



# Vetting Report

Trees for the Future 



97%

# The DDC Integrated Impact Score crafted by



## The DDC Team



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# About the Integrated Impact Score

## We're levelin' up philanthropy!

The Dollar Donation Club **Integrated Impact Score** was designed to ensure that the world's most powerful and holistic solutions are presented to our members. The goal is to identify *acupuncture points of change*—solutions that create maximum positive benefit using minimal resources, while triggering a large cascade of additional benefits.

More importantly, the Integrated Impact Score embodies our approach of *smart-philanthropy*.

It's not enough for us to give with *only* our heart. We must also give intelligently—identifying solutions that address root causes, generate outsized measurable outcomes, integrate holistically into existing communities, consider long term impacts, reduce the risk of unintended consequences and lead to self-reliant capabilities rather than co-dependencies.

It's time for us to focus less on things like "overhead ratios" and more on the total, holistic positive result per dollar. Oh yeah, and it should be fun!

## We believe that the best solutions...

- Solve root-causes rather than symptoms.
- Consider their impact 100 years into the future.
- Solve many problems at once.
- Deeply understand economic, environmental and social implications.
- Produce massive, measurable benefits with minimal resources.
- Care for people and planet holistically.
- Seek to integrate harmoniously with nature.
- Leverage nature's and humanity's best technologies.
- Are radically transparent—financially and operationally.
- Are resilient against threats of reversal.
- Result in self-reliance, rather than dependence.
- Clearly understand total costs to achieve outcomes.
- Operate with a reverence for all life.

**This vetting methodology was designed with careful care to identify these solutions.**



# Overview



## Score overview\*



## Highlights

**Mission:** "To improve the livelihoods of impoverished farmers by revitalizing degraded lands."

**Big Goal:** "Bring 1 million rural farmers out of poverty by planting 125,000 forest gardens by 2025 with use of the forest garden approach."

**Location of Impact:** "Cameroon, Kenya, Senegal, Uganda, and Tanzania, as these are areas where we are having the biggest impact and seeing profound results."

**Location of HQ:** Silver Spring, Maryland, USA



### Major achievements to date:

- Over 190 Million trees planted since 1989 🌳
- Over \$59 million raised to date.
- Over 28,000 acres of land revitalized (this is about 21,000 football fields!)
- Over 100,000 farmers uplifted from hunger & poverty.

**\$1 =**

4 trees planted 🌳

62 lbs CO2 removed/yr ☁️

15 lbs. Organic produce 🍎

63.56 sq ft. land restored 🌍

All achievements realized within 5 years



### DDC's favorites:

- The Forest Garden model empowers farmers to uplift themselves while regenerating the land.
- Creates a micro-local food supply that is resilient against corruption.
- Global leader in trees-grown per dollar
- Highly integrated - 10 Sustainable Development Goals in one solution!

## The 3 BIG Questions:

### 1. How is the donation used?

Your \$1 helps fund 4 years of training, the seeds, tools and materials for farmers to establish their own **Forest Garden**. At year 4, the trees are flourishing and farmers are in a groove!

### 2. Will it actually make a difference?

**Forest Gardens** empower farmers to uplift themselves from hunger and poverty, while also transforming barren or monocropped farmland into bio-diverse, living gardens. On average, farmers increase their income by 400% while regenerating our planet!

In short: **Yup. A big one!**

### How will I know it created an impact?

Your **Donation Tracker** will provide consistent updates on progress, including real stories of the people who are impacted directly by your donation. We promise to help you feel as connected as possible to what's actually happening with your donation.

\* See addendum to learn how we calculate the Integrated Impact Score

# **Integrated Impact Scoring Results**



# Effectiveness



## Does it work?

Per dollar, how effective is this organization at creating measurable impact?

How impressive is the organization's measurable social impact compared to the cost to create this impact?



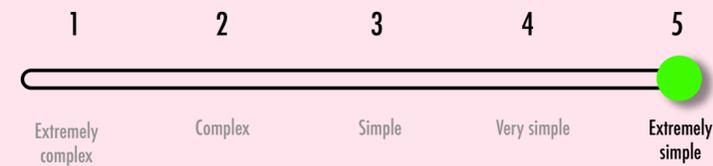
See "\$1 = in Overview section)

Additional benefits:

- 400% increase in income (on average) for farmers (see [Data Sheet Tab 4 \(click here\)](#))
- Significantly improved nutrition (see [Data Sheet Tab 3 \(click here\)](#))
- Enables a micro-local food supply chain
- Soil regeneration
- Increased biodiversity
- Resilience against flooding
- Resilience against crop failure
- Restoration of local watersheds

How simple/elegant is the solution?

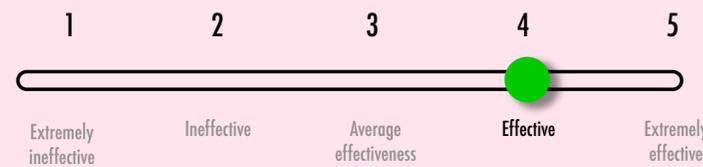
Has this solution devised an approach that has minimal "extra fat" or excessive complexity in its strategy for solving the issue?



The Forest Garden Approach (FGA) leverages nature's processes (through principles of Permaculture) to maximize impact with minimal resources. The solution meets the needs of those who benefit from the program, while providing a clear and direct path to persistent and self-generating positive outcomes. See more details of the solution here <https://trees.org/approach/>

Is the organization's leadership team credible and effective?

How well has the leadership team demonstrated competence, experience and effectiveness in the organization's area of impact?



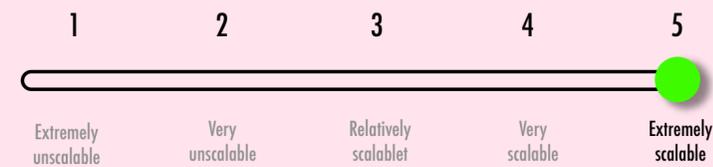
The DDC team has been extremely impressed by the leadership team's ability to achieve remarkable results while remaining lean and efficient.

