

# GROWING FOOD AND INCOMES

FROM FOREST PRODUCTS IN RURAL BURKINA FASO

TREE AID IMPACT REPORT 2021



Image: Harvesting of leaves from a nutrition garden in Sapouy, Burkina Faso, © 2021 Tree Aid.



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# SUMMARY

What did the project achieve and how?

## 1 Increased incomes and reduced poverty



**161%**

increase in average annual household income



**12%**

reduction in households living in extreme poverty<sup>1</sup>

### How did we achieve this?

By developing enterprises around the sale of non-timber forest products including baobab leaves, shea nuts, moringa leaves and honey

Through increasing women's access to resources

**18%**

increase in women reporting having as much control over trees and their products as their male counterparts

By promoting the nutritional value and consumption of non-timber forest products



**179**

village tree enterprise groups have been supported



**770 kg**

of forest products produced and sold by each enterprise every year<sup>3</sup>

## 2 Improved food security and nutrition



**8%**

reduction in undernourishment<sup>2</sup>



**42%**

reduction in chronic malnutrition in children under 5

### How did we achieve this?



**212**

nutrition gardens established



**6,000**

people are benefiting from the nutrition gardens

## 3 Restored and protected land



**9,919**

hectares of degraded land now under sustainable management which is the size of around 12,000 football pitches

### How did we achieve this?

By promoting locally led, sustainable forest and land management



**79**

forest management plans drafted and agreed with local authorities and users, to restore and protect forests

## Glossary

### What are non-timber forest products (NTFPs)?

Goods derived from forests that are tangible and physical objects of biological origin other than wood<sup>4</sup>. In this project, the main NTFPs are: shea nuts, baobab and moringa leaves, honey, balanites leaves and seeds, African locust bean seeds and neem seeds.



### What are village tree enterprise (VTEs)?

A group of people who work together to produce commodities from NTFPs, like seeds, fruits and nuts. Together they process and sell them.



### What are nutrition gardens?

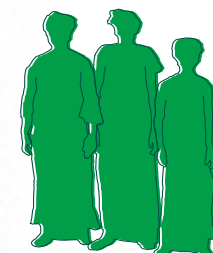
These are small communal village plots dedicated to growing NTFPs, such as moringa and baobab leaves for consumption and sale.



### What is the link between women's empowerment, poverty reduction, food security and nutrition?

Women in rural areas in Burkina Faso, like in many other African dryland countries, are more affected by poverty and food insecurity than their male counterparts. They face barriers to develop economic activities such as unequal access to resources and services because of gender-based discrimination, and are disproportionately involved in unpaid work.

Improving rural women's access to natural resources is key in reducing poverty, as it can enable them to generate their own income.



- 1 Equivalent to 27,895 people (based on an average household size of seven people) no longer living in extreme poverty according to a poverty threshold of less than \$1.90 per male adult equivalent per day
- 2 Equivalent to 2,656 households with sufficient energy intake according to an undernourishment threshold of 2,500Kcal per male adult equivalent per day
- 3 Equating to a commercial value of \$1,491 per year
- 4 'About non-wood forest products', [FAO, 2015](#)



# THE CHALLENGES

Why was the project needed?

## Nature – land degradation, biodiversity loss and climate change

The project regions in Burkina Faso are particularly vulnerable to climate change due to their close proximity to the Sahara Desert. There, increasing temperatures, changes in rainfall patterns, as well as more frequent and extreme climate events (floods and droughts) are acutely felt: for example, temperatures across the Sahel have increased by nearly one degree Celsius since 1970, nearly twice the global average<sup>5</sup>.

In addition to these climate change impacts, the project regions are under a strong demographic pressure, which, combined with poverty, push local communities to resort to unsustainable land and farming practices. Together, these factors deplete natural resources and lead to biodiversity loss and land degradation, making the land unproductive and unable to sustain life.

