Treedom

Impact Report 2022

treedom®
let's green the planet

Letter to stakeholders

Dear Stakeholders,

We are happy to present Treedom's Impact Report for the year 2022 to tell you in detail about our ongoing commitment to planting trees and creating sustainable communities.

Guided by the B Corp values (certification we achieved in 2022 for the eighth consecutive year), we want the beneficial effect of our work to expand exponentially, involving more and more people and communities.

The year 2022 has been a very challenging time for many industries, including ours. The international situation has forced many companies to spend much more on energy-related fixed costs and rising prices, at the expense of their environmental sustainability. We are determined to overcome these difficulties and grow as a sustainable business, contributing to the development of a greener and more resilient economy.

Therefore, we have completed, in collaboration with ALTIS, the Alta Scuola Impresa e Società of the Università Cattolica del Sacro Cuore, a pilot socio-economic impact analysis of our agroforestry projects in Kenya, Madagascar and Nepal.

Our initiatives to promote biodiversity also continue. In fact, the trees planted throughout 2022 belong to 228 different species, of which 13 are classified as vulnerable, endangered, threatened or critically endangered by the IUCN, World Conservation Union.

In Treedom's offices and project locations, we reaffirm our commitment to providing employees with a work environment in line with our principles by promoting corporate welfare and training. Gender equality is a core value that is part of our corporate DNA, as women represent more than 50 percent of employees and 63.6 percent of managers. We continue to implement ambitious policies to ensure gender equality and the best possible work-life balance.

We trust that the seeds of these activities, planted in 2022, will flourish in 2023, thanks to our determination and the passion of all our stakeholders.

Together, we will continue to strive for a more sustainable and equitable world for all.

Federico Garcea
CEO & Founder

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Organisation, missions and values

The organisation

Treedom is a simple way to make a big difference. It is the first platform that enables consumers and businesses to help protect the environment and support local NGOs and beneficiaries by planting trees online and discovering the impact of the project they are part of.

All trees are planted by local farmers, generating environmental, social and economic benefits in adherence to the principles of sustainability and the SDGs of Agenda 2030. The planted trees are then geolocated and photographed. This information populates an online tree page, and users also receive updates from the field, articles and blogs.

Trees purchased online can be kept or given away virtually with a dedication. Because of these features, Treedom trees are engaging and, at the same time, can become tools for a growing number of global companies pursuing CSR goals.

Since its establishment in 2010 as a limited liability company, Treedom has planted over 3.5 million trees in 17 countries, supporting over 200 thousand beneficiaries between then and 2022.

Due to its business model, it has been a member of Certified B Corporations since 2014, has been registered as an innovative SME since 2016, and has been a Benefit Corporation since 2020. The company is headquartered in Florence, Italy, along with other business offices opened over the past six years in Germany (Munich), the Netherlands (Amsterdam), France (Paris, opening in 2022) and the United Kingdom (London).

Treedom is managed by Federico Garcea in the role of CEO, supported by a group of managers and partners. The company (with an average age of 32), including all its branches, had 97 employees, including 3 interns and student workers active during 2022. Of these, 83 were employed in the Italian company (80 full-time employees and 3 interns), 10 in the German company (8 employees and 2 working students), 2 in the UK subsidiary, and 2 in the French subsidiary. The 2022 corporate structure:

41.46%
Treedom Founders and Team

Federico Garcea
Martina Fondi
Tommaso Speroni
Riccardo Alessandrini
Susanna Finardi

58.54%
Treedom Investors

Antonello Manuli Holdings
Moratti Giovanni
Cube 3 S.r.l.
DVR Green S.r.l.
8a+ Investimenti SGR Spa (Banca Generali)
Exor N.V.
OurCrowd (Investment in Tree) L.P.
Luigi De Vecchi
Nico Rosberg
Giorgio Chiellini
Banca Sella Holding Spa
Riccardo Pozzoli
Antinori Family

100%	99.9%	90%	100%	100%	80%
Treedom Inc (USA)	Treedom Limited (Kenya)	Treedom GMBH (Germany)	Treedom Trees Ltd (UK)	Treedom France sas (France)	PlanBee S.r.l. (Italy)

Where we are

Locations, offices, projects

In 2022, Treedom supported 45 projects in 16 countries-Cameroon, Colombia, Dominican Republic, Ecuador, Ghana, Guatemala, Hail, Honduras, Italy, Kenya, Madagascar, Malawi, Nepal, Tanzania, Thailand, and Uganda. Its operational and sales offices are in Italy, Germany, France, the Netherlands, and the United Kingdom.

Mission

Treedom aims to enable everyone to contribute to the well-being of the planet in a simple, transparent and fun way. Treedom's goal is to generate social and environmental benefits through the promotion of agroforestry and tree planting activities carried out directly by local organisations. By supporting rural communities in achieving environmental and social sustainability goals, Treedom wants to make the planet greener. And it wants to do it the right way.

Values

Rights of the person

Democracy, participation, empowerment

Protection of the environment and biodiversity

Diversity opportunities

Design quality

The history of Treedom

In 2010, the story of Treedom began with an insight of founders Federico Garcea and Tommaso Speroni. While working on the implementation of a sustainable development project in Cameroon, they came into contact with the devastating effects of deforestation on the environment and the people who lived there. At the same time, the video game FarmVille (which allowed players to create virtual farms) was reaching its peak popularity - and Federico was a big fan. Federico and Tommaso sensed that a love of nature and a desire to act for the good of the planet were powerful forces: if millions of people were happy to plant fake trees, they would be thrilled to plant real trees.

Treedom was born from a game dreaming of a greener world, and today works to build a more just world as well. Indeed, planting trees in agroforestry systems means bringing social benefits to participating local communities: empowerment, food resources and new income opportunities.

2010 Treedom begins planting trees in Africa

2012 Treedom begins planting trees in Latin America

2014 Treedom plants its first 100,000 trees

2017 Treedom opens an office in Munich, Germany

2017 Treedom starts planting trees in Asia

2020 Treedom plants its first million trees

2020 Treedom opens up to new European markets (Britain, France, Spain, Benelux, Sweden, Denmark and Finland)

2021 opens an office in London

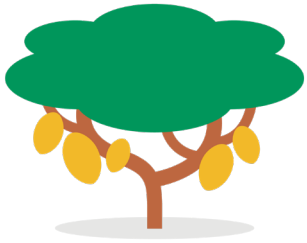
2021 Treedom plants 1.4 million trees, counting more than 743,071 users in the community and more than 5,000 business partnerships with companies

2022 Treedom reaches 3.5 million trees planted, with users from 127 countries. Also this year, it opens its Paris office.

2022 in numbers

In 2022, Treedom supported projects in planting **1,123,369 trees**, of which 731,758 were allocated to private and corporate users. In total, the planted trees will help absorb about **294,496 tons of CO_2** in their first 10 years of life.

The countries where the most trees were planted were Kenya, Tanzania, Cameroon and Colombia. The users' favorite tree species were:



Cocoa 24,6%

Coffee 14,2%

Avocado 5,6%

The wonderful Treedom community has also grown a lot.
In total, more than **1,174,824** people have registered by the end of 2022, and **56,000** have signed up in this year alone. **1,150 new companies** also became partners with Treedom, which opened an office in France during the year.