TFTF have demonstrated exceptional credibility backed by policies that support transparency with clear delineation of roles. The team bios and information can be found here <https://trees.org/team/>

Executive director, John Leary has published a book with a 5-star rating on Amazon titled, One Shot: Trees as Our Last Chance for Survival, 2017 NAUTILUS AWARD WINNER for the Ecology and Environment Category.

How scalable is the solution-set beyond its use-case geography?

Is the solution capable of being applied effectively in other geographic regions that have similar issues to solve?



The Forest Garden approach is a generally universal solution-set that could provide equally positive results in many other regions struggling with hunger, poverty and ecological degradation. The total potential of this solution-set at a large scale is significant, though it is likely that the cost to achieve similar results will vary on different continents. There are very few if any elements of the FGA that could not be applied elsewhere.

TFTF is building capacities to scale training further through training videos.

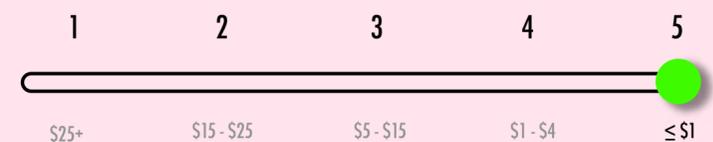
Does the organization have a clearly defined mission, vision and values?



See Overview of this report for Mission and Vision. See Values on Page 8 of their 2019 Impact Report (click here).

More information on their approach can be found here <https://trees.org/approach/>

(Custom 01) Cost per tree planted?

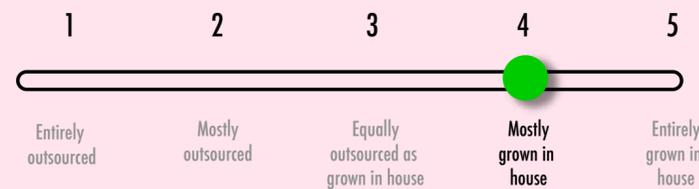


\$0.25 per (1) tree. Includes education, training, overhead and monitoring through graduation over a four year period (when trees are fully established).

(see [Data Sheet Tab 2 \(click here\)](#))

# Effectiveness (continued)

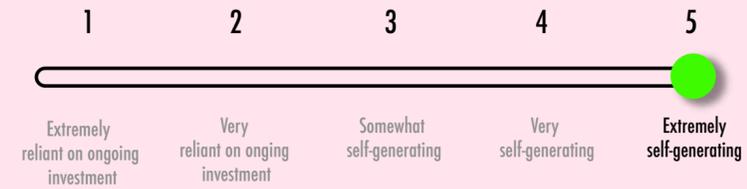
(custom 2) Sourcing: Where do the trees/seeds come from? Organization owned Nursery? Outsourced?



TFTF is establishing sustainable seed supplies for local tree and Non-GMO seeds in each region where they work. Trees for the Future is teaching farmers to choose and plant crops with attention to their reproduction. They teach them how to harvest and collect seeds to continue their gardens indefinitely into the future (and share with neighbors!).

<https://trees.org/our-innovations/> (see "Sustainable Seed Supply")

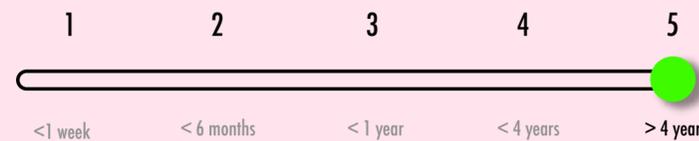
How well does the solution create self-generating capabilities rather than rely on ongoing investment?



The FGA results in a natural resource for farmers that will continually generate economic and agricultural returns that do not require additional external investment to maintain. After the initial 4 years of time and financial investment in farmer education, Forest Gardens are able to continue generating benefits deep into the future. Furthermore, forest gardens continue to provide ecological benefits year after year (soil enrichment, air quality, regenerates watershed, increased biodiversity, flooding resiliency).

(see Data Sheet Tab 4 (click here))

(custom 3) Protection: How long is the tree tended to?



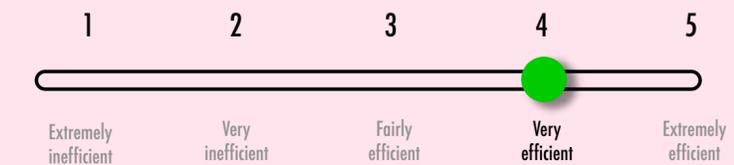
Farmers have training, continuing education and monitoring for 4 years until a point where the forest garden is established and in full production. The farmer families are trained and armed with a plan to maintain their regenerative Forest Garden indefinitely, providing food and products to sell, a right livelihood, and proper food/nutrition throughout the year.

Contrasted with organizations that plant trees to plant trees, a Forest Garden serves as both a personal food source and an economic resource, and as a result is carefully tended to indefinitely.

More information about what happens during these four years can be found here: <https://trees.org/approach/>

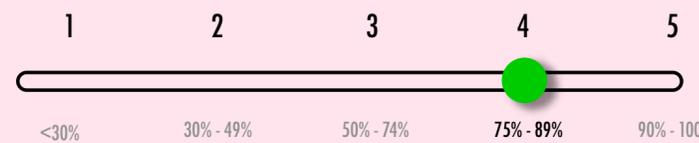
How efficient is the process of achieving a self-sustaining solution?

Is the amount of time and resources invested in getting the solution to a point of self-sufficiency excessive or optimally lean and effective?



While the Forest Garden approach is an extremely self-sustaining model, there may be more efficient training approaches that would reduce the amount of time necessary to educate farmers to the point of self-sufficiency. Currently it takes 4 years to establish total self-sufficiency.

(custom 4) Success Rate: What is the average success rate (trees reaching maturity)?



TFTF reports an 85% survival rate of trees. As with the previous metric about "Protection", the wellbeing of these trees are directly equated to the economic and nutritional wellbeing of the families who tend them. It's clear that this strong connection between human and flora is part of the high success rate of these trees.

How much risk is there that the impact will be reversed for any reason?

How likely / unlikely is the potential for social, political, ecological or economic threats that could reverse achievements made through this solution?