## People – poverty, food insecurity and malnutrition

With about 80% of the population in Burkina Faso relying heavily on natural resources for survival through agriculture, animal breeding and forestry, land degradation directly threatens local communities' livelihoods, leading to increased poverty, poor food security and malnutrition, for which the four project regions have the highest rates in the country.

More intense and frequent climate change impacts worsen this situation, as these populations are unable to cope and adapt to them, locking them in a vicious cycle of environmental degradation, poverty and food insecurity.

<sup>5</sup> 'Climate change and state fragility in the Sahel', [Crawford, A., 2015](#)



Image above: Degraded land in Gomponsme, Burkina Faso, © 2020 Tree Aid.

# THE PROJECT DETAILS

## Title

Program to support the enhancement of Non-Timber Forest products, Phase 2 (NTFP 2)

## Timeline

January 2017 – December 2020

## Budget

£3,520,323 (4,300,000 CHF/2,591,180,003 XOF)

## Donor

Swiss Government

## Local partners

Eight local partners supported the implementation of the project: Association Action Citoyenne pour le Développement, Association de Promotion Féminine de Gaoua, Association Wend Kouni, Association Zood Nooma pour le Développement, Fédération NUNUNA, Association Solidarité et Entraide Mutuelle au Sahel, Union des Groupements Féminins Ce-Dwane Nyee, Association Valorisation des Ressources Naturelles.

## Area

Centre Nord, Centre Ouest, Sud Ouest, Nord.

## National partners

Four Ministries of Burkina Faso: Ministry of Environment, Green Economy and Climate Change, Ministry of Industry and Commerce, Ministry of Higher Education, Scientific Research and Innovation, and the Albert Schweitzer Ecological Centre Association.

## Who we worked with

98,241 project participants in local rural communities, consisting of 33,212 household, 88% women and 23% youth<sup>6</sup>. In addition, the project reached another 232,484 people more indirectly. These people live in the households where someone else participated in the project, such as children and elderly people.

<sup>6</sup> Equating to 22,914 young people and according to the [United Nations definition of youth](#)