The number of people who followed Treedom on social media during 2022 reached **412,967** (including all platforms where the company is present).
Treedom gained about **3.5 million impressions** in total on social media.

Impact reporting & benefit companies

For over twelve years, Treedom has been combining business activity with environmental and social sustainability in a holistic approach that embraces all aspects of business management. Being aware of the economic, social and environmental impact, generated in the operation of our business, helps to have a clear view of the business situation and to plan next steps for improvement.
For these reasons, Treedom acquired the legal status of a Benefit Corporation, a new legal form of business that ensures the basis for the creation of shared value in the long run.

A Benefit Society (SB) is a recognised corporate form that combines a for-profit purpose with an additional purpose represented by one or more social goals. The regulations require SBs to appoint an impact manager within their management. This is a senior figure who is responsible for reporting, through an annual report, on the activities carried out and future plans to achieve the common benefit goals set out in the bylaws.

The three pillars of a Benefit Society are **purpose, accountability and transparency.**

1. Purpose: A commitment to creating a positive impact on society and the environment and creating conditions conducive to social and environmental prosperity.

2. Responsibility: also having the impact of the company on society and the environment for all stakeholders involved as a reference in the company's strategic planning.

3. Transparency: being required to communicate annually and report according to third-party standards on achievements and future goals, both to shareholders and the general public.

Adopted standard and bcorp certification

The international standard of Benefit Impact Assessment was chosen for impact measurement. It's an assessment system that Treedom uses to obtain its voluntary B Corp certification, which was first obtained in 2014. Treedom was one of the very first European and Italian companies to join this scheme and is in its third certification cycle.

The B Impact Assessment (BIA) is a free and confidential platform designed to help measure and manage the positive impact of companies on workers, the community, customers and the environment. The BIA assesses the impact of both the company's day-to-day activities and its business model and operations. The B Impact Assessment questions are determined by company size, industry and market, with a total of about 200 questions.

The content of the B Impact Assessment is overseen by B Lab's independent Standards Advisory Council. Responses to the B Impact Assessment result in a total numerical score to achieve B Corp certification – a minimum total verified score of 80 in all impact areas is required.
Based on the B Impact Assessment, Treedom received an overall score of 121.1[1]. The average score for ordinary companies completing the assessment is currently 50.9.

Governance	Workers	Community	Environment	Customers
22	41	33.8	20.1	3.9
Total	121.1			

[1] https:// bcorporation. net/directory/treedom

The goals of common benefit

As a benefit corporation, Treedom has included six specific purposes of common benefit in its Articles of Incorporation. The company intends to pursue these purposes in the conduct of its business activities, generating, on the one hand, a measurable positive impact on society and the environment and, on the other hand, satisfactory economic results.

Specifically, according to Article 4 of Treedom's Articles of Incorporation: "as a Benefit Corporation, the company intends to pursue one or more purposes of common benefit and to operate in a responsible, sustainable and transparent manner towards people, communities, territories and the environment, cultural and social goods and activities, bodies and associations and other stakeholders."

The six common benefit goals in Treedom's charter:

- **Generating social and environmental benefits for rural communities**
- **Promoting education**
- **Promoting awareness of social and environmental**
- **Promoting sustainable agronomic practices**
- **Investing in development and research**
- **Contributing to the Sustainable Development Goals**

In the following chapters we report the results achieved in 2022, which were lower than projected. This is due to the problems caused by the international crisis that created difficulties in project management (raw materials, price fluctuation, etc.) and lower growth in the market.

The table shows the goals that are still being worked on and that we expect to achieve in 2023.

Goals 2022	Results
Open between 2 and 4 new projects in both Asia and Latin America. The goal is to start a total of at least 4 projects in these new areas, planting about 80,000 trees and involving 4,700 beneficiaries.	Three new projects were opened on the African continent within countries where we were already present (Kenya, Madagascar and Ghana).
Expanding our activities into new countries.	For 2022 and 2023, we have decided not to open projects in new countries to ensure maximum support for those where we are already present given the difficult international economic and geopolitical environment.
Improve the quality of our training by creating standard digital and physical training tools for our partners.	In 2022, specific grafting and geotagging manuals were produced for our partners, in addition to the IT department's work on digital project management for which partners will receive specific training in 2023. Also in 2023, we will produce specific manuals for our beneficiaries in order to train them on the topic of climate change resilience through agroforestry systems/techniques.
Planting 2.2 million trees in our agroforestry and forestry projects.	We have reached 50% of this target, which we plan to meet and exceed during 2023.

Rural communities 2022

Rural communities and field organisations are the key players in planting and caring for trees, and Treedom's job is to support them to ensure that they derive maximum benefit from the trees and their products.

In 2022, 45 agroforestry and forestry projects were in operation in 16 countries, including 3 new projects in Kenya, Ghana, and Madagascar. In these projects, Treedom involved 45 local partners =, including both national NGOs and international organisations with local operational teams.

Local organisations supported Treedom in the selection, care and distribution of 1,123,369 trees, directly and indirectly supporting more than 66,000 people including farmers, their families, local partner staff and community members involved in the projects.
To support the affected communities, Treedom's forestry staff conducts monitoring and support visits to local partners.

In 2022, 37 monitoring visits were conducted:

Country	Active projects	Monitoring visits
Cameroon	2	1
Colombia	2	0
Dominican Republic	1	0
Ecuador	2	1
Ghana	3	1
Guatemala	2	0
Haiti	2	0
Honduras	1	0
Italia	4	3
Kenya	12	15
Madagascar	2	1
Malawi	1	1
Nepal	1	0
Tanzania	8	14
Thailandia	1	0
Uganda	1	1

Corroborating the value of Treedom's support, below is some feedback from the field, collected during project impact research conducted by **ALTIS, the Alta Scuola Impresa e Società of the Università Cattolica del Sacro Cuore**, which further helps to understand the impact in communities among both partners and beneficiaries.
All feedback was collected anonymously from projects in Nepal, Kenya and Madagascar.

My staff's quality of life has improved economically because people have gotten a salary from working with Treedom - they get money monthly and regularly and have used it to send their children back to school.

Plant mortality was very high, but a very positive aspect is that since the beginning of collaboration with Treedom, it has decreased considerably.

[...The farmers] used the money to start small businesses, some selling beans and things like that. So their economic condition improved, I can call it economic and social empowerment!

However, now our situation is that we can no longer keep up with all the questions from associations and people asking us for support, whereas in the beginning they were very wary of us!

"The relationship with Treedom in this sense is very innovative because it has allowed us to create a project that is cyclical and annually renews, with no expiration date, contrary to what happens with classic cooperative funding. So we've been able to really create a mechanism for finance and for sustainability and getting things done and that is characterised by its ability to go deep, because we go in and work in a community and potentially we could stay there for years."

"I am very happy with the beneficiaries we are working with: they are looking for us day and night and want to collaborate with us. So this means that Treedom is on the right track."

Goals 2023

The year 2022 saw the implementation, in collaboration with ALTIS Università Cattolica, of a **socio-economic impact analysis** based on the theory of change on three target countries (Kenya, Madagascar, and Nepal). Thanks to the framework implemented, in 2023 the same methodology will be introduced in 4 more countries so as to identify measurable targets for impact improvement for beneficiaries and partners, with specific focus on the social and economic dimensions.

