

12TREE SUSTAINABILITY UPDATE REPORT MAY 2023

Message from our CEO

"Dear Reader,

2022 has been a year of important political and regulatory decisions that pushed and further expanded the transformation of agriculture towards regenerative and climate-sensitive systems.

At the EU level, the new reform of the Common Agricultural Policy (CAP) was launched, with the intention of creating financial incentives that will promote the transition towards sustainable agriculture. Meanwhile, the Farm to Fork Strategy has cleared the way for far-reaching reforms to make agricultural value chains more transparent, and, therefore, food systems more fair, healthy, and sustainable. On top of this, European countries have agreed on a new EU-wide law on the supply chain. The proposal aims to require companies to carefully manage social and environmental impacts throughout their supply chain, including their own operations, and goes far beyond existing legislation at national level.

Notably, an increasing number of multinational corporates are setting ambitious nature-positive goals that require immediate climate, social and environmental actions within their supply chains. This shift creates room for investments in innovative business models and transformative solutions.

At the same time, major global tensions have led to instability in the financial markets with direct implications on investment behavior. The ongoing war in Ukraine and subsequent energy crisis, the drastic rebalancing of asset allocations in a high-inflation environment, and shaky financial markets keep the world in their grip. This has had significant consequences on impact investment, with less money being channeled into sustainability. In effect, innovations are being slowed, and some sustainable projects are coming to a standstill.

However, we must not allow this perilous moment to rob us of momentum. We must forge ahead to tackle climate change and (re-)build more sustainable and ethical value chains.

The recently published <u>IPCC Sixth Assessment Report</u> makes it crystal-clear that the world is not on track to tackle climate change. As a society, we are tasked with radically transforming our economy into a climate positive, climate change resilient version of itself. Immediate investments at unprecedented scale in both climate mitigation and adaptation are not just important, they are necessary in order to protect our planet and shift the world onto sustainable pathways.

Fortunately, the IPCC also makes it clear that many of the solutions needed to make this happen already exist. They are waiting in the wings to be addressed and implemented. A key role is played by Nature Based Solutions, such as regenerative agriculture, the protection and enhancement of ecosystem services and fair food supply chains. Our ability and willingness to invest in Nature Based Solutions will determine our trajectory.

THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) is an institution of the United Nations. On its behalf, experts worldwide regularly compile the current state of knowledge on climate change and evaluate it from a scientific perspective. (IPCC, 2023)

12Tree's Role

Since 2017, we have directed hundreds of millions of Euros of investment into regenerative agriculture, creating resilient and sustainable farming and forestry systems. We work every day to sustainably transform agricultural landscapes that drive positive impact. Our holistic approach to sustainability means that we systematically and scientifically assess a project's potential to generate the maximum positive impact across multiple dimensions, including crop suitability; water conservation and quality; climate mitigation and adaptation; biodiversity protection and enhancement; worker and community livelihoods, and many other aspects.

Most tangibly we can report that in 2022 we started the certification process for <u>Verra Certified Carbon Credits</u>, with the additional distinction of meeting the <u>Climate</u>, <u>Community and Biodiversity (CCB) Standard</u>, on the five largest of the eleven farms that we manage. This demonstrates the potential of such types of regenerative farming projects as true climate positive investments. In addition, we conducted a greenhouse gas (GHG) inventory baseline study of all our assets with the goal of devising a roadmap to lower our overall emissions.

We formalized several corporate sustainability policies and their accompanying operational procedures, monitoring and reporting protocols, and external verification processes-amongst them the Deforestation and Land Use Change Policy, the Labor Code of Conduct, the Sustainability Framework, and GHG protocols. In December, 12Tree became officially recognized as a registered practitioner organization for the High Carbon Stock Approach and High Canservation Value Network (HCSA/HCVN).

Moreover, in conjunction with a leading US chocolate producer, we continued the process of building what will become the largest regeneratively farmed cacao project in the world. This project will serve as a knowledge hub, facilitating research and sharing findings for the most pressing challenges that arise when implementing regenerative agriculture at scale, such as defining where insetting ends and offsetting begins in the quest for carbon-neutral cacao beans, and maximizing carbon sequestration in regenerative agriculture.