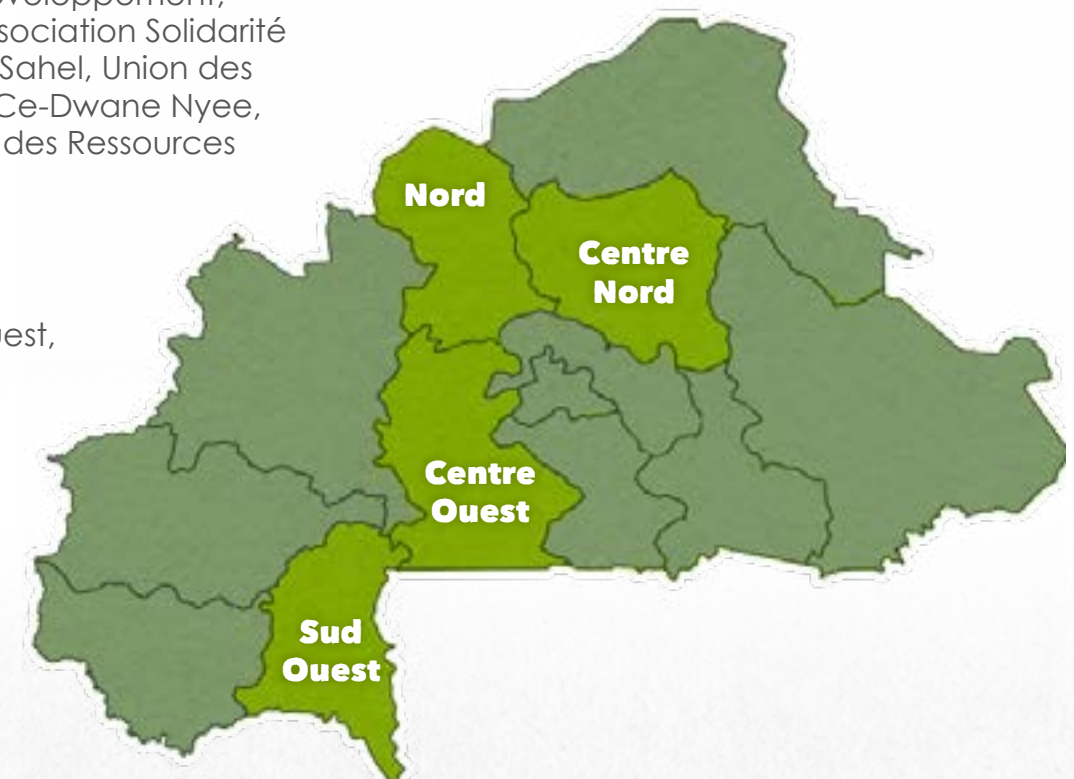


Fig.1: Map of the project regions in Burkina Faso, © 2021 Tree Aid.



# THE PROJECT OBJECTIVES

The project's main three objectives were to:

## 1 Increase the overall production of NTFPs

and the transformation of the raw materials into products with greater value



Image right: NTFP show room products in Gaoua commune, Burkina Faso, © 2020 Tree Aid.



## 2 Increase the consumption of NTFPs

at the household level to improve food security and reduce malnutrition



Image left: Cooked moringa leaves, © 2016 Tree Aid.



## 3 Influence laws and decisions

made by the authorities towards the preservation and promotion of NTFPs



Image right: Work on degraded land in Burkina Faso as part of the project, © 2018 Tree Aid.



# THE PROJECT APPROACH

We worked alongside local communities, predominantly women, to:

## Set up and run sustainable enterprises

The project established 179 viable and community-led VTEs based on the collection, transformation and commercialisation of NTFPs. VTEs consist of groups of 20-30 people where the benefits are shared equally. VTEs can support each other, run savings and loans schemes and trade as one entity, which helps negotiate better prices for all their members. The project provided organisational and technical support to improve production processes, product quality, business and financial skills, as well as materials to improve packaging and labelling.

## Grow nutrition gardens

The project helped village groups plant moringa and baobab seedlings in small communal village plots, surrounded by living hedges. Nutrition gardens were developed to raise awareness of the dietary value of NTFPs and develop knowledge on how to process these products for household consumption and sale. The leaves of the moringa and baobab trees are regularly harvested, consumed by participating households, or sold as dry leaves or processed powder.

## Set up local and sustainable natural resource management practices

The project helped the development and agreement of 79 community driven forest management plans, covering over 9,000 hectares, with local authorities and forest users. These plans support natural resource management measures that help people restore and protect their land and forests. These measures include forest restoration, assisted natural regeneration and farmer managed natural regeneration practices.



# THE IMPACTS POVERTY REDUCTION

Over the life of the project, enterprise development around non-timber forest products and improved access to resources for women contributed to reducing the number of households living in extreme poverty<sup>7</sup> by 12% (27,895 people<sup>8</sup>) and to increasing the average annual household income by 161%.

## What the project did

### Enterprise development

The project worked with 179 groups to develop viable and community led village tree enterprises (VTEs) based on the collection, transformation and commercialisation of NTFPs. The project provided financial, organisational and technical support to improve production processes, product quality, business and financial skills, as well as materials to improve packaging and labelling.



Image above: A woman in Burkina Faso participating in project holding NTFPs produced by her VTE, ready to sell. © 2019, Tree Aid.

A total of £598,796 was invested in equipment, seeds and tree seedlings. The project also assisted groups to develop business plans with a specific focus on one type of NTFP, such as the transformation of shea nut into shea butter or the sale of moringa and baobab leaves.

This investment has resulted in a total estimated annual turnover of \$266,971, which is expected to grow as enterprises become more established and their value chains more robust. Based on their business plans, the 179 VTEs now each produce an average of 770Kg of NTFPs per year with a commercial value of \$1,491.

