. We monitor the diversity and abundance of plants, birds, butterflies and other insects.

For our plant survey, we assess species in 30 randomly selected 0.5 x 0.5m plots. In our bird, butterfly and general insect surveys, we assess diversity along line transects on the plantation.

Why we do it

We conduct surveys to get a better understanding of what species we already have present on site, to better assess the changes in abundance and diversity of species as our new biodiversity initiatives are introduced.

Conducting surveys is essential for developing an effective plan to protect and enhance biodiversity on site. For example, you could use the survey findings to assess how many of the species are native vs non-native, if any invasive species are present, how many plants beneficial for wildlife are present and more.



Ecology Surveys

How we got started

We conducted our first ecology surveys in February 2026, with the support of our in-house environmental scientist. Using randomised quadrat sampling, we assessed plant diversity and a line transect to assess bird and butterfly populations on the plantation.

In our first survey, we identified 41 plant species, 8 butterfly species and 7 bird species. We repeat every 6 months to capture seasonal variation and track changes.

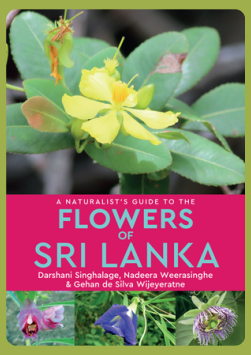
Challenges faced and lessons learned

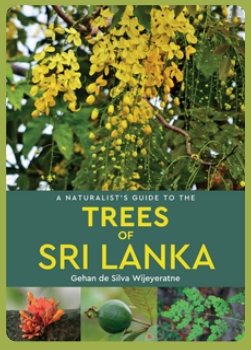
Being able to identify fast-moving species at a distance is challenging – having a good quality DSLR camera helped. If identification in the field was not possible, pictures enabled us to identify the species more accurately post-survey.

There was some uncertainty when identifying certain plants as they were being eaten by small insects or hadn't developed true leaves yet. Where identification was difficult due to this, we aimed to identify the plant to at least family level. Plant guides and identification apps are very helpful for distinguishing similar-looking species!

Another challenge was being confident that variation in plant life was fully being captured by the quadrat samples. In future, we will stratify the plantation - divide into sections based on the characteristics of the section (e.g. shadier sections, sunnier sections) - and ensure an equal number of samples are collected from each section.









Pollinator garden

Pollinator garden

What we do

We are planting a garden for pollinators on the plantation, which will be filled with over 30 different species beneficial for wildlife.

A special section of the garden will be dedicated for medicinal herbal plants, that not only bring benefits to wildlife, but also directly to human health and wellbeing!

Signage will highlight the specific species present and their role in the ecosystem, which will be useful as we plan to host guided walks and workshops for the plantations we partner with and local school groups.

The pollinator garden will be used to propagate more wildlife-friendly plants and distribute them to the community and local schools and demonstrate how to create spaces for nature. We aim to spread native and beneficial plants in the areas surrounding our facilities, creating more habitats and food sources for wildlife, and helping nature to thrive alongside us.

Why we do it

The World Economic Forum estimates that half of the world's GDP moderately or highly depends on the natural services we receive from ecosystems – which is dependent on biodiversity (World Economic Forum 2020; Lefcheck et al., 2015). As the Business and Biodiversity Assessment report (2026) from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) states, "every business depends on biodiversity, and every business impacts biodiversity." We are motivated by the knowledge that there is more we can be doing to protect biodiversity which will bring positive benefits to our business and community.

Ecosystem services provided by wildlife, such as pollination and natural pest control, saves us money, resources and time. Furthermore, floral diversity has been shown to help supress pests and pathogens (Darayanto et al., 2020). We aim to work hand in hand with the natural world and continually develop ways for both our business and nature to thrive together.

Measuring out the garden's dimensions



Pollinator garden

How we got started

After carefully selecting a suitable area on the plantation and identifying our requirements (simple walking path, variety of microhabitats, a small pond etc.), we developed a design which would meet these needs.

Next, we researched which native Sri Lankan species are beneficial for pollinators and then sourced plants from a community garden that specialises in plants to support wildlife. Between our research and the recommendations of the experts at the community garden, we gathered together a wonderful collection of 36 species known to support wildlife.

Challenges faced and lessons learned

At the beginning of this project, the lack of information available on which native plants are beneficial for wildlife in Sri Lanka was challenging. The island is battling with invasive species that are threatening many incredible native and endemic species (species that only exist in Sri Lanka), so we needed to be careful with which plants we were introducing. Being set in the centre of our plantation, we also needed to be mindful of whether any of the species could become invasive and negatively impact the coconut trees or spread to neighbouring lands. Taking our time with research and consulting several different specialists helped us to gather the information we needed and have peace of mind that we were introducing the right species in the right place.



First delivery of plants from the community garden



Beekeeping

Beekeeping

What we do

We manage 4 beehives on our plantation, home to the native Asian honeybee. A further two hives will be introduced over the coming months.

Why we do it

Pollination is an essential ecosystem service, with more than 75% of the leading types of global food crops depending on animal pollination. Bee pollination has been valued at an estimated US $235 billion to US $577 billion annually (FAO, 2021). It's not just crops that rely on pollinators - about 90% of all wild flowering plants depend on animal pollination (Ollerton et al., 2011).

Bees support habitats, plant productivity, food webs, genetic diversity of plants and more. But alarmingly, the number and diversity of bees species has been reported to be in decline on local, regional and national levels. This is due to climate change, pesticides, land use change and invasive species.

Beekeeping supports biodiversity and increases the strength and resilience of ecosystems (Leal Filho et al., 2023). We chose to start beekeeping to support flora and fauna on the plantation and increase biodiversity in the local area. Additionally, we are also interested in whether beekeeping can be used as a natural method of increasing coconut yield through increased pollination.



Beekeeping

How we got started

Our first trial beehive was launched in October 2025, and after it's success we slowly introduced a further 3 hives. In Sri Lanka, the typical method of catching a swarming bee colony is to secure a clay pot into a tree and wait until the bees nest. It's not a quick process, as it's recommended to wait 1.5 months before gently transferring the bees and honeycombs to the hive.

Challenges faced and lessons learned

Early on, we realised that we needed a specialist to teach us the finer details of beekeeping and assist us in monitoring the hives for disease and pests. Now, a bee consultant attends twice a month and ensures the bees are in good health, checks for diseases and pests (which has been another challenge) and supports with cleaning the hive. Our knowledgeable plantation manager oversees the hives and takes care of the bees in between visits from our consultant.





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