In 2023, we are organizing a series of exclusive seminars through the 12Tree Knowledge Center directed at building a deeper understanding about regenerative agriculture from an investor perspective and from the view of large multinational offtakers and insurance companies. Our goal is to derisk these investments to such a degree that investing in Nature Based Solutions can become "mainstream", and food companies can sign longterm sustainable offtake agreements in the same way that energy companies have longterm energy offtake agreements today.

Richard Focken, CEO of 12Tree GmbH

NATURE BASED SOLUTIONS are actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously benefiting people and nature. (IUCN)

INSETTING represents the actions taken by an organization to fight climate change within its own value chain. (Insetting platform, 2023)

OFFSETTING means compensating for own emissions through the purchase of carbon credits. (<u>Cambridge</u>, 2023)

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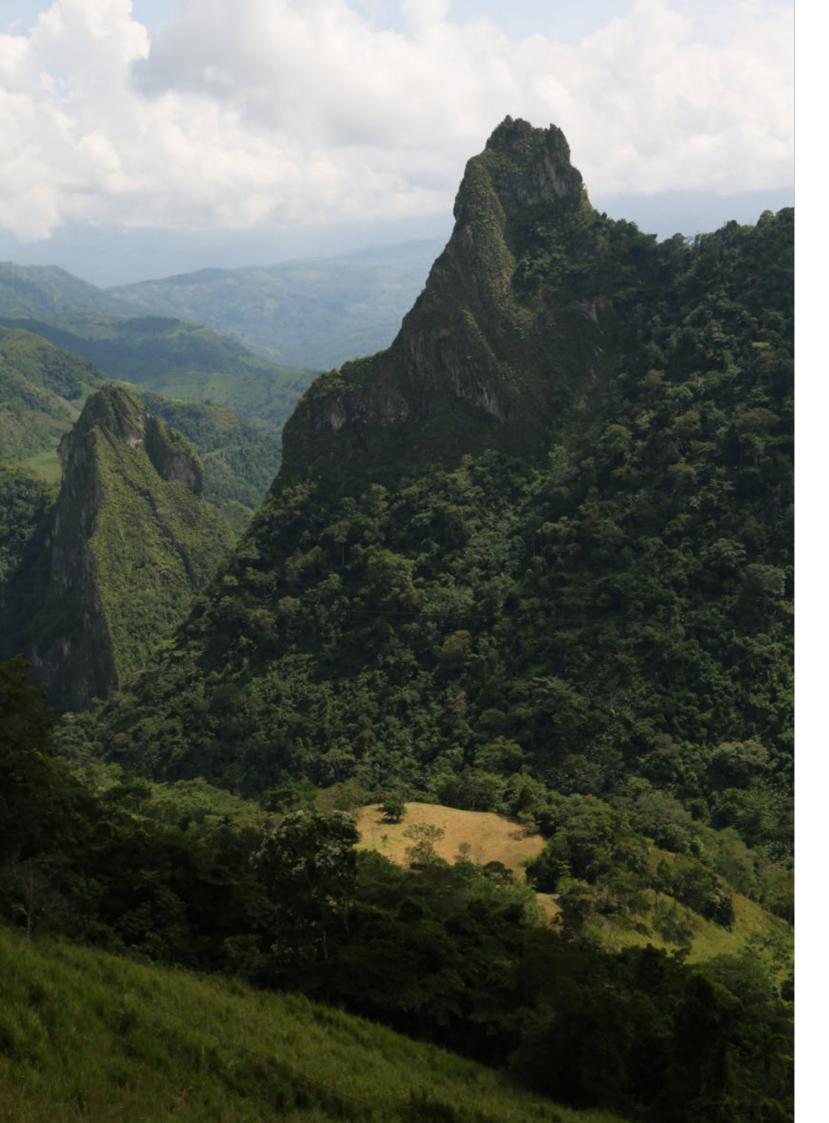