Education 2022

One of the main aspects of Treedom's relationship with local communities and staff is training. Treedom has an approach inspired by the methodologies of non-formal education and lifelong learning. Through its activities, it conducts educational activities for three main targets:

1. **for local farmers on issues of sustainability and sustainable agriculture;**
2. **for partner organisations to strengthen their technical and management capacities;**
3. **for its staff to promote professional growth paths.**

Various training activities for these groups have been promoted in 2022[2] :

- **an average of 60 hours of training meetings were conducted for beneficiaries per project;**
- **An average of 23 hours of staff training was devoted to partner organisations.**

Regarding employee training, 77 people (79% of global employees) were trained with an average of 26 hours dedicated to each. Although the target of 100% of employees was not reached, the minimum number of hours was met. Below is the distribution of training among the various departments.

Grafting and geotagging[3] manuals specifically for our partners were produced in 2022, in addition to the IT department's work on digital project management, for which partners will receive specific training in 2023.

[2] Aggregate data obtained from the semi-annual reports of each individual project.

[3] Manuals produced by the forestry department and shared exclusively with project partners.

Goals 2023

Close collaboration with local institutions over the years has also led to us receiving interest from local high schools and universities, especially in the project implementation areas. Among the goals for 2023 is the formalisation of two collaboration agreements with high schools and colleges, particularly with an agricultural and forestry focus, to carry out a program of visits, workshops and practical activities within the nurseries. These activities will enrich students' schooling and enable them to learn nursery techniques for propagation, care and improvement of seedling quality such as grafting techniques.

The goal is to transform nurseries and projects into educational laboratories open to the territory and local stakeholders. Also with this goal in mind, during 2023 Treedom will co-fund a doctoral fellowship from the University of Milan with experimental research activities also carried out within the company.

Sustainability and agriculture 2022

Sustainability in a holistic sense cannot be separated from sustainable agricultural practices. A key aspect to consider when projects are developed is the potential for local and global dissemination and the sharing of environmental benefits.

Local environmental benefits: the work of Treedom, which integrates tree planting into agricultural settings, aims to provide maximum benefits to the ecosystem in which it is carried out. Each project has different characteristics and therefore different areas in which tree-planting can have positive effects, but the most common are: combatting soil erosion, enriching biodiversity, protecting soil fertility and creating sustainable ecosystems.

Global environmental benefits: during its lifetime, each tree absorbs CO_2 (carbon dioxide) from the atmosphere by storing it in its woody parts. This process removes CO_2 from the atmosphere, and its effects are greater the longer the trees grow and live.

Social and economic benefits: it is equally important that the work brings social benefits to the local communities participating in the projects, as well as developing the projects and bringing them to fruition. Funding, community building, training, and technical assistance are key steps in the start-up of any new project. Above all, it is critical that communities directly benefit from the trees in terms of food resources and economic opportunities. They are the custodians of the trees, the same ones who benefit from their fruits.

In 2022, Treedom undertook to carry out in-depth analysis of the SDGs basis of forestry and agroforestry projects and conclude research on the carbon storage potential of trees based on various parameters. An impact report on the SDGs was conducted in collaboration with the Catholic University of Milan, and another on carbon storage potential with the University of Milan. These allowed Treedom's forest plan to be refined to be more effective in terms of food security, income generation, biodiversity and carbon uptake.

In addition to this and its "classic" planting activities, Treedom contributes to and supports the actions of local partners aimed at promoting sustainability across the board.
By integrating agroforestry projects with other possible sustainable and income-generating actions, it is possible to improve not only the ability of partners to manage multiple activities, but also to create a virtuous circle that makes organisations more aware of the great potential of sustainable economy and agriculture..

One example is the Seaweed Project in Kibuyuni[4] Village.

During the distribution of plants to farmers produced in the Msabwueni (Kenya) project nursery, Treedom came into contact with a project initiated by the Kenyan government targeting the same community as the Treedom project. Farmers in Shimoni village were trained in the propagation, cultivation and processing of native seaweed. This initially experimental activity developed until at least 3 containers of seaweed (20 tons each) were produced and marketed, then shipped to Europe by Kenyan brokers. There are 4 species available (Sargassum genus, Eucheuma cottonii, Ulva Lactuca and Turbinaria ornata) with different properties, including some useful to the food industry.

The current production is carried out by 9 groups of farmer-aquaculturists who, just as on the mainland, subdivide the coast into small plots and are responsible for following the 45-day cycle of seaweed production/harvesting.

With Treedom, farmers are devising strategies to improve the production of algae-derived products, such as creating low-cost natural fertilisers. In fact, natural fertilisers, which are quite scarce in Kenya, also have significant costs that limit their widespread use.

Goals

1) Helping farmers/fishermen expand their main activity of aquaculture. Produce organic fertilizer from algae processing for farmers who can use it both for trees offered by Treedom and for their cash crops .

2) Sign a contract to fix the price per quintal of seaweed and thus guarantee part of the fertilizer production to the farmers themselves. Co2 storage by algae.

3) Reduce the polluting impact of the fishing community (such as spent batteries thrown into the sea) through awareness and collection courses.

Methodology and Activities

The project was implemented by the government of Kenya. Experts have been sent for training. Farmers have already received training on how to propagate seaweed, harvesting, drying, packaging, and have reached the point of producing: bubble bath, shampoo, conditioner, body creams, and soaps. All Treedom project goals (e.g., fertilizer production) still need to be integrated and developed.

Results

As a result of the two visits and some inquiries from Treedom, the communities have been very responsive, ready for change, and efficient in both tree cultivation, fishing, and seaweed harvesting. The transformation of their houses from mud and thatch to brick is the obvious result of which they are proud. Trees distributed by Treedom are mostly mangoes and cashews, grown for their fruits, as well as mangrove trees, used for honey production and protection of the coast from sea erosion.

[4] Crops such as jute, coffee, cocoa and bananas

Goals 2023

During 2023, Treedom's strategy is moving forward in two directions.

The first: continue to implement local training, but intensify environmental awareness among all stakeholders, not just beneficiaries within the projects, through specific training and communication campaigns on environmental issues.

One of the activities included in Treedom's mission is also to use its communication and social channels to raise awareness and inform the general public about social and environmental sustainability. For this reason, among the planned activities are, for example, social content dedicated to everyday moments and small choices that allow us to reduce our environmental impact.

The second: One of the main barriers faced over the years when implementing training in sustainable agronomic practices to small local communities is language and low literacy levels. In order to make training increasingly effective and scalable, in 2023 Treedom will begin designing and testing a wordless "illustrated" manual to overcome barriers and further improve the level of training in the field.

Research and development 2022

Treedom is committed to contributing to scientific research in the field of technological innovation and management of forest and agroforestry systems. Two studies on the environmental and social impact of our projects were conducted in 2022. Specifically in 2022, the first two research phases in the area of plant biomass study with the University of Milan and one for the construction of an impact analysis model with ALTIS-Catholic University were completed.

Analysis of the CO_2 uptake potential of our trees.