The Forest Garden is a uniquely resilient solution for a variety of reasons—most notably the FGA enables farmers their own sovereign source of food and all the tools necessary to increase income by 400% on average—all embedded into their backyard. The decentralized, micro-local food supply chain is uniquely resilient to the potential for politically motivated disruption of food supply. The FGA itself provides ecological resilience to climate change and flooding. It is a more antifragile approach than monocropping, which is at risk of total crop failure and may only be harvested once/annually compared to harvests throughout the year. Forest Gardens satisfy so many dimensions of need (economic, nutritional, ecological) that farmers choosing to reverse their own progress through short-term gains (selling land, clear-cutting, etc) is low.

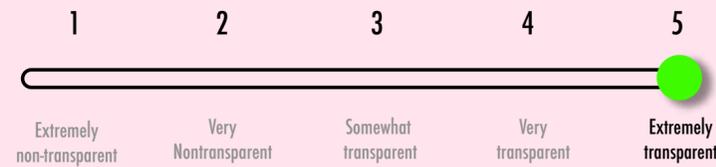
# Transparency



## Are they honest?

### How transparent is the organization financially?

How easy does the organization make available all financial records?



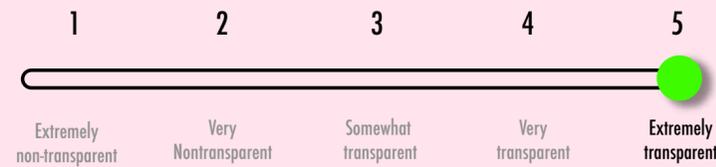
TFTF publishes their financial reports annually for anyone to review. You can read their financials, IRS audit reports and financial reports here: <https://trees.org/financial-information/>.

TFTF was rated 100% in "Accountability & Transparency" by Charity Navigator: [Click here](#).

TFTF also received GuideStar's Platinum Seal of Transparency. [Click here](#).

### How transparent is the organization operationally?

How readily available is information about current operations, and how the organization is executing their plans?

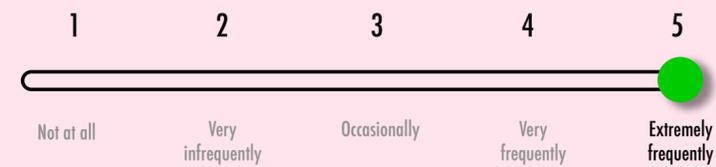


Trees.org exhibits clear and accessible information about ongoing activities and internal initiatives.

Current operations and execution plans can be seen in detail on their impact report (click here for link).

Their education programs and execution plans can also be found here: <https://trees.org/approach/>

### Are regular updates on progress made readily available to donors?



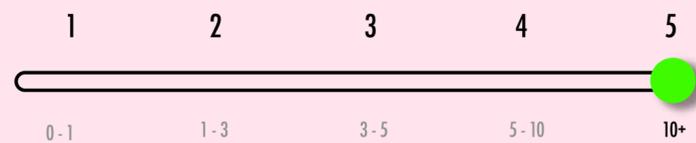
TFTF posts photos and/or educational materials and clips daily or weekly on Instagram and Facebook related to real farmers.

Extensive impact reports and monitoring are available on their website [trees.org](https://trees.org)

# Track record & history

## Are they proven?

How many years has the organization been in operation?

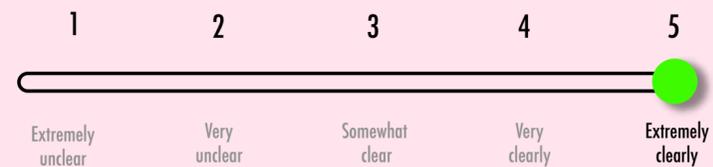


Trees for the Future was established in 1989.

(They're basically an Ent!)



How clearly does the organization embody the values it purports to have?

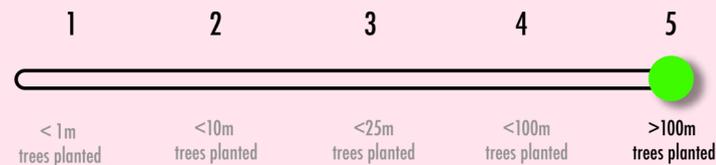


DDC highlights these embodied values apparent from our vetting:

- 1) **Accessibility**, demonstrated by solutions that are designed to make the approach accessible to everyone—especially those in extreme poverty.
- 2) **Diversity**, where the Forest Garden solution is extremely diversified—ecologically, economically and for and through the people it serves.
- 3) **Entrepreneurialism**, through the application of strong organizational and business principles in their approach to tackling hunger, poverty and ecological restoration (evident in strategy, operations, leadership and their learning-based approach).
- 4) **Results**, embodied by TTF's remarkable ability to create precise and measurable impact over time with a strong focus on data collection and optimization.

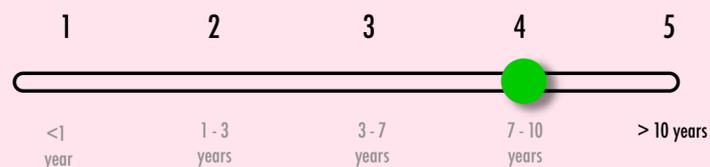
[Click here to see all values on Page 8 of their 2019 Impact Report.](#)

(Custom 5) How many trees has the organization planted in the past?



As of the date of this vetting (September, 2020) TTF has planted 190,000,000 trees, restored 28,279 acres of land and directly impacted 111,727 people whose lives have been transformed thanks to the Forest Garden approach (and more are being planted all the time!).

How long has the solution-set been demonstrated to be effective?



TTF was incorporated as a tree planting public charity in 1989 and the focus on Forest garden systems specifically began in 2015, but had been in development for years prior.

# Measurability

100



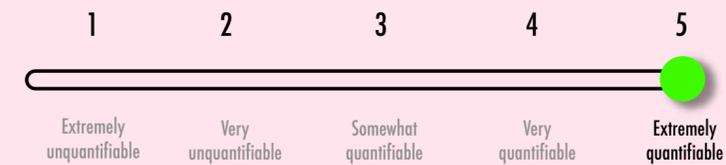
## Is it measurable?

Does the organization have a clearly defined "big goal" that is measurable?