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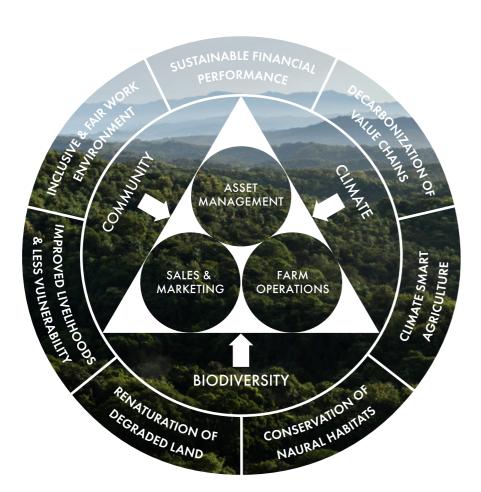
About 12Tree

12Tree is a specialized advisor that sources, designs, develops, and operates projects at scale along with deep operational skills and experience. In doing so, we hope to shift the trajectory of agricultural value chains towards a more sustainable pathway – one that will improve the resilience of agricultural and food production systems as a whole in the face of climate change, resource depletion, and habitat loss.

As a leader in the field of regenerative agriculture, 12Tree has established twelve climate-resilient, biodiverse, and productive farming systems in seven countries. Our regenerative farming systems use fewer inputs than conventional farms while actively sequestering carbon from the atmosphere and creating safe and fair employment opportunities. Through various collaborations and research initiatives, we continue to evolve our practices, share learnings, and interact directly with other practitioners and researchers in the field of sustainable food value chains.

"By targeting agricultural practices and food value chains, our vision is to revolutionize the industry and prove that regenerative agriculture and profitability are not contradictory."

Oliver Hanke, Chief Sustainability Officer of 12Tree GmbH



KPI analysis at portfolio level for 2022

SOCIAL METRICS

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GOOD WORKING CONDITIONS

- 4, 603 workers with fair salaries* and benefits, including health care and pension
- 62% workers participating in capacity building and career training programs

LOCAL INTERACTION AND INCLUSION

- 2,359 community members, local stakeholders, and smallholder farmers participating in meetings and activities
- 676 meetings and activities with community members, local stakeholders, and smallholder farmers
- USD 88, 561 invested in community development in 2022

ECONOMIC METRICS

ACHIEVING GOOD PRICES



• 2% price premium achieved over market price for cacao, coffee, banana

COST INPUT EFFICIENCY

• 40% of total production costs spent on inputs

ENVIRONMENTAL METRICS

(3)

SUSTAINABLE LAND MANAGEMENT

- All 9 of our agricultural farms (excluding our 3 forestry plantations) implement one or more regenerative principles on their planted area**
- 84% of the productive land is certified
- 100% of portfolio with a program to reduce Highly Hazardous Pesticides (HHPs)

PROTECTING AND ENRICHING BIODIVERSITY

• 15% of the total farm area is conservation area

SOIL HEALTH

• 11 out of 12 farms carry out soil restoration *** measures on their farm area

CLIMATE CHANGE MITIGATION

- 5 farms in Verified Carbon Standard- Climate, Carbon and Biodiversity certification process
- All 12 farms assessed for compliance with our Deforestation and Land Use Change Policy (LUCP)



- * Contractually formalized salaries that pay at or above national minimum wage and include overtime compensation.
- ** Our regenerative agriculture principles can be found on page 16.
- *** Incorporation of crop residues or compost into the soil and integration of cover crops into farming system.



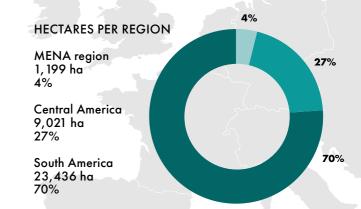
Portfolio overview

32,407 hectares of productive area in 7 countries

14 crops cultivated

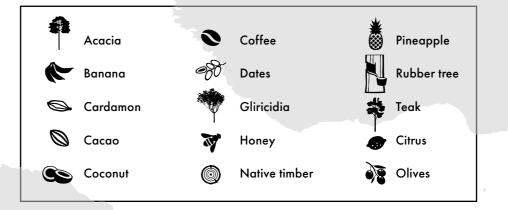
4,603 permanent and seasonal workers





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OUR CLIMATE ACTIONS HAVE DIRECT POSITIVE IMPACT ON:







Climate

Conventional approaches to agriculture continue to act as major contributors to our climate crisis. Unsustainable land use activities and degradative agricultural practices have considerably altered our terrestrial ecosystems and now play a key role in the global climate system. It is estimated that agrifood systems emit a one-third of total anthropogenic greenhouse gas (GHG) emissions.¹

12Tree is actively working to reverse these trends and to change agriculture from being a culprit of the climate crisis to being part of the solution. As leaders in the field of regenerative agriculture, we have been able to successfully establish climate-resilient, biodiverse, and productive farming systems that use fewer inputs than conventional farms, while actively sequestering carbon from the atmosphere and creating safe and fair employment opportunities. By understanding the emission sources of the past, we are now implementing innovative ways to further decarbonize and reduce emissions within the value chains in which we work.

To that end, in 2022, we continued to embed our Deforestation and Land Use Change Policy (LUCP) into our company's processes and on-farm operations, beginning with a retroactive assessment of all our existing assets to ensure their compliance with the LUCP. Relatedly, we conducted a GHG inventory baseline study of all our assets with South Pole with the goal of devising a roadmap to lower our overall emissions and to put in place a corporate climate commitment in the near future. Last year, we also began the rigorous process of certifying five of our farms (Andean Cacao, Chimelb, La Paz, Ambrosia, and Cuango) for Verra Certified Carbon Credits that meet the additional CCB Standard.

Pioneering MRV systems needed for land-based Scope 3 removals

The <u>GHC Protocol</u> establishes the comprehensive global standardized frameworks to measure and manage GHG emissions from private and public sector operations, value chains and mitigation actions. For the first time in its history, the protocol has finally published its <u>land sector and removals guidance</u>, explaining how companies should

account for and report GHG emissions and removals from land management, land use change, and biogenic products in GHG inventories, building on the Corporate Standard and Scope 3 Standard. Two critical requirements from this guidance will dictate how emissions and removals will be monitored, tracked, and reported on for the agricultural and food sectors moving forward, those of traceability and the need for primary data. Companies will only be able to account for and report removals within their GHG inventories if they have:

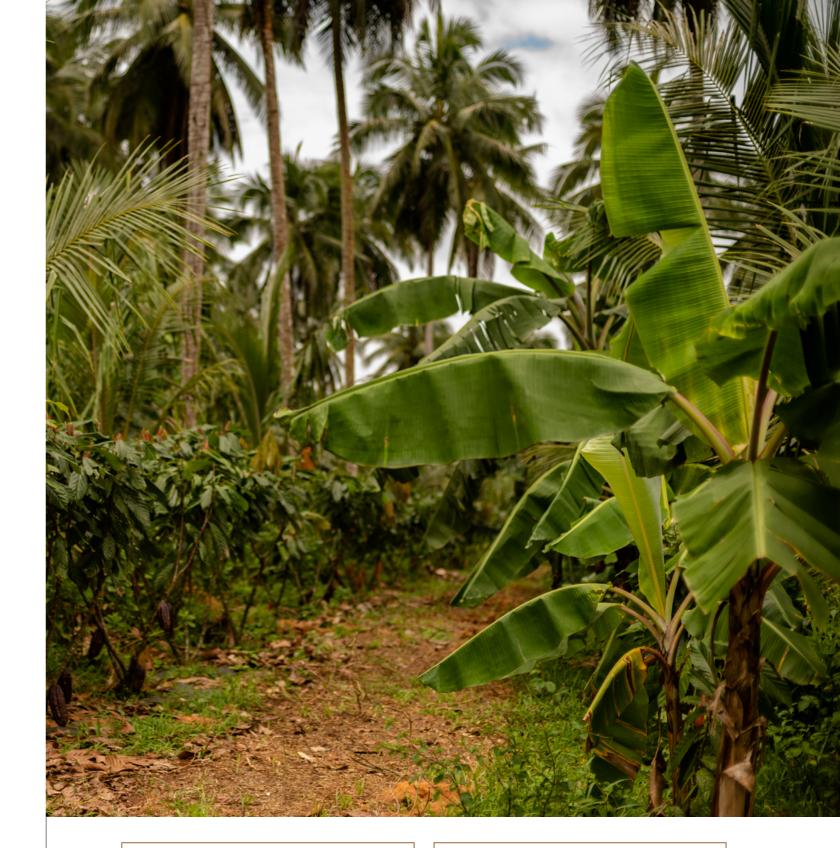
1."TRACEABILITY throughout the full CO2 removals pathway, including to the sink (where CO2 is transferred from the atmosphere to non-atmospheric pools), to the carbon pools where the carbon is stored, and to any intermediate processes if relevant."