In continuation of the activities started in 2021, the study on the **CO_2 uptake capacity** of Treedom trees was continued, in collaboration with researchers from the University of Milan (Department of Agricultural and Environmental Sciences - Production, Land, Agroenergy), in particular Dr. Giorgio Vacchiano and Dr. Michel Saini.

This study aims to:

- **Update the equations, found in the Treedom database, for calculating the biomass of tree species in our projects;**
- **Expand the allometric variables used (climatic, functional and geographic variables);**
- **Create a calculation model;**
- **Establish a supplementary sampling plan with field data collection.**

The first phase of activities involved searching scientific resources for equations to calculate total tree biomass. The dataset of equations collected was then used to update our current database. The information was supplemented by introducing auxiliary variables (wood density, temperature and precipitation).

Once all the equations for the species used in the projects were identified, a general equation was created that could be applied to new sites and new species.

Having completed this first phase, to increase the accuracy of the calculation of absorbed CO_2, it was decided to perform direct measurements at the sites where the plants were growing. Sampling had two objectives:

- **Measure and relate age and size of trees;**
- **Improve the accuracy of allometric equations;**

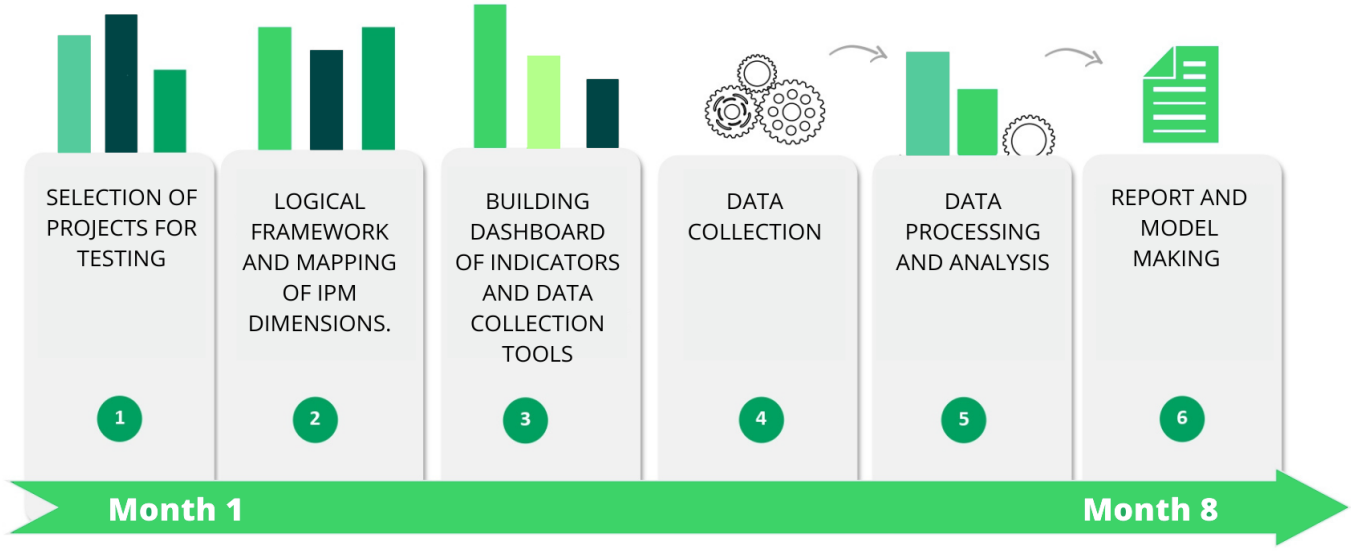
Upon completion of the first phase of research, a database was developed that includes 180 species used in Treedom projects, worldwide.
To obtain this result, more than 200 equations were studied, divided into: 37 equations are species- and site-specific,114 species-specific, 25 equations were taken from similar species and for 34 species a general equation was used.

A calculation model was also created to automatically allow for the calculation of CO_2 stored by trees of the various species used in the projects, once the second phase of the project is completed with the collection of supplementary field data.

Finally, to increase the accuracy of the calculation of absorbed CO2, a sampling plan was established and a guide for field surveys prepared. By the end of 2022, more than 650 measurements were collected in 5 countries, and field data collection will continue throughout 2023, with the goal of measuring at least 15 different species.

Construction of a standardised impact analysis model.

In 2022 Treedom wanted to measure the **social impact of its agroforestry projects around the world**. With the support of ALTIS - Catholic University, through its advisory team, and thanks to Stefania Farina Sustainability strategies and projects Advisor - a model was developed to monitor and measure the impact of the projects, to determine how and to what extent they impact the stakeholders involved.
Measuring impact means measuring the effects generated by an organisation's activities, on the territory and relevant community. This is done by quantifying the relative importance that stakeholders attach to the changes experienced by each of them in their own lives as a result of the organisation's work.

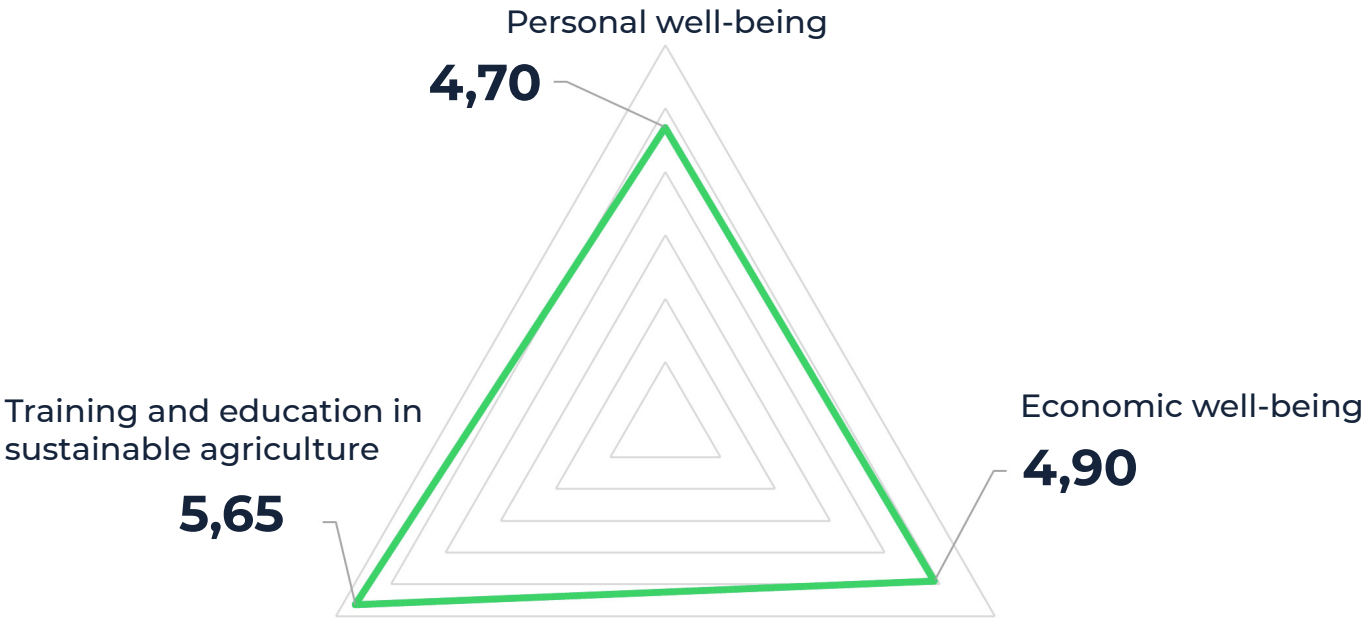


The methodology adopted refers to the Theory of Change, with a stakeholder-driven approach that integrates desk research and the direct involvement of relevant stakeholders, at different stages of the evaluation.