### Increasing women's access to resources

The vast majority of VTE members are women (73%). Through the development of VTEs and nutrition gardens, the project helped increase their access to natural resources. In 2019, 28% of women reported having as much control over trees and their products as their male counterpart; a percentage that increased by 18% to reach 46% in 2020.

All regions show an increase in the proportion of women reporting 'more than' or 'equal' control over tree resources, except for the North-Central region which

shows a decrease from 76% in 2019 to 47% in 2020.

As women gained more access to natural resources, they developed an economic activity which helped increase household income. For example, in Kongoussi (North-Central region), it was noted that women had been given permission by their husbands to work through enterprise groups and that this had contributed to increased levels of household income – specifically through the cultivation of gardens, harvesting forest products, processing and marketing NTFPs.

## The project impacts

### Increased and sustainable income

Over the life of the project, annual average household income increased by 161%, from \$551 in 2017 to \$1,439 in 2020 (Fig. 2). For members of VTEs, this increased even more: their annual average income increased by 186%.



Fig. 2: Increase in average annual household income over the life of the project from 2017 to 2020.

The development of VTEs mostly led by women has had an important role in driving this increase, as the proportion of household income sourced from NTFPs grew significantly (Fig. 3 & 4).

<sup>7</sup> Less than \$1.90 per male adult equivalent per day, calculated using both cash income and consumption.  
<sup>8</sup> Based on an average household size of 7 people



**161%**

increase in average annual income over the project lifetime



**£598,796**

invested in equipment, seeds and tree saplings for village tree enterprise groups



**73%**

of village tree enterprise members are women, making up the vast majority of VTE members



**18%**

increase in women reporting having as much control over trees and their products as their male counterparts



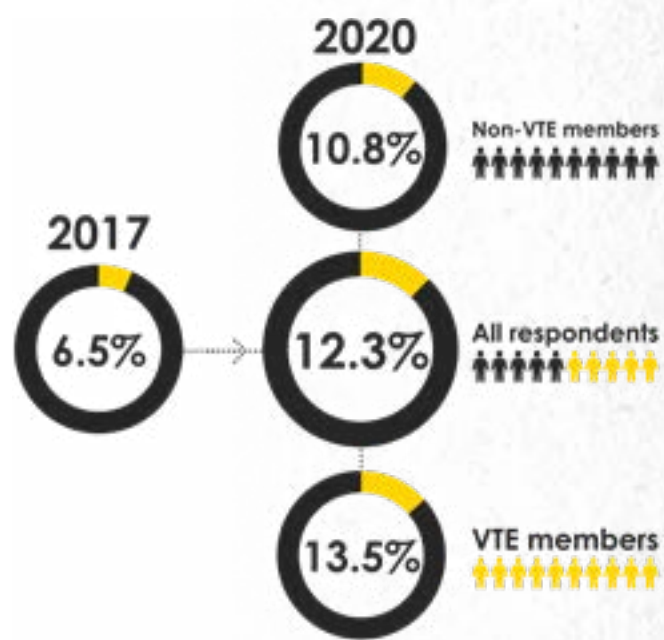


Fig. 3: Infographic showing the increase in the proportion of household income sourced from NTFPs between 2017 and 2020 in three groups: (1) all respondents (VTE and non-VTE members), (2) non-VTE members and (3) VTE members.

Discussions with project participants highlight that the most important factors influencing household income increase was good agricultural harvests and the sale of both raw and transformed NTFPs. In the Sapou and Leo communes (West-Central region), participants stressed how cost effective NTFPs were as they were easily accessible from the wild.



Fig. 4: Increase in average annual household income derived from baobab leaves, honey, shea nuts and moringa leaves between 2017 and 2020 among project participants.