2."PRIMARY DATA: empirical data specific to the sinks and pools where carbon is stored in the reporting company's operations or value chain."

Through our existing projects and pilot initiatives, 12Tree has already begun designing and implementing such Monitoring Reporting and Verification (MRV) systems with these precise characteristics and requirements in place, while also still actively contributing to the final phase of the GHG auidance.

While some concerns regarding permanence still need to be ironed out, 12Tree is poised to become one of the first companies in the world that will be able to offer its clients the necessary MRV systems required for including land-based removals within Scope 3 corporate inventories ("insetting"), in addition to those for more traditional carbon offsets.

Combining this expert knowledge with ongoing monitoring and evaluation of the co-benefit that our regenerative agricultural approach brings to local communities and biodiversity. We believe we can provide a truly unique opportunity for clients that want to invest and to enact Nature Based Solutions in a comprehensive, holistic, and sustainable fashion.



DEFORESTATION AND LAND USE CHANGE POLICY (LUCP) is 12Tree's corporate commitment that sets rigorous and clear definitions of what types of vegetation we and our operating partners can and cannot clear. Using established definitions for protected vegetation types, such as HCV or HCS, and by committing to a Gross Zero Deforestation approach, meaning we do not allow deforested land to be compensated with additional forest planting, our commitment will maximize the number of forests we can protect.

THE VERIFIED CARBON STANDARD Program is the world's most widely used GHG crediting program. It is a mechanism for awarding carbon credits to projects that reduce or avoid GHG emissions. (VCS, 2023)

THE CLIMATE, COMMUNITY AND BIODIVERSITY (CCB) Standard identifies land management projects that deliver net positive benefits for climate change mitigation, for local communities and for biodiversity. (CCB, 2023)

OUR COMMUNITY ACTIONS HAVE DIRECT POSITIVE IMPACT ON:







Community

Agricultural intensification has resulted in the rapid loss of natural habitats and increased disparities in social well-being. In many rural areas, the promise of employment opportunities and economic development has not lived up to the costs of land conversion and compromised ecosystem services.

Crops and raw materials produced in the world's rural areas now feed and sustain an increasingly urbanized and globalized population. On the one hand, commodity agriculture has made food more affordable and accessible. On the other hand, the very principles that underlie commodity agriculture- efficiency, economies of scale, and cost minimization- are often associated with a "race to the bottom" where low prices are achieved at high environmental and social costs. Some of the obvious losers in this game are family farmers, who are forced to compete in a heavily distorted market with ever declining margins, or worse-abandon farming altogether. Similarly, agricultural workers have become an undervalued and expendable aspect of conventional farming, often laboring under difficult or dangerous conditions for low wages.

12Tree's mission to de-commoditize agriculture is founded in the belief that agricultural workers, farmers, and rural communities are the foundation of global value chains and are essential for climate adaptation. By investing in resilient, sustainable farming systems, we provide local communities with dignified jobs, and local farmers with access to information and markets that allow them to continue to manage their farms and steward their land. By adapting our corporate vision to the specific context of each farm-and tracking our progress with on-going monitoring and well-defined metrics- we strive to achieve meaningful impacts on the well-being of workers, supplying farmers, and local communities.

In 2022, we strove to develop the policies, operational processes, and monitoring and reporting tools needed to ensure that our projects can be true drivers of positive social change. For example, to deepen our knowledge of the application of the High Conservation Value (HCV) approach - considered the international standard for safeguarding the rights of local communities, workers, and other stakeholders in land development projects - several team members participated in a licensed assessor certification course, enabling 12Tree to become officially recognized as a registered practitioner organization for the High Carbon Stock Approach and High Conservation

Value Network (HCSA/HCVN). The ability to carry out HCV assessments is critical for our diligence and project development processes -ensuring that we consider the social value of the land in terms of ecosystem services, community needs, and cultural life- and will form the basis of operational strategies, such as shared resource management, capacity building, stakeholder engagement, and community investments.