Projects in Kenya, Madagascar, and Nepal were selected, and then general stakeholder mapping was carried out, to detect and measure the actual changes that had taken place and the trend over time.
Having defined a panel of impact stakeholders, through questionnaires administered to Treedom's key information sources (people considered to be expert in the analysed areas), we proceeded with open interviews with members of local organisations. Questions sought to outline the impact dimensions, i.e., the areas on which Treedom's activities generate change for stakeholders, categorised into one or more impact indicators/ themes.
The data collected were used to develop evaluative frameworks for each of the relevant stakeholders: farmers, local partners, partner staff. Each theme was associated with one or more indicators, populated through the data collection tools, with questionnaires addressed to each stakeholder group. The questions were asked with the aim of attributing the causal link between changes in the lives of beneficiaries and Treedom projects. The analysis brought evidence that Treedom, thanks to its activities and its network of collaborations, generates positive effects on its relevant stakeholders. In fact, the perceived changes are almost all positive for the stakeholders involved, and this is demonstrated by the indicators that reached an impact index above the indifference threshold.

Farmers: From the results collected, it can be seen that for farmers the most impacted dimension is training, followed by economic well-being and finally personal well-being. Training, with a view to capacity building of participants and future sustainability of planting projects, along with the environmental goal, aims to generate employment through increased skills in sustainable agriculture and increased autonomy of participants (in line with Agenda 2030 Goals 4 - Quality Education and Goal 10 Reducing Inequalities).

Farmers: perceived change by impact dimensions



Change perceived by farmers for each of the related impact dimensions

Partner organisations: Regarding the 5 partner organisations that participated in the study, the most impacted dimensions related to:

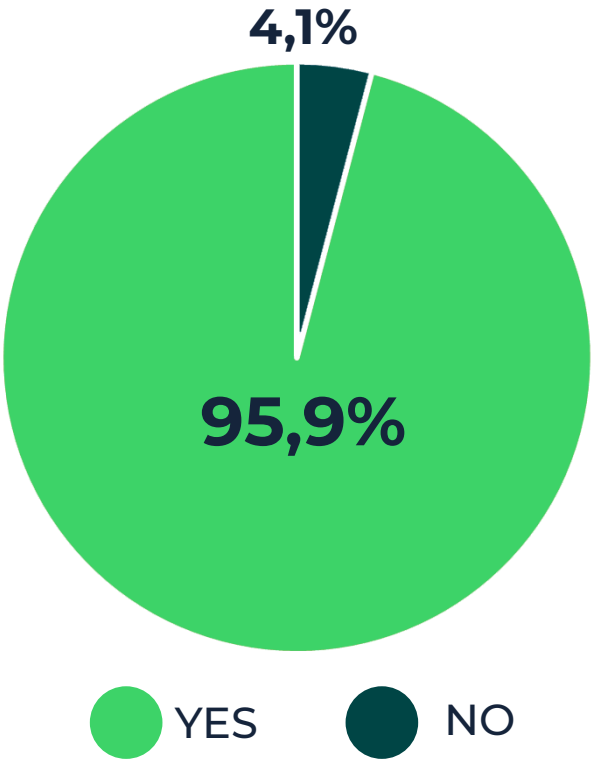
- **best practices in sustainable agriculture, which invests in training;**
- **The management and development of the organisation;**
- **Recognition of the organisation on the ground;**
- **Access to financial resources.**

"When analysing the impact dimensions by country, it was observed that organisations in Kenya and Madagascar experienced the greatest changes. In particular, Kenyan organisations experienced a significant increase in territorial recognition [...] in good practices in sustainable agriculture got the highest value in Nepal and the second highest value in Madagascar."

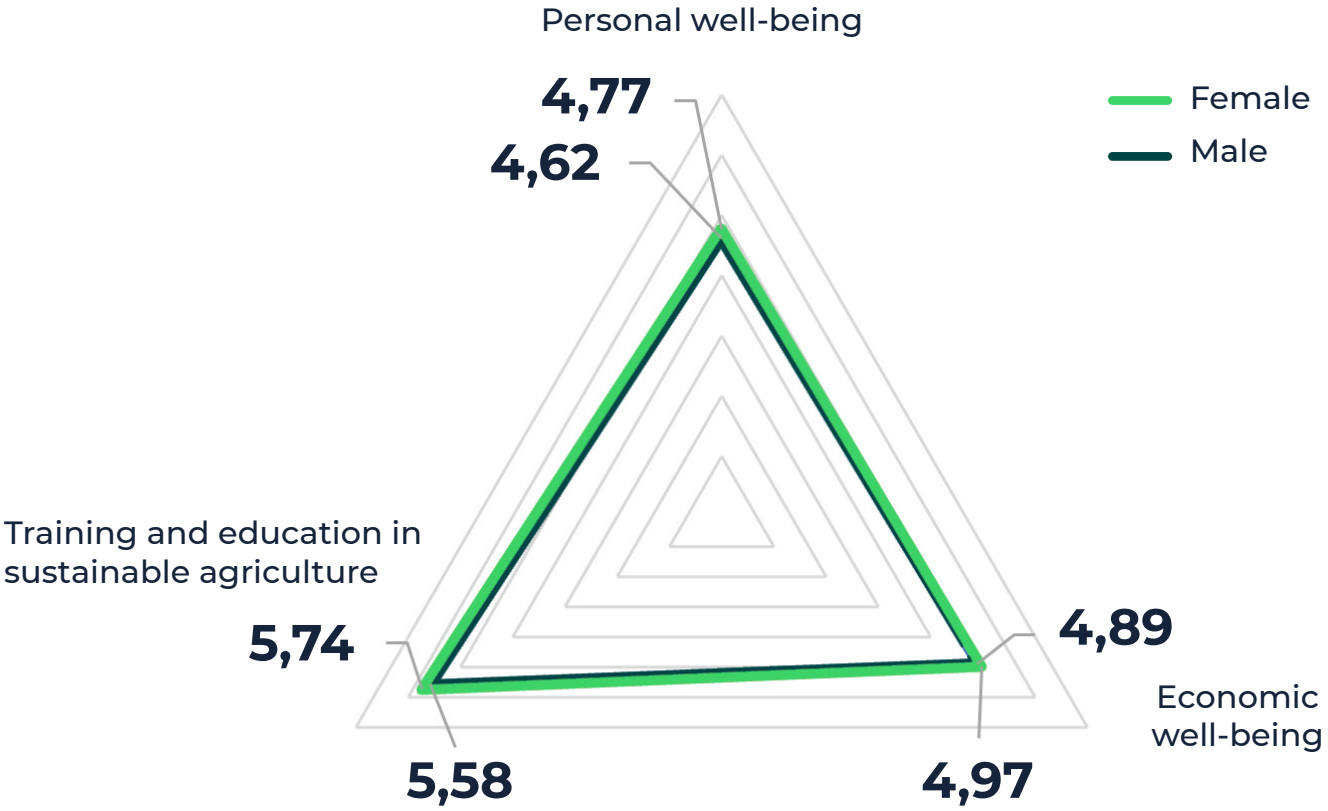
Staff of organisations: Again, the most impacted dimension is training, followed by economic well-being and finally personal well-being. All three dimensions found high rates of change, even more so than for farmers, probably as a result of the nature of the working relationship that involves a daily relationship between the parties. In particular, respondents reported that they found a point of reference in Treedom's forestry manager referrals, and the agroforestry training and education activities carried out by Treedom have generated significant change on "Soil Quality Skills," "Knowledge and Protection of Biodiversity," and "Knowledge on Preventing Consequences Related to Extreme Climate Events"