Such a dramatic rise in cash income has significant importance for the make-up of the household economy. This income means households have an opportunity to save, invest financially and have greater adaptive resilience to economic or climate shocks.

## THE IMPACTS MARIE'S STORY

### About Marie Ouédraogo

65 year-old Marie is the president of her local enterprise group, Teel-Taaba de Kaya group. Formed in 2015, the group now has 12 members and focuses on processing balanites and neem seeds into oil.

### Before the project

Marie explained how her group decided which NTFPs to develop their enterprise around. She said, "Given that the area is rich in forest species such as balanites and neem trees, we said to ourselves why not transform their seeds into oil. When we started our operations we found it difficult to find someone who could train us in the production of these oils."

Marie told us how the women experimented to find methods of oil production from the seeds, but without specific tools and training the work was time-consuming and labour-intensive. She said, "The work was very hard because after they had kneaded the neem and balanites powder, the women's fingers were swollen for at least a week and they couldn't even work anymore during that time because of the pain."



Image above: Supermarket in Burkina Faso stocking NTFPs produced by enterprise groups on the project, © 2019 Tree Aid.

Background image: Balanites seeds collected by Marie's enterprise group, ready to be pressed into oil, © 2018 Tree Aid.

**"I now have oil production skills and can even train other women in producing neem and balanites oil."**

Marie Ouédraogo, President of Teel-Taaba de Kaya enterprise group in Burkina Faso

### Since joining the project

"Our group was contacted by Tree Aid, an organisation which has worked with women for a long time. We explained the methods of oil production that we used and the difficulties we encountered." Since then, Marie and her enterprise group have been supported with the tools and training they were lacking for so many years before.

Marie said, "In August 2018, Tree Aid delivered an oil press to us. It only needs two people to operate. By the end of a day, we produce an average of 14.4 litres of oil per day. Without the press, we only produced an average of 8 litres per day, and needed at least five people."

### Looking to the future

Marie has seen first-hand the impact that the project has had on her enterprise group. She said, "I now have oil production skills and can even train other women in producing neem and balanites oil."



## THE IMPACTS

# IMPROVED FOOD SECURITY & NUTRITION

The promotion of NTFP consumption through nutrition gardens and the increased access to resources for women improved nutritional awareness, food security and nutrition. Over the life of the project, there was an 8% reduction in undernourishment<sup>9</sup>, which means that 2,656 households now have sufficient energy intake. There was also a 42% reduction in chronic malnutrition amongst children under the age of 5.

### What the project did

#### Establishing nutrition gardens

The project worked with local groups, mostly women, to establish 212 nutrition gardens, which over 6000 people can benefit from. Nutrition gardens were developed to raise awareness of the dietary value of NTFPs (focusing on baobab and moringa leaves) and to develop knowledge on how to process these products for household consumption and sale. The growing of NTFPs locally made them more accessible and abundant than when only picked in the wild.

### The project impacts

#### Improved nutritional awareness

Through focus group discussions, women reported the project as having helped them improve their knowledge of the nutritional value of different NTFP products. They also identified nutrition gardens of vegetables and tree leaves as a key change in their diet.

This translated into improved food security and a reduction in malnutrition.



Image above: Women in Kongoussi commune, Sanmatenga province in Burkina Faso harvesting moringa from nutrition gardens established through the project. © 2018 Tree Aid.

#### Improved food security

There has been an 8% reduction in the number of households below the calorie line (2,500 Kcal male equivalent/day). When we analyse the source of calories amongst project households, we can see a dramatic increase in the proportion of calories sourced from NTFPs (Table 1).

	2017	2020	Change
Kcal consumed from shea and baobab (average/MAE/day)	30	109	+263%

Table 1. Average Kcal intake sourced from shea and baobab NTFPs per male adult equivalent, per day.

The average calorie intake from shea and baobab more than tripled, rising from 30 Kcal per person/day to 108 Kcal per person/day. If we include all NTFPs consumed at the end of the project, the average calorie intake from NTFPs rises to 299 Kcal per person/day.