HIGH CARBON STOCK is a methodology that distinguishes forest areas with high carbon and biodiversity values that should be protected, from degraded lands that are more apt for development.

HIGH CONSERVATION VALUE areas are defined as natural habitats of outstanding biological, ecological, social, or cultural values at the national, regional, or global level. (HCV Network, 2023)

Training and Certifying Skilled Workers in Chimelb

Finca Chimelb, located in Alta Verapaz, Guatemala, includes 2,500 hectares of cacao, coffee, plantain, rubber, and cardamom, and an additional 2,300 hectares of protected natural forest. The farm employs 400 workers, the majority from the Maya Q'eqchi indigenous communities surrounding the farm.

The region of Alta Verapaz has one of the highest rates of multidimensional poverty (80%) and food insecurity (65%) in Guatemala.²³ In a remote and difficult to access region of the country, defined by smallholder agriculture, livelihoods can be particularly precarious. Educational attainment is low- with the average resident completing just 3-4 years of formal schooling- and access to professional or technical training is extremely limited.⁴ Many families rely on multiple sources of income to meet their basic needs, including managing small farms for subsistence and income while working as full time or seasonal laborers on large industrial plantations. Typical plantation jobs in the region provide low wages, few benefits, and minimal prospects for job mobility.



Finca Chimelb's farm operator, has developed an innovative program to address the dual challenges of workers' income and job mobility. Together with Intecap- a public institution dedicated to providing educational and professional training- our operator has developed a technical training program that certifies workers in agricultural activities such as pruning, harvesting, and processing. In the first phase of the program, Intecap carried out interviews and field observations to identify the different job profiles on the farm and create standards for the core skills related to each profile. In the second phase, all of the workers were evaluated with regard to these standards to identify which workers would benefit from additional training and capacity building. In February 2020, the first cohort of 120 workers successfully completed the program and received a certificate attesting to their competency in the skills related to their job profile.

The impact of this program is three-fold. First, improved skills should enable workers to improve workplace safety and efficiency, in turn, reducing work-related risks and increasing productivity. Second, for a population hindered by a lack of access to education and professional development, the diplomas conferred are a meaningful indicator of technical capabilities that can support job mobility within Finca Chimelb, or in future job prospects. Third, the skills acquired by program participants will support them to manage their own farms more efficiently and with better awareness of how to incorporate climate resilient practices.

Finca Chimelb's certification program is an excellent example of how 12Tree's vision of positive community impact and capacity building can be achieved by collaborating with well-aligned partners to support farm workers' needs.

OUR BIODIVERSITY ACTIONS HAVE DIRECT POSITIVE IMPACT ON:







Biodiversity

Protecting and enhancing biodiversity has implications far beyond the preservation of natural ecosystems and the regulation of ecosystem services. Biodiversity is also critical for ensuring human wellbeing, promoting global security, and spurring economic development.

As stated in the <u>Science Based Targets Network</u> initial guidance for business (2020), "...nature is the backbone of human well-being and the foundation for all economic activity. Without action to halt and reverse the loss of nature, projections of economic growth and visions for a better life are impossible." In agricultural supply chains, biodiversity plays a crucial role in maintaining the productivity and resilience of agricultural systems, especially under multiple stresses caused by climate change.⁵

The first joint report by the <u>IPCC</u> and <u>IPBES</u> concluded that the world must tackle climate change and biodiversity loss together if either issue is to be successfully solved. Findings from the report show that actions to protect and enhance biodiversity largely come with co-benefits for tackling climate change. Whereas some interventions designed to mitigate climate change can be detrimental to biodiversity and nature if not correctly designed and managed.⁶

We are committed to protecting and enhancing biodiversity in the areas where we operate, and in partnership with other stakeholders. The biodiversity pillar of our sustainability strategy includes a range of initiatives and activities:

1. AVOIDANCE OF DEFORESTATION AND CONVERSION OF NATURAL ECOSYSTEMS. Through our Deforestation and Land Use Change Policy, responsible practices are conducted during land acquisition, land use planning and site development. Initial due diligence, impact assessments, and planning processes incorporate recognized and technically-sound approaches to assessing land tenure, identifying the conservation and community values of the land, evaluating the potential impacts of proposed land use activities, and designing plans to minimize negative impacts, mitigate unavoidable impacts, and generate positive impacts.