Farmers: participation in training initiatives

The importance of technical and professional training initiatives is strongly perceived by stakeholders and perfectly adheres to a priority need of theirs, which is confirmed by the participation of **95.9 percent** *of the farmers involved in these activities.*



Farmers: change experienced in impact dimensions by gender



A separate analysis, aimed at investigating the comparison of the change that occurred between women and men, resulted in showing that for the female population the change on the impact dimensions "Economic well-being" and "Training and education in sustainable agriculture" is more significant.

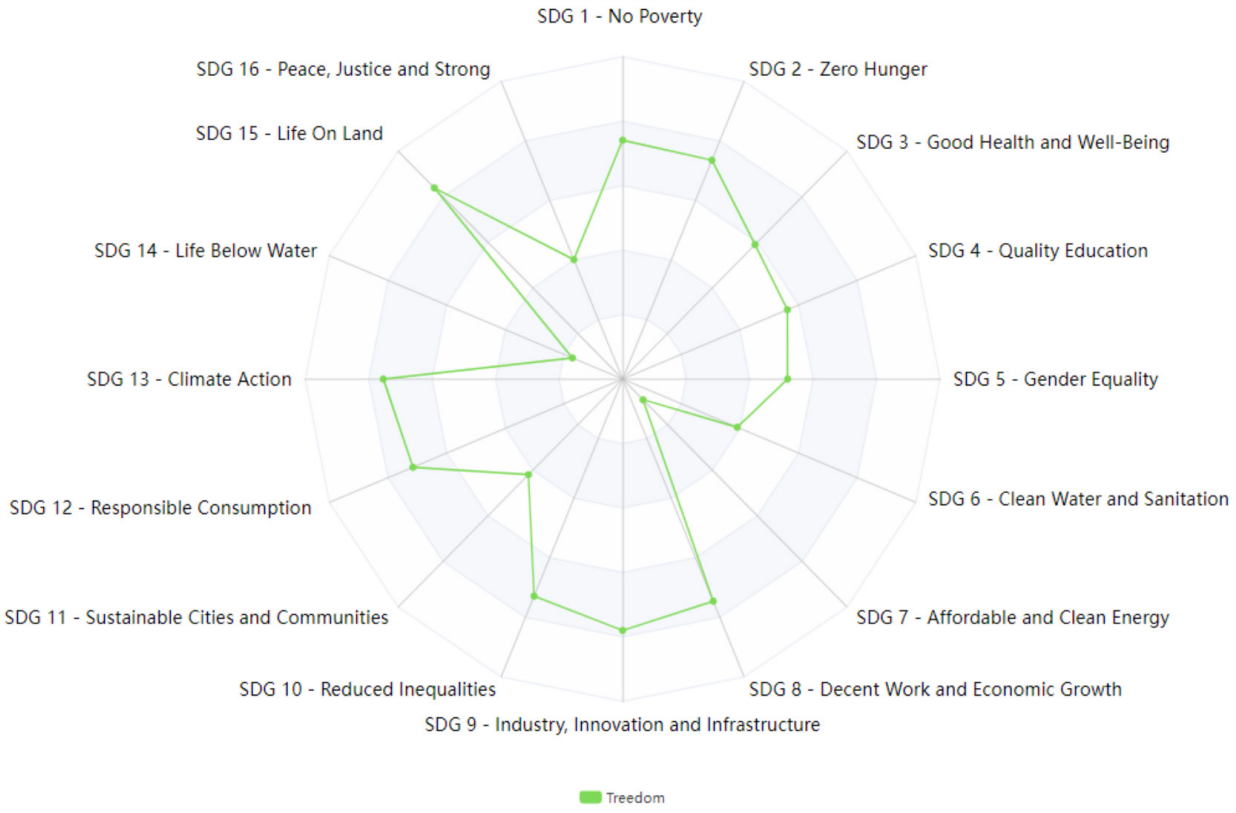
Goals 2023

An evaluation of possible satellite monitoring to verify the status of projects began during 2022. With increasingly detailed satellite imagery, Treedom wants to pursue a pilot project during 2023 that can test the feasibility and scalability of this type of monitoring. The challenges are many, from the type of projects (agroforestry therefore without predefined intervention polygons), to the cloud cover extremely present in many tropical and subtropical belt countries, to the extent of the areas involved. For the pilot project Treedom following a design application process in collaboration with ESA specifically through the ARTES 4.0 program.

The 12 Sustainable Development Goals - SDGs 2022

Treedom works to contribute to the achievement of the 17 Sustainable Development Goals (SDGs) set by the United Nations Development Program to end poverty, protect the planet and ensure prosperity for all, as part of a new agenda for sustainable development To assess impact on selected goals, Treedom uses the SDGs Action Manager, an online platform created by integrating the U.S. nonprofit organisation B Lab's B Impact Assessment with the ten principles of the United Nations Global Compact. Close collaboration between the two international bodies has resulted in a tool that can indicate how much a company is contributing to the achievement of an individual goal compared to its potential in percentage terms.

These are the results of the impact analysis thus conducted through the SDGs Action Manager



Compared to the SDGS to follow some 2022 results on which Treedom had a greater impact.

SDG 1- 2 -15

In Treedom's business model, trees play a central role, along with the communities that care for them and benefit from their properties and fruits. As described in the "**Sustainability and Agriculture**" section, the proper planting of trees produces:

- **Local environmental benefits;**
- **Global environmental benefits;**
- **Social and economic benefits.**

This has an impact on several SDGs, below is how the selected species contribute. Three different main uses of trees were identified: (1) functional for forests and agroforestry systems; (2) functional for food production (fruit trees); (3) functional for economic development (trees producing valuable goods such as coffee, cocoa, mangoes, etc.).

Some trees may have a dual function; farmers and communities choose the use of tree products according to their needs.