"Bring 2 million rural farmers out of poverty by planting 1,000,000 forest gardens (effectively planting 1 billion trees in the process)."

Is the positive outcome quantifiable?



**Achieving the big goal would additional result in the following benefits:**

- Eradicates hunger for 2 million people, continuously.
- 1.32 million acres restored.
- 320,000 acres converted from monocropped or desertified farmland to sustainable forest gardens with farmers (2,500 trees/acre).
- 1 Forest Garden produces 7.7 tons of organic produce within 4 years.
- 1 million acres restored through reforestation (200 trees/acre).
- 112.34 million ton CO2 sequestered over 20 years.
- 46.28 million tons of CO2 through forest gardens.
- 66.06 million tons of CO2 through reforestation.

**1 Forest Garden results in:**

- 3,200 Trees planted.
- Increases income of farmers by 400% on average (continuously).
- 1-2 acres regenerated land (majority are 1 acre).
- An additional 800 trees planted in the surrounding area on community or preservation land.
- A minimum of 12 marketable crop types.

Proper monitoring of the physical, biological, and chemical changes on a farmers' land (and of the farming family's health) throughout the program provides a high level of certainty that the Forest Garden Approach works. TTF utilizes soil testing, carbon sequestration calculations, nutrition, aerial/remote monitoring and NASA LIDAR scans. Learn more about their "Quantifying Integrated Impact" [here](#).

All of these data represent a quantifiable expression of TTF's focus on "ending hunger, ending poverty, ending deforestation."

(see [Data Sheet Tab 1 \(click here\)](#))

Does the organization have a clear understanding of the total projected cost to achieve the "big goal"?



Trees for the Future has a plan to scale to 1,000,000 Forest Gardens by 2030, planting 1 billion trees. The total projected budget for this plan is \$250,000,000.

Since 1989, Trees for the Future has refined their process to reduce costs and ensure as much goes to the farmers and trees as possible. They have been able to reliably plant trees for as little as \$0.10 per tree. As they scale to a larger goal, \$0.25 per tree accounts for total costs. The plan is well founded on past credibility and proof-cases. This, paired with TTF's strong focus on Transparency give us strong confidence in the financials behind this plan.

Does the organization have a clear understanding of what \$1 can accomplish?



**\$1 =**

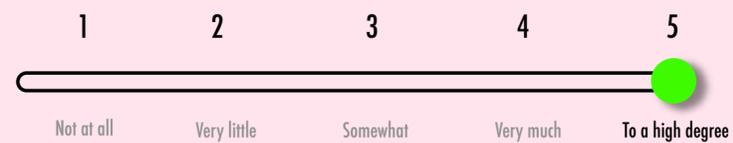
- 4 trees planted
- 62 lbs of CO2 removed/ year
- 63.56 sq ft of land restored
- 15 lbs of organic fruits & vegetables harvested

These results are fully realized after 5 years.

(see [Data Sheet Tab 1 \(click here\)](#))

# Measurability (continued)

How well does the organization monitor and verify their ongoing progress?



TREES currently uses GIS and drone evaluation to collect robust data sets for 100% of Forest Gardens within the 4 year training. Beyond 4 years, TTF randomly samples 10% of their Forest Gardens to assess overall progress on key metrics.

**Technical Data Form (TDF):**

This survey is conducted for 100% of Forest Gardens each year. It records GPS locations, physicalities of land (e.g. size), production (e.g. marketable products, number of trees onsite before and during, estimated tree cover percentage), and household socioeconomic data (e.g. family size, baseline income).

**Sample Survey:**

A sample size is selected for a 95% (+/-5%) confidence level. Using ArcGIS and GPS points, families are randomly selected from each project for an in-depth survey, which covers four main areas:

- General demographics: family size, age, education levels, gender
- FAO Household Dietary Diversity Score (HDDS)
- FAO Household Food Insecurity Access Scale Survey
- Household resilience related to increase in income year- on-year during project

**Annual Evaluation:**

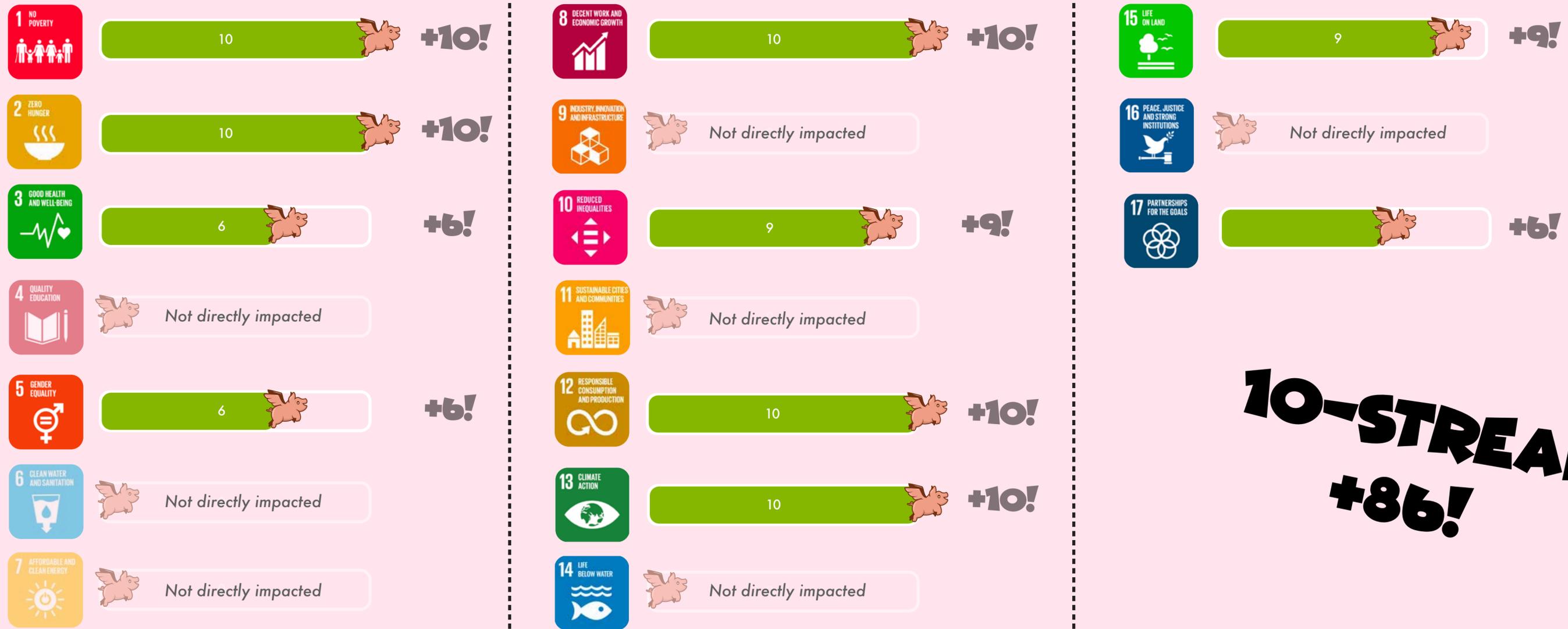
This tracks the sustainable land use practices farmers are using including: mulching, composting, Integrated pest management, live fencing, alley cropping, perma gardening, etc. This assists in increasing the CO2 offset numbers.