2. SUSTAINABLE LAND USE PRACTICES. Through biodiversity-friendly, regenerative agricultural approaches, we are developing more resilient production systems, thus mitigating risk all along the supply chain. We recognize this is critical for enabling the industry to move beyond

business as usual, and towards more just and non-extractive supply chains.

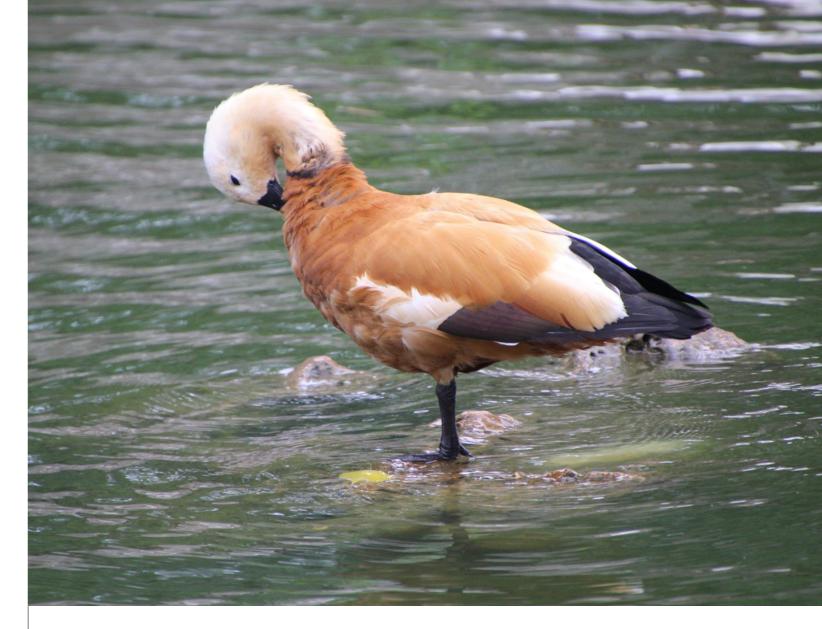
3. HABITAT RESTORATION AND ENHANCEMENT.

We recognize that protecting, restoring and enhancing habitats on our land and in the surrounding landscape in order to increase biodiversity requires collaboration with a range of stakeholders, including NGOs, governments, and local communities. We are committed to working with these groups to identify and implement solutions that protect and enhance biodiversity in the landscapes we work in.

These activities support our long-term efforts to meet emerging industry guidance, including the Climate, Community and Biodiversity standards, Accountability Framework, GHG-Protocol, the Science-Based Targets Initiative and its recently released Net Zero Standard and the Convention on Biological Diversity. These guidance frameworks have recently undergone major updates to integrate considerations relevant to biodiversity and ecosystem co-benefits. Our sustainability strategy, grounded in three pillars - climate, community, and biodiversity - is allowing us to get out ahead of these guidance's prescriptions.

Last year, we had our first opportunity to test how well 12Tree's corporate sustainability goals and monitoring framework align with the standards of Verra CCB Certification- internationally recognized as one of the most rigorous and progressive industry standards. Through the process of certifying Andean Cacao -one of the first agroforestry projects in the world undergoing Verra CCB certification- we learned that our biodiversity goals, indicators and monitoring systems are well aligned with the Verra CCB framework. This greatly facilitated the selection of appropriate and defensible methods to quantify the project's biodiversity benefits in order to meet the standard's requirements, while at the same time enabling the aggregation of biodiversity data from all of the projects in our portfolio in a meaningful way.

We recognize that protecting biodiversity is a complex and ongoing challenge, and we are committed to continuous improvement in this area. We look forward to working together with our stakeholders to protect and enhance biodiversity and create a more sustainable future for all.