SDG		Primary Use	Secondary Use	Species numbers	%	TOT
15 LIFE ON LAND	Life on land	AGROFORESTRY/FORESTRY		65	30,46%	33,83%
		AGROFORESTRY/FORESTRY	INCOME	5	0,31%	
		AGROFORESTRY/FORESTRY	LOCAL CONSUMPTION	8	3,06%	
		AGROFORESTRY/FORESTRY	LOCAL CONSUMPTION+INCOME	2	0,04%	
2 ZERO HUNGER	Zero Hunger	LOCAL CONSUMPTION		15	4,82%	25,7%
		LOCAL CONSUMPTION	INCOME	19	20,84%	
1 NO POVERTY	Zero Poverty	INCOME		8	40,47%	40,47%

SDG 13-15

In 2022, Treedom planted 1,123,369 trees, which will help absorb about 294,496 tons of CO_2 over 10 years. In addition to this global benefit, Treedom is committed to combining the needs of biodiversity protection with the economic needs of local people. Therefore, we select a very wide mix of trees in order to always plant the right tree at the right time in the right place. With this in mind, each year we strive to increase the number of species used. Of the 228 species used in 2022, we added 15[5] new ones to enrich the projects. Here are a few examples:

Albizia lebbeck

Afzelia quanzensis

Pinus halepensis

Quercus coccifera

Prunus dulcis

Cinnamomum camphora

[5] New species in 2022 are: Albizia lebbeck, Afzelia quanzensis, Pinus halepensis, Quercus coccifera, Prunus dulcis, Cinnamomum camphora, Uapaca bojeri, Cordia africana, Khaya anthotheca, Irvingia gabonensis, Myroxylon balsamum, Cedrelinga cateniformis,Cordia alliodora, Pterocarpus indicus, Parkia biglobosa.

Uapaca bojeri

Cordia africana

Khaya anthotheca

Irvingia gabonensis

Myroxylon balsamum

Cordia alliodora

Pterocarpus indicus

Parkia biglobosa

We chose to following the same criteria to make room for endangered tree species. Of the 33,587 planted in 2022 we can identify the use of species classified[6] as:

Category	Scientific Species	Number
Vulnerable (VU)	Swietenia macrophylla	11007
	Jacaranda mimosifolia	6760
	Cedrela odorata	3644
	Khaya senegalensis	2671
	Bignonia chrysantha	1444
	Dalbergia monticola	357
	Prunus africana	1321
	Khaya anthotheca	9
Endangered (EN)	Adansonia digitata/grandidieri	5687
	Pterocarpus indicus	459
Nearly Threatened (NT)	Commiphora madagascariensis	219
	Irvingia gabonensis	4
Critically Endangered (CR)	Fraxinus pennsylvanica	5

SDG 8-12-17

During 2022, several activities were initiated in partnership with local governments and organisations to improve the quality of Treedom's work and expand its impact. Below are some examples that led to the development of the 2023 goals.

Q-Zero mortality:

Goals

Feasibility analysis on two different projects, on bankruptcy replacement methodologies and beneficiary involvement.

Methodology and Activities

Site-visits to two completely different countries, on different continents and with vastly different climatic, cultural, social and economic characteristics, but with the common goal of implementing strategies to bring plant mortality in the field closer to zero, were carried out during the 2022 year.

The first visit was made to Madagascar with partner **TsiryParma.** This organisation, coordinated by **Nicola Gandolfi,** local project manager, serves as the lead partner for a network of very small local communities. To minimize mortality it has proposed a very interesting model involving small "satellite nurseries" with a maximum capacity of 5 thousand plants/year, controlled and managed directly by the individual local communities. In this way, a continuous replacement of seedlings donated to the beneficiaries can be carried out, reducing the stress of transporting the seedlings themselves as well as limiting the logistics and emission expenses resulting from any long in-country travel.

The second visit was to Ecuador with partner **Business & Development.** Here design similarities with Madagascar were noted but also additional inputs applied by the same partner to ensure the goal.

[6] Details of the IUCN, World Conservation Union, classification type: http://www.iucn.it/categorie.php

Satellite nurseries were also introduced in Ecuador, in this case directly managed by the beneficiaries who are extremely empowered in all stages of production and transplanting of seedlings. Another activity found to be very interesting and effective was "setting up agricultural fairs" only for beneficiaries who showed interest in the project.

Results

As a result of the field visits, the most striking finding is that the average mortality of the two projects is under 5 percent. This ensures the work and transparency of the Treedom project. The trees checked turn out to be of different species (+ than 10) and a total number of about 3,000 sample plants.

Not only fruits:

Goals

Feasibility analysis on species that can give alternative income possibilities beyond the commercialization of products from cash-crop species.

Methodology and Activities

During the visit to Madagascar, it was understood how the planting of the Tapia species, considered an endangered species to date, could lead to the development of a market other than food. Tapia (**Uapaca bojeri**) is home to a particular type of insect "Borocera madagascariensis," a variety of silkworm from which a particularly valuable fabric is produced for the domestic market.

Results

The Tapia project involves 5 satellite nurseries, about 150 beneficiaries and 1 craft workshop (run by women only) interested in purchasing the product.

Chain Project:

Goals

Feasibility analysis on Cash Crop Coffee - Cocoa crops.

Methodology and Activities

During the visit to Ecuador, it became apparent how this partner has led local communities to the achievement of fine Arabica/Robusta coffee and "Fine Aroma" quality cocoa productions organised into legally registered cooperatives. This is thanks in part to Treedom's support in initiating and managing local quality productions of fine coffee with rural communities.

Results

B&D managed to create a partnership with **Unesum University and the** newly formed **El Carmen** Cooperative and ASOSUMACO Cooperative for the production and processing of saleable coffee nationwide. The same thing happened with the ASOPROSUCOT Cooperative, which plants cocoa plants of the "Fine de Aroma" variety and then processes and markets chocolate for the domestic market.