This has reduced the dependency of households on agricultural crops for food, and the proportion of households who experienced moderate to severe food shortages decreased from 72% to 62%.



Image above: A selection of dishes, including moringa couscous, produced from NTFPs grown as part of the project. © 2018 Tree Aid.

<sup>9</sup> The undernourishment threshold is 2,500Kcal per male adult equivalent per day.



8%

reduction in the number of households below the calorie line (2,500 Kcal male equivalent/day)



6,000

people benefiting from the 212 nutrition gardens established through the project



263%

increase in the proportion of calories sourced from shea and baobab NTFPs, more than tripling from 30 to 109 Kcal per person per day



42%

reduction in chronic malnutrition amongst children under 5 years of age



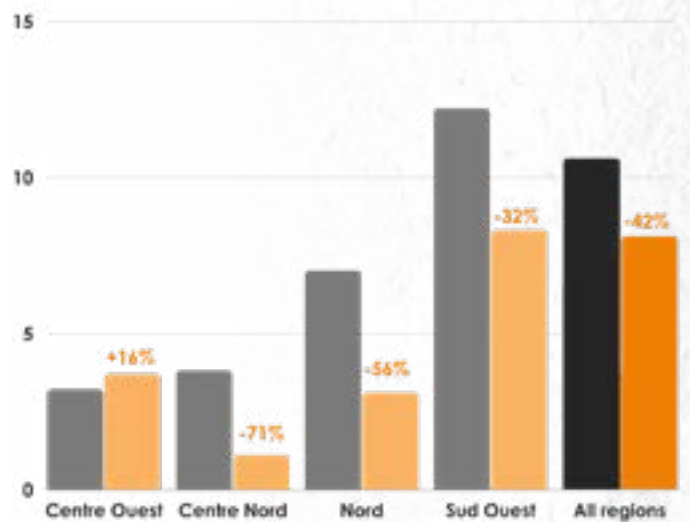


Fig. 5: Change in chronic malnutrition (%) in under 5-year-olds from 2018 to 2020 in each project region and in all regions combined

### Reduced malnutrition

The project collected data on the nutritional status of households and the relative contribution of NTFPs to nutritional needs. The studies focused on children aged 1–59 months and household food consumption.

The data shows a 42% reduction in chronic malnutrition amongst under 5 years (Fig. 5).



Image above: Grinding of moringa leaves to make a condiment added to food to improve the nutritional value, © 2012 Tree Aid.

## THE IMPACTS

# GUINDO'S STORY

### About Guindo Adjaratou

Guindo Adjaratou is a 47-year-old woman living in the North region of Burkina Faso in a village where Tree Aid's project was implemented. She tells us about the changes in her community since the project arrived.

### Before the project

Before the project Guindo Adjaratou told us she faced "challenges relating to employment" and sometimes struggled with "having sufficient means" to support her children and ensure they received a proper education.

### Since joining the project

Guindo Adjaratou told us about how she benefited from the project.

She said, "I decided to get involved with the project following an invitation from the NGO Tree Aid. Our group has been a direct beneficiary of the project and has benefited from study trips, training on a range of subjects and management of the NTFP kiosks and display units."

Since then, Guindo says there has been "noticeable changes and a visible impact."

Firstly, she talked about changes to food and nutritional security in the area. She said, "The difference is clear between before the project and now. The project has enabled us to diversify our sources of food, eat local dishes made out of NTFPs and reduce malnutrition."

She has already seen the incredible impact this has had on her community, "In the community the project has helped with the integration of NTFPs into people's diets and provided more people with access to processed NTFPs thanks to the kiosks and display units. There is a reduction of illnesses linked to malnutrition."

As well as this, Guindo Adjaratou told us how the extra income she now earns from NTFPs has changed her life even more. She said, "My income has increased since I became a beneficiary of the project. The income has been used to improve the living conditions of my family and support my employees with their family's education, health, and wellbeing."