# Impact Stack

One solution can't solve everything. But **great** solutions solve many problems at once.

The Sustainable Development Goals are a collection of 17 global goals designed to be a "blueprint to achieve a better and more sustainable future for all."

Organization will receive 1 additional point for every 10 points calculated below.



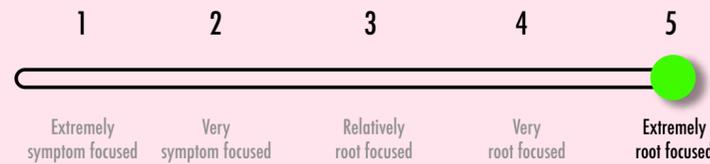
**10-STREAK!**  
**+86!**



## Is it holistic?

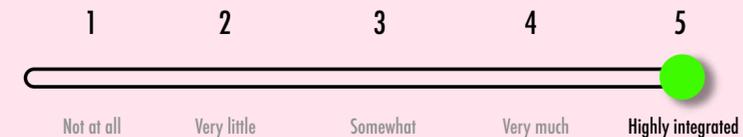
**Does the solution address a root cause, or a symptom?**

Is this solution focused on addressing symptoms of what may be a deeper cause? Or does this solution seek to address a root cause capable of solving many salient symptoms?



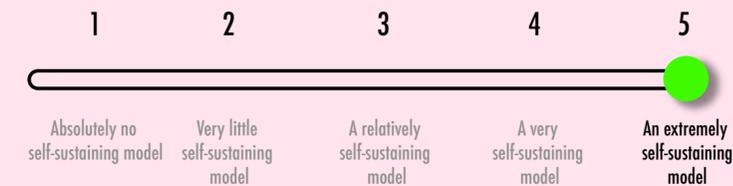
The Forest Garden approach addresses symptoms of hunger and poverty and base-level sustenance needs through root causes of ecological degradation. It's clear that the longevity and durability of the FGA leads to a sustained and fundamental solution.

**Does the solution integrate into local populations as part of the solution?**



Forest Gardens weave seamlessly into the local agricultural economy and lifestyle, and are specifically focused on providing tools and training that integrate into the pre-existing agricultural norms.

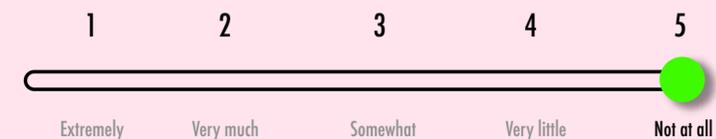
**Does the solution have an economic model that is self-sustaining?**



A forest garden provides farmers with a source of income while reducing costs of living (food), creating a highly sustainable economic model that increases its value year after year.

[\(see Data Sheet Tab 4 regarding projected income for farmers \(click here\)\)](#)

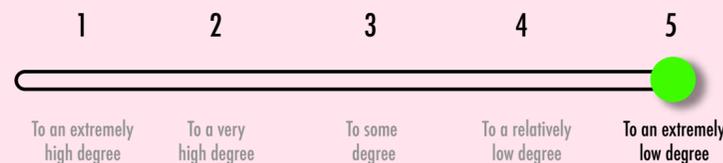
**Does this solution produce any negative impact on indigenous populations?**



At this current time the programs are not in areas where indigenous tribes exist. All farmers in the program are local to the region.

**To what degree does the solution prevent other potentially beneficial solutions from emerging?**

How confident are we that this solution is not utilizing resources (e.g. financial or ecological) in such a way that may prevent new and better solutions from being applied later?.



Forest Gardens convert desert-like or monocropped land into verdant ecosystems, while regenerating the soil to be rich, healthy and organic.

This process transforms low-value land resources into high-value land resources naturally, with self-generating properties that increase in value with each year.

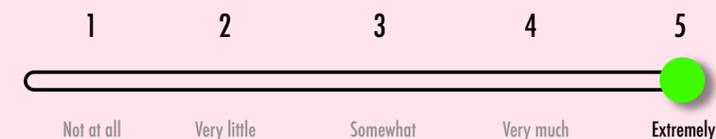
This doesn't prevent other uses for the land, but dramatically increases the opportunities for what that land can do for local communities and wildlife.

[Click here to see planting methodology](#)

[Click here to the Tree Species list](#)

**Does the solution consider its impact at least 7-generations into the future (>100 years)?**

Has the solution thought through the impact it will have on future generations in conceiving of their strategy and execution?



Forest Gardens result in continuously enriched soil, increasing biodiversity and a resilient solution to hunger and poverty for the families who apply the FGA. The solution also makes the land more resilient to climate change. The positive benefits provided by this solution make it resilient against extractive threats. Trees for the Future is true to its name!

# Wisdom (continued)

What is the risk of unintended negative consequences?



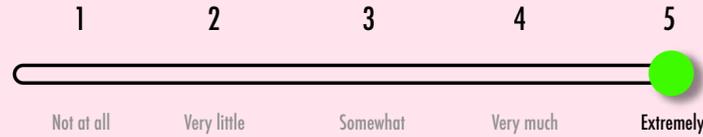
Since applying the FGA in 2014, the only reported unintended consequences have been rare tension between farmers who may not like the presence of a Forest Garden bordering their property. The impact of this is considered extremely low.