Biological control with unexpected benefits in Tafilalet

The Tafilalet farm is located in the south of the Atlas Mountains, in the historical cradle of Medjool, situated at the border of the Draa Tafilalet and Oriental regions of Morocco. The region is known for its rich cultural heritage and unique biodiversity, concentrated in the regions' various natural, as well as artificial, oases. The entire region, but especially these oases, represent an important wintering site for migratory birds.⁷

Access to clean water is the key element for practicing agriculture in this region. This is secured through renewable groundwater that is continuously recharged with precipitation as well as snow melt from the Atlas Mountains. The Tafilalet farm has constructed two water basins that distribute water throughout the farm. While essential for irrigation, these open water basins are prone to algae blooms that can block filter systems and significantly reduce water quality. Conventional farming approaches would dictate controlling this problem with the application of chemicals. Tafilalet, however, chose

an alternative biological control method: the introduction of cyprinid fishes, known in the region as *carpe chinoise*. The fish feed on the algae and thereby keep their population in check. In June 2020, an initial 2,000 fish were introduced and have flourished - coexisting happily in symbiosis with the algae in the water basins.

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The introduction of the fish has moreover brought an unexpected side benefit to the farm. As the fish repopulate, they attract local birds all year-round and migratory birds during winter season, which feed on the fish and use the farm as a resting place and feeding station. Prominent representatives of migratory birds like sparrows as well as two endangered waterbird species, Tadorna ferruginea and Marmaronetta angustirostris, have been spotted on the farm.

To accelerate the desired effects on the local biodiversity and make the farm a more desirable location for local biodiversity, 8,000 additional fish are expected to be introduced in the coming years.

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REGENERATIVE AGRICULTURE PRINCIPLES

(Explanation of Sustainability KPI - page 7)

- 1. Enhance the **recycling of biomass**, with a view to optimizing organic matter decomposition and nutrient cycling over time.
- 2. Strengthen the "immune system" of agricultural systems through enhancement of functional biodiversity - natural enemies, antagonists, etc., by creating appropriate habitats.
- 3. Provide the most favorable soil conditions for plant growth, particularly by managing organic matter and by enhancing soil biological activity.
- 4. Minimize losses of energy, water, nutrients and genetic **resources** by enhancing conservation and regeneration of soil and water resources and agrobiodiversity (microclimate management, water harvesting, and soil management through increased soil
- 5. **Diversify species and genetic resources** in the agroecosystem over time and space at the field and landscape level.
- 6. Enhance beneficial biological interactions and synergies among the components of agrobiodiversity, thereby promoting key ecological processes and services.

List of sources

- FAO (2022): Greenhouse gas emissions from agri-food systems Global, regional and country trends, 2000-2020. FAOSTAT Analytical Brief No. 50. Rome. Available online: https://www.fao.org/3/cc2672en/ cc2672en.pdf
- UNICEF (2016): Pobreza multidimensional, Infantil y adolescente en Guatemala: Privaciones a superar. UNICEF y Instituto Centroamericano de Estudios Fiscales (ICEFI). Guatemala. Available at: https://www.unicef.org/ lac/sites/unicef.org.lac/files/201901/muestra_pobreza_multidimensional_en_guatemala.pdf
- F. Manfredi & A.T. Maas (2021): Addressing Immediate Food Insecurity in Alta Verapaz, Guatemala. Baseline Report. Available at: https://pdf.usaid.gov/pdf_docs/PA00Z3CW.pdf
- GIZ (2017): Guatemala: Education for life and labour (EDUVIDA). Project evaluation: summary report. Available at: https://www.giz.de/projektdaten/projects.action?request_locale=en_GB&pn=201221332
- Science Based Target Network (2020): science-based targets for nature initial guidance for business. Available at: https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/11/Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf
- H.O. Pörtner et al. (2021): IPBES-IPCC co-sponsored workshop report on biodiversity and climate change. Available at: https://www.ipbes.net/sites/default/files/2021-06/20210609_workshop_report_embargo_3pm CEST_10_june_0.pdf
- Ramsar (2005): Oasis du Tafilalet. Available at: https://rsis.ramsar.org/ris/1483





"We transform the way agriculture is practiced through transparency & accountability."