### Looking to the future

Guindo Adjaratou is hopeful that the future will be bright for her family. She said, "Over the next five years, I would like our processing unit equipment to be improved further and I would like our products to be certified."

"My children and I will use our trees to improve our living conditions whilst protecting the environment. I also hope that my children will join enterprise groups and earn their living by continuing the development and marketing of NTFPs."

**"My family has greater awareness of the value of NTFPs, our living conditions have improved and we have greater variety and quality of food available."**

Guindo Adjaratou Ouedraogo, project participant in Ouahigouya village, Burkina Faso



## THE IMPACTS

# LAND RESTORATION & PROTECTION

The project promoted natural resource management (NRM) practices and supported local conventions and management plans to ensure local commitment to these. As a result, over 9,000 hectares across four regions (around the same size as 12,000 football pitches) are now under sustainable management.

## What the project did

### Forest management plans

The project supported the development and agreement of 79 community driven forest management plans with local authorities and forest users. These plans, along with trainings provided by the project to local communities, support natural resource management measures, which can be grouped into three main interventions.

### Forest restoration

Planted forests is a commonly used approach for restoring degraded lands. The project carefully chose native species according to a number of important criteria to ensure the success of restoration initiatives. These include social preference, biodiversity conservation &

soil protection and improvement. The latter is particularly important in the project landscapes with specific environmental risks, such as soil erosion. It is important to select species that are well adapted to such limiting conditions and have the capacity to reduce risks. Additionally, promoting biodiversity is likely to provide a wide range of options for coping with environmental change, thereby increasing resilience.

### Assisted natural regeneration (ANR)

ANR is the technique most widely used in this project to protect communal lands that face severe degradation by enclosing them. These community-managed enclosures are protected from activities like woodcutting, grazing by domestic animals, and other agricultural activities which no longer take place on these lands. This accelerates natural processes of forest regeneration with the aim of re-establishing healthy, resilient and productive ecosystems.

### Farmer managed natural regeneration (FMNR)

FMNR is similar to ANR but is applied to farmland areas that have seen a progressive decrease in agricultural productivity and tree cover. By including more trees on the farm, alongside crops and livestock, FMNR helps restore soil fertility while providing many benefits on the farm: they produce continuous harvests of wood for fuel & building materials, food and fodder while providing protection for crops and livestock.



Image above: Women planting trees as part of the project, © 2018 Tree Aid.

## The project impacts

### Improved sustainable land management

9,919 hectares across four regions (around 12,000 football pitches) now under sustainable management.

### Increased community adoption of sustainable land management practices

For example, the number of households reporting practicing ANR on their land has increased from 10% in 2017 to 17% in 2020 (Fig. 6) while the number of households reporting practicing reforestation on their land rose from 8% in 2017 to 22% in 2020 (Fig. 6).

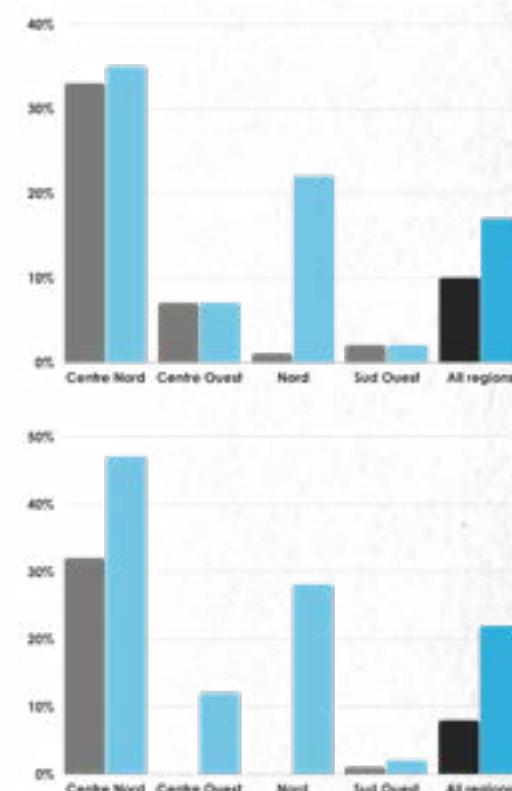


Fig. 6: The change in the number of households (%) reporting practicing ANR (top graph) and reforestation (bottom graph) on their land between 2017 and 2020.