It's DDC's opinion that the risk of unintended positive consequences is far higher than the risk of unintended negative consequences.

# Innovation & Boldness

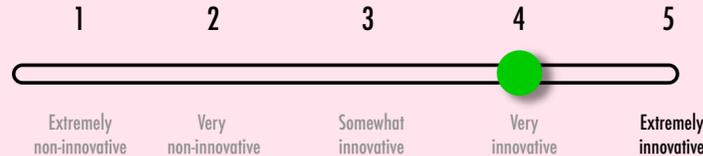
## Is it audacious?

How audacious is the "big goal"?



Generating 1,000,000 Forest Gardens in sub-saharan Africa by 2030 would effectively uplift 2 million people from extreme hunger, while providing myriad ecological, economic and social cascading benefits.

How much has the organization demonstrated an ability to innovate around novel problems?

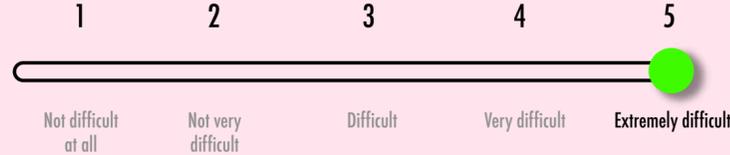


The Forest Garden approach is designed to alleviate the root cause of environmental degradation, poverty, and hunger by applying agroforestry and permaculture techniques.

Trees for the Future's real innovation is how effectively they empower local communities to leverage nature's technology to solve complex challenges.

[Click here to see the TTF planting methodology.](#)

How difficult is this challenge to solve (weighing this against how many other organizations have found effective solutions)?



Alleviating systemic hunger and poverty has proven difficult despite modern civilization's advances. Scalable and cost-effective solutions to alleviating climate change and the degeneration of soil have also proven equally difficult.

How urgent is this challenge to solve?



Trees for the Future's Forest Garden solution directly addresses many of the most pressing global issues of our time. See "top-level issues" identified by the United Nations. Most notably:

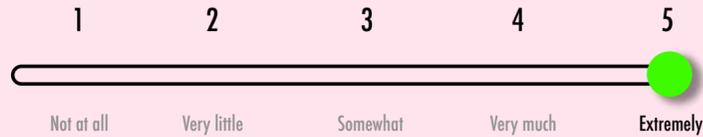
- **Africa:** Poverty, desertification, malnutrition
- **Agriculture:** Food Security, Sustainable agriculture
- **Development:** Social transformation, Economic development
- **Environment:** pollution, deforestation, desertification.
- **Food:** Missing food security and safety, world hunger.
- **Health:** Extreme poverty.
- **Women:** Women's rights, gender equality.

Extreme hunger, extreme poverty and climate change are an immediate threat to the wellbeing of all.

[Reference 1](#)  
[Reference 2](#)

Note this list of what millennials identify as the world's most pressing issues. (1, 3, 4, 7, 9, 10). [Click here.](#)

How effectively does this solution leverage natural processes?



The FGA effectively harnesses nature throughout its entire solution-stack: Living fence solution, Multi-purpose gardening rows of nitrogen-fixing trees, fruit-tree portfolio solution, Permagerden solution. General approach revitalizes soil and is more resilient than monocropping and leverages maximum benefit afforded by intelligent permaculture strategies. Permaculture utilizes the patterns and resilient features observed in natural ecosystems to create regenerative agricultural systems.

# Individual questions

It's not *all* about the numbers 😊

## 1. How is the land/forest protected?

The land/forests are privately owned. Through the four year education program and establishment of the forest gardens, the livelihood and nutrition for the owners is intricately linked to their land, thus removing trees or destroying the gardens is improbable unless of natural disaster or family emergencies that would cause the family to evacuate and leave their land.

## 2. What is the legal status of the land ownership?

Land is 100% owned by the farmer families.

## 3. What size tree is planted?

Trees begin from seeds obtained from local seed banks and grown in family nursery gardens until large enough to plant.

## 4. What is the breakdown cost of \$0.25 per tree

(what % is going to admin and what % is going to the local-level?).

This can be found in this [detailed budget](#). The HQ cost is listed as 2% of the overall cost of the Singida Project. The Singida budget is correct for all forest gardens.

Overhead costs for the Forest Gardens is 8% is for field admin costs and 6% is for HQ costs which comes to 14% total. Per tree this comes to about 4 cents per tree for all admin costs or 2 cents/tree for Headquarters administration costs only.

However, there are many ways to slice this. So for our annual reporting we look at HQ Admin versus Programs Costs (where HQ program staff and innovations works are included in Programs) this is 17% HQ to 83% Programs.

## 5. What is the average graduation rate for farmers?

85-90%. # graduated/total number originally registered at start of the project. Many times new trainings must be added because new farmers see what is happening and more farmers want to join the project. Most non-graduates are accounted for by significant changes in life circumstances (e.g. death in the family).

## 7. What is the land-ownership status of the trees planted outside of the Forest Gardens? How are these monitored, maintained and protected?

All farmers own their land. Outside the forest garden trees are planted at schools, health clinics and in watershed areas. This is typically on government and community managed land.

## 8. How are the Trees and plants chosen and why?

Trees are both recommended by ICRAF and selected by farmers. This methodology can also be seen in this page: [Planting Methodology](#)

## 9. What pressures or obstacles exist to applying the Forest Garden approach?

Common pressures and natural obstacles in Sub-saharan Africa have been identified as drought, flooding with seasonal rains and also locust invasions. Industries creating and selling fertilizers or pesticide may see a decrease in sales where the Forest Garden approach is applied. The Forest Gardens use companion plantings to naturally create barriers to pests and to regenerate the soil, thus eliminating the need for these additional inputs. Rainwater harvesting, shallow wells, collecting water from water holes and partnering with various other water organizations assist farmers in mitigating the pressures and obstacles in their bio-regions.