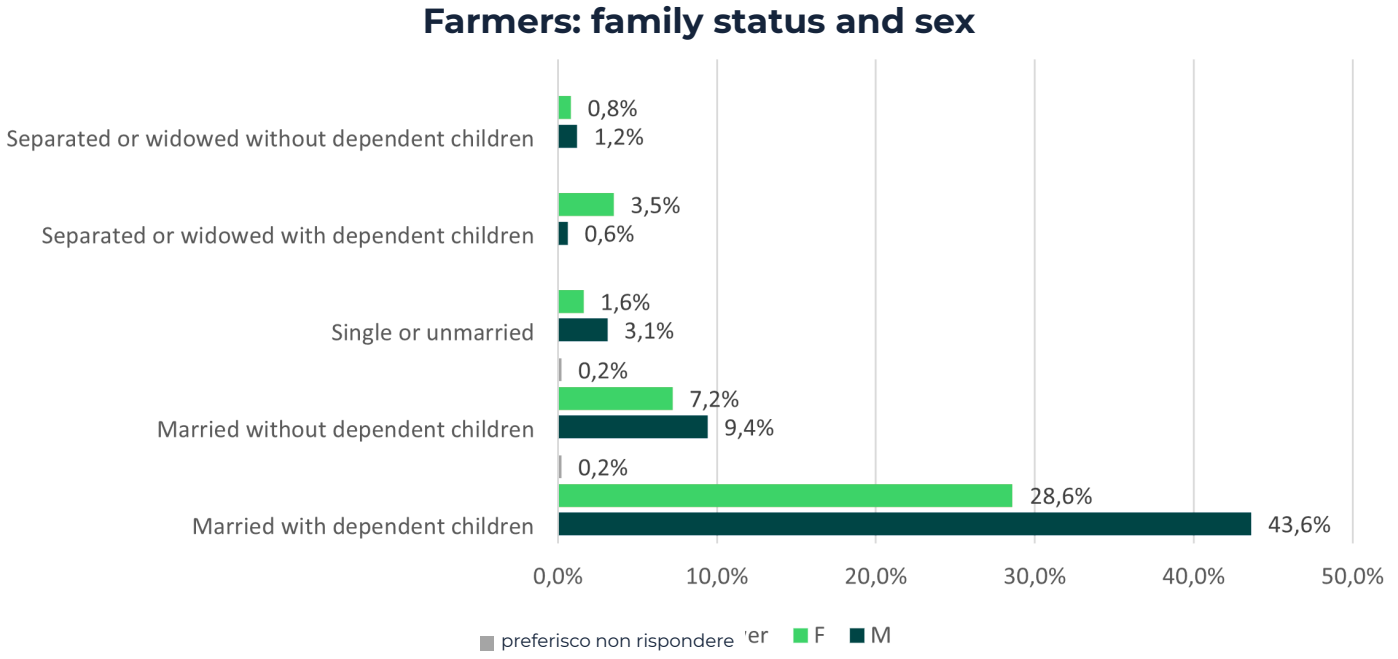
SDG 5-8-10

Regarding the SDGs related to **gender equality,** job quality and economic growth, we highlight Treedom's impact on its employees and the communities in which it operates as an economic actor.
Below are the employee data and personnel policies. In particular, the value of gender equality is ingrained in the company and 50 percent of employees and 63.6 percent[7] of managers are women, with equal opportunities for training and career development and specific policies for all employees (men and women) to balance work and family life.

Treedom's headquarters is organised as a home surrounded by greenery where emphasis has been placed on social spaces that employees can use even outside working hours. The large garden and nature-related activities that are carried out within it (beekeeping, vegetable gardens, olive harvesting) are an additional element of sociality and well-being. A balance has also been found between direct contact with nature and reconciling employees' living needs, so the headquarters is located in a residential neighborhood of Florence, is easily accessible by public transportation, and has parking for cars and bicycles inside.

Corporate Welfare has been renewed for employees through a performance-based system of benefits and economic incentives. Treedom therefore renewed its membership in the dedicated welfare portal with the aim of offering services to support the needs of its employees and their families. Each staff member, regardless of his or her role, received the same economic credit spendable on the eudaimon.it platform Within the portal are numerous services and products that workers can take advantage of using their available Welfare Credit.

Regarding agroforestry projects, we highlight the results of ALTIS-Catholic University research, the study of which is presented in "**Research and Development 2022**."
A separate analysis was conducted regarding the comparison of the change that occurred among farmers, with 489 women and men interviewed in the projects analysed in Kenya, Madagascar, and Nepal.



Farmer respondents by family status and sex

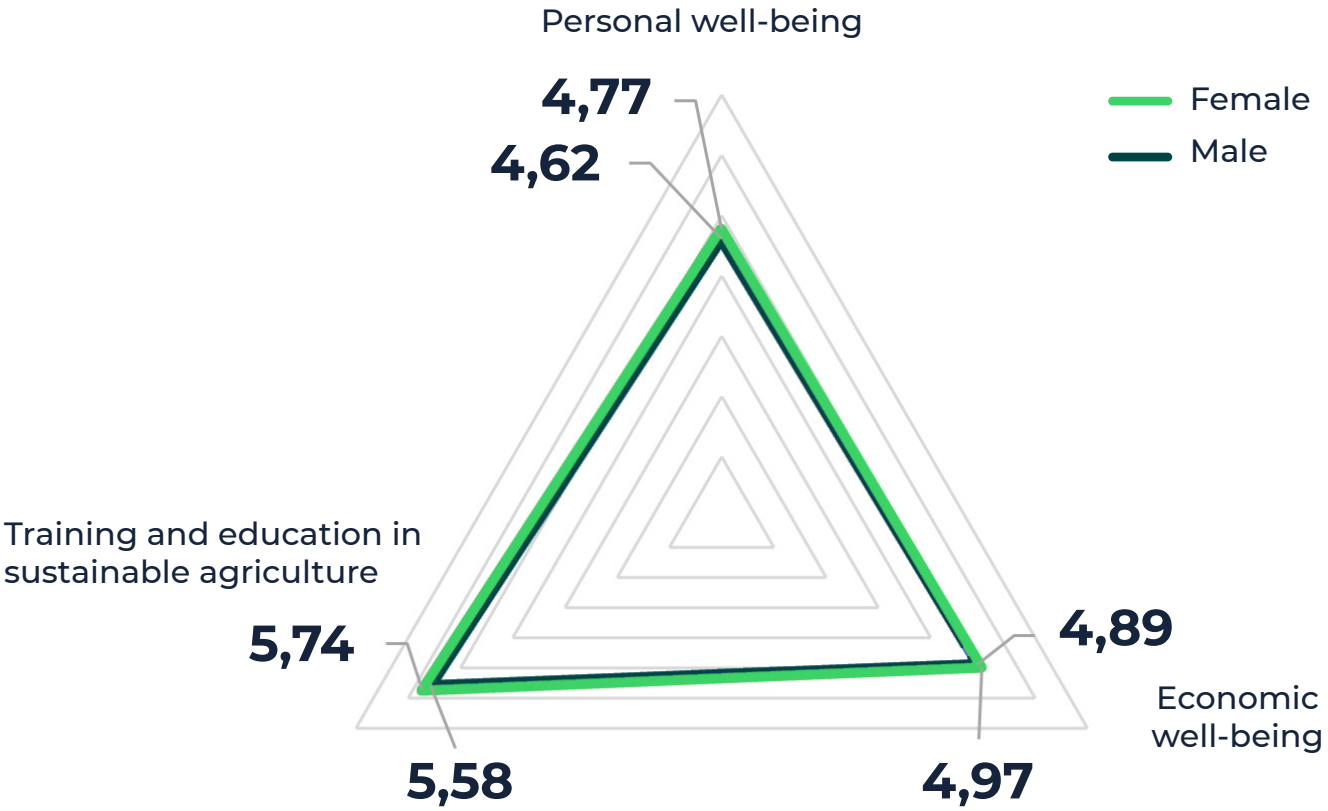
[7] By managers we mean people in senior roles with framework or 1-level contracts with management duties.

From the table it can be seen that the change on the impact dimensions "Economic well-being" and "Training and education in sustainable agriculture" is more significant for the female population and this difference is statistically significant i.e., not random.

Sex			
Impact size (min 1 - max 7)	**F**	**M**	**Significance**
Personal well-being	4,77	4,62	No
Economic well-being	4,97	4,89	YES
Training and education in sustainable agriculture	5,74	5,58	YES

Small Holder farmers - Significance of the difference in averages based on the demographic characteristic "sex"

Farmers: change experienced in impact dimensions by gender



Goals 2023

Among its sustainable development goals, Treedom wants to place special emphasis on economic development in 2023. Many of the projects are reaping the first fruits of the trees and beginning to enter the market, with particular emphasis on products such as cocoa and coffee. They want to implement at least two pilot activities in 2023 to provide access to these products to users to create a sales outlet for the projects. The goal is to plan and start an initial trial of commercialization of the products, a path to be implemented step by step with the communities always using a bottom-up approach to respect the environmental and social needs of the partners' home territories.