### Increased tree cover

Sustainable land management practices have helped increase tree cover. For example, there has been a 24% increase in large trees across project sites, equating to an average increase of 54 large trees<sup>10</sup> per hectare, or 442,930 new large trees across all project sites.

<sup>10</sup> Large tree have a circumference greater than 15cm at a height of 1.3 metres



9,919

hectares of land across four regions now under sustainable management, equivalent to around 12,000 football pitches



17%

of households now report practicing ANR on their land compared to 10% in 2017



22%

of households now report practicing reforestation on their land compared to 8% in 2017



24%

increase in large trees across the project sites, equating to an estimated 442,930 new trees across all project sites



## THE FUTURE WHAT'S NEXT

The NTFP 2 project in rural Burkina Faso has delivered significant impacts. Working with local communities, it restored and protected land, contributed to increasing incomes and reducing poverty, as well as improving food security and nutrition.

These impacts were delivered through the promotion of natural resource management practices, the development of enterprises around non-timber forest products, and the growing of nutrition gardens.

A follow up project aiming to scale up this approach in Burkina Faso started in January 2021 and will run until December 2024, funded by the Swiss and Dutch Agencies for Development Cooperation. It will continue to support the development of the non-timber forest products sector through the promotion of consumption via nutrition gardens, enterprise development and the facilitation of favorable regulatory frameworks, reaching a much larger group of project participants, including internally displaced people as a result of a worsening security context.

### With thanks to:

This project was made possible with thanks to funding from the Swiss Government.



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Image left: A woman with her baby on her back, harvesting moringa leaves from a project nutrition garden in Sapouy, Burkina Faso, © 2021 Tree Aid.

## ANNEX

# IMPACT MONITORING & EVALUATION METHODOLOGY

The project impacts have been measured through the following methods:

### Socioeconomic impact:

- The Rural Household Multi-Indicator Survey (RHoMIS), a well-established household survey designed for farming communities living in poverty and food insecurity that gathers data on agricultural practices, livelihoods, food security and dietary diversity, as well as gender roles. For this project, a baseline survey was conducted in December 2017 involving 1,068 randomly selected households from the project communities. An endline survey was conducted with 275 households in October 2020, sampled directly from those surveyed at baseline. The size of the endline sample was calculated to support results with 90% confidence with a 5% margin of error.
- Focus group discussions held in 2020 in 10 communes in random groups of 6–12 project participants in 'all women' groups, 'all men' groups and 'mixed' groups. This participatory method allows participants to voice their experience and point of view with their peers.
- A baseline & endline assessment of local enterprise groups<sup>11</sup>.

Image right: Tree Aid project staff using tablet to collect data through the Rural Household Multi-Indicator Survey (RHoMIS), © 2017 Tree Aid.

<sup>11</sup> Data was collected from 179 organisations at baseline and 99 organisations at endline, with 73 of these organisations being directly comparable between the two.

### Ecological impact:

Ecological impact was evaluated using 22 permanent monitoring plots on 13 sites of planting and regeneration which were established in 2018 and revisited in 2021.

### Nutritional impact:

Nutritional impact was evaluated through an independent nutrition survey in 2018 and 2020 using SMART methodology. This collected data on household dietary diversity and the prevalence of chronic malnutrition among children aged 0 - 5 years.







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Background image: Women harvesting moringa leaves from a nutrition garden.