## 10. What are the metrics on income projections for Forest Garden farmer families?

This [Data Sheet index](#) demonstrates approximately 400% increase in income on average. (See the "Projected Income" tab at the base of this spreadsheet).

## 11. How are you monitoring or otherwise ensuring the long-term success of Forest Gardens?

Trees for the Future takes a random sample from 10% of Forest Gardens annually after the first four years (post graduation). This survey measures number of trees, crops, GPS points of farmers land, baseline trees for each year & annual evaluation.

# Individual questions 2

## 12. How is data collected?

TREES currently uses GIS and drone evaluation to collect robust data sets. In addition, their M&E system, TaroWorks, is cloud-based and syncs automatically with their Salesforce database. This system assists in collecting comprehensive and complete data sets. Below is an overview of the types of surveys they conduct in order to monitor projects:

- **Technical Data Form (TDF):** This survey is conducted for 100% of Forest Gardens each year. It records GPS locations, physicalities of land (e.g. size), production (e.g. marketable products, number of trees onsite before and during, estimated tree cover percentage), and household socioeconomic data (e.g. family size, baseline income).
- **Sample Survey:** A sample size is selected for a 95% (+/-5%) confidence level. Using ArcGIS and GPS points, families are randomly selected from each project for an in-depth survey, which covers four main areas:
  - **General demographics:** family size, age, education levels, gender
  - **FAO Household Dietary Diversity Score (HDDS)**
  - **FAO Household Food Insecurity Access Scale Survey**
  - Household resilience related to increase in income year-on-year during project

### The data items that are collected annually for all farmers are as follows:

- An abbreviated version of the [TDF \(Technical Data Form\) survey](#) (which only shows only FG system questions) and a [full TDF version](#) (which includes the FG system- and demographic-related questions). This determines numbers of plant and tree species on the land.
- An [Annual Evaluation](#) of the successful application of land management practices. This helps determine land restoration and soil carbon restoration. These surveys are also conducted with 10% of randomly selected forest garden graduates after year 4.

## 13. How are farmers evaluated and tracked?

Trees for the Future captures a Technical Data Form (TDF) from 100% of Forest Gardens annually during the 4-year training period.

The TDF tracks the sustainable land use practices farmers are using including: mulching, composting, Integrated pest management, live fencing, alley cropping, perma gardening, etc. This assists in increasing the CO2 offset numbers.

**IMPLEMENTATION CAPACITY:** With the advancement of climate change, expected cyclical drought and flooding, and a continued call for agroforestry as a solution to failing food systems, TREES has the need to quickly scale agroforestry-based work through planting Forest Gardens. Forest Gardens are a type of agroforestry system that incorporates layers of trees with horticulture, medicinal, and household crops and plant products. TTF has developed a 5 year Strategic Growth Plan that calls for the development of 125,000 Forest Gardens over the next 5 years. In preparation for this they have spent the last two years developing the following seven strong foundational elements needed to scale, including an in-country staff of agroforestry experts and technicians who implement our vision on-the-ground.

## 14. How does the training work?

Climate-Smart Agroforestry Training Materials: In 2017 with a grant from the United States Agency for International Development (USAID), TREES developed a robust set of agroforestry training materials including:

A Technical Manual, Facilitation Guide and training of trainers manual to ensure technicians have the skills to facilitate the learning process. TTF has developed four farmer field workbooks for low-literate farmers. The training materials provide a frame of reference for implementing field-based agroforestry learning, facilitation, and project implementation. TREES also monitor the quality of each training and overall learning outcomes. The training materials were developed from 30 years of applied science and experience and are available in print and online and through our website and open-source Forest Garden Training Center mobile app. Through these learning tools, TREES trains its own technicians as well as agronomists, extension agents, facilitators and farmers to develop the skills necessary to adopt climate-smart agroforestry techniques and teach them to others. This training system has been endorsed by the United Nations Institute for Training and Research (UNITAR) and USAID.

Qualified In-Country Staff and Agriculture Extension Program: TREES' staff in Africa has decades of agroforestry, agronomy, and reforestation experience. They are currently working directly with over 15,000 farmers in our agroforestry programs across 5 countries in Sub-Saharan Africa. Our training and extension structure consists of:

- Projects work with an average of 500 farmers and are led by three TREES (TTF) Certified Technicians, so each lead trainer supervises approximately 170 farmers.
- Farmers are grouped in small learning groups of 15-25 farmers, each with its elected Lead Farmer. *(continued on next page).*



# Impact Stack (details)

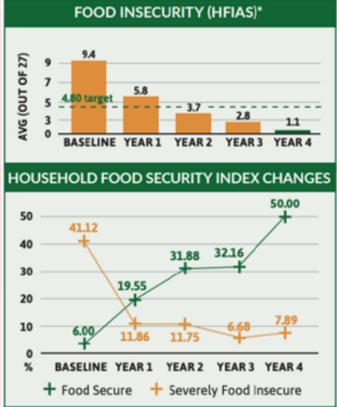
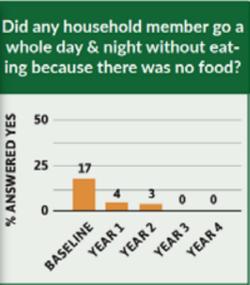
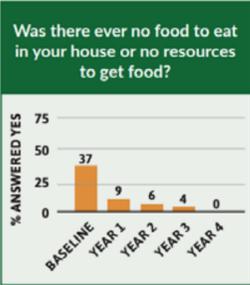
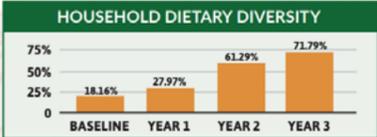
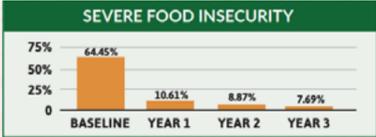


Trees for the Future's Forest Garden solution has demonstrated a replicable capability of enabling farmers to transition from monocrop farming to biodiverse farming, which increases their income by 400% on average. Furthermore, through the agroforestry methods applied, farmers diversify from single crops to at least 12 varieties, enabling them to take products to market throughout the year (rather than with one annual harvest). This provides further economic resiliency by reducing single points of failure to economic security.

+10!



Within the first year of applying the Forest Garden solution, farmers see a dramatic dropoff in days of the week without a meal. Within 4 years, farmers will have generated 7.7 tons of organic fruits and vegetables—enough to continuously eliminate extreme hunger, while providing the economic benefits enabled by the overflows of their harvest.



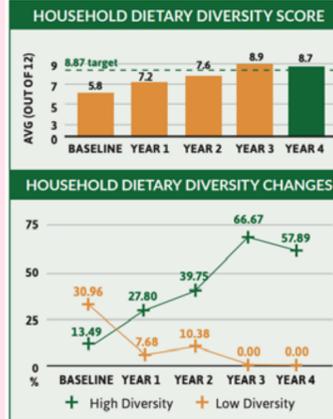
+10!



By eliminating extreme hunger, families make an exponential leap in health and well-being. Furthermore, the training program enables farmers to choose their own

Additionally, increases of income enable farmers more access to health care.

[Click here to open a full analysis of nutritional improvements provided by Forest Gardens.](#)



**Dietary Diversity Means Increase in Access to Vital Nutrients**

Category	Access Increase	Vitamins/Minerals	Health Benefits
Yellow & Orange Vegetables	344%*	VITAMINS C, K, & POTASSIUM	skin, hair, nails, gums, glands, bones, teeth, immunity, blood, muscles
Yellow & Orange Fruits	477%*	VITAMIN K & POTASSIUM VITAMINS B2, B6, B9, IRON, POTASSIUM, & ZINC	bones, immunity, blood, muscles, vision, energy, DNA, pregnancy
Leafy Vegetables	120%*	VITAMIN C VITAMINS B9 & K VITAMINS A, B6, E, CALCIUM, IRON, MAGNESIUM, & PROTEIN VITAMINS B1, B2, POTASSIUM, & ZINC	immunity, bones, DNA, pregnancy, blood, skin, glands, digestion, muscles
Root Tubers	343%*	VITAMIN A VITAMIN C VITAMINS B1, B6, B9, POTASSIUM, PROTEIN, & ZINC	skin, hair, gums, glands, bones, teeth, immunity, digestion, pregnancy
Grains	101%*	PROTEIN VITAMIN B2, MAGNESIUM VITAMINS B2, B9, IRON, POTASSIUM, & ZINC	Bones, muscle, hormones, vision, energy, nerves, DNA, pregnancy
Legumes	MAINTAIN	PROTEIN VITAMINS B1, B9, K, & IRON VITAMINS B6, MAGNESIUM, POTASSIUM, & ZINC VITAMINS B2 & CALCIUM	metabolism, digestion, DNA, pregnancy, circulation, metabolism, bones

\*Percent increase in access to vitamins across all projects between baseline and year 3.

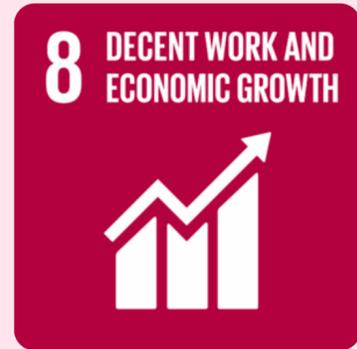
+6!



At least 40% program participants are women (often this number is higher, depending on the region), helping to break a long cycle of male dominated economic stability in the region. By enabling women to attain economic independence, overall gender inequalities

+6!

# Impact Stack (details)



The nearly exponential growth in income and overall economic stability for families applying the Forest Garden approach cannot be over-emphasized. By increasing income by 400% on average, farmers are able to significantly improve overall quality of life with meaningful work. Increased income enables local economic growth, where economically capable families can invest in their local communities, driving upward economic growth regionally.

**+10!**



Forest Gardens significantly reduce income inequalities, promote social and economic inclusion, increase overall opportunities, significantly improve livelihoods, independence, resilience, and fulfillment.

**+9!**



The Forest Garden Approach allows for farmers to grow and consume from their land, selling excess on the local economy. Everything is sourced locally and grown organically. Farmers also learn to sustainably source water, make and use compost, and use leaf litter as fodder for their animals.

More broadly, as the negative ecological impacts of mass-monocrops on soil health become increasingly clear, the biodiverse nature of Forest Gardens (with a focus on permaculture) empowers an agricultural infrastructure that enriches the land, rather than degrades it.

**+10!**



Through the planting of trees, Forest Gardens combat climate change and slow or reverse its symptoms. Not only do trees sequester carbon and restore groundwater tables, they also protect the farmer's land from more intense and unpredictable weather that has resulted from climate change (particularly, Forest Gardens have demonstrated enhanced resiliency to flooding compared to traditional farming methods).

**+10!**



Forest Gardens help grow, regenerate and conserve local forests and animal habitats.

Biodiverse farming demonstrably improves overall soil health (revitalizing degraded or desertified land).

When farmers cultivate their own sources for food, fuel, timber and feed for animals, they no longer need to cut from surrounding forests. Forest Gardens also result in improved insect and plant biodiversity as well as improved soil nutrition.

**+9!**



The Forest Garden approach improves agricultural, economic and social capacities where it is applied. It also promotes education with farming, entrepreneurship, community-building, life skills, and technological skills over the four year training period.

**+6!**

# How we calculate the Integrated Impact Score

## Individual Dimension Score

The scores for each individual dimension (E.g. Transparency, Measurability) are calculated by adding up the total points (1-5) per section and dividing by the total number of questions per section.

## Impact Stack

The amount of points awarded for the Impact Stack section is based on an assessment of how *directly* or *indirectly* and *effectively* or *ineffectively* the solution addresses a particular sustainable development goal, using the SDG indicators as a guide. The intention is to improve upon references to SDG's without substantiation, and to identify and reward solutions with a high number of cascading benefits.

## Overall Integrated Impact Score

The overall integrated impact score is calculated by adding up the total points (all) and dividing by the total number of possible points + bonus points awarded by the Integrated Impact Stack. Overall scores are rounded up to the nearest integer at 0.5 (e.g. if a score of 94.5 is calculated, the final score will be 95, if a score of 94.4 is calculated, the final score will be 94).



**MAXIMUM EFFECT!**



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