Restoring Koulikoro Progress Report April 2021

Project Recap

The Koulikoro Region in south-western Mali, is home to more than 1.5 million people, with the majority being directly dependant on the land for their livelihoods. Over exploitation of resources and land clearing for agriculture, fuelwood and bushfires has caused severe loss of forest cover in the region, which local people depend upon to survive. Koulikoro also receives a significant number of migrants, causing rapid increases in the population, which is putting huge pressures on natural resources.

Support is urgently needed to help local communities to change their practices and adopt sustainable forest use in order to preserve and restore forest biodiversity.

PROJECT INFORMATION AND TARGETS

Timescale: March 2019 to February 2022

Location: 21 villages in the Koulikoro Region of Mali

Project Partners: ADAF/Gallé

Farmers Trained to Regenerate Trees: 300

Area Restored: 2,000 hectares

Number of Trees Regenerated: 140,000

Number of Trees Planted: 14,000*

Total Budget: €211,749

**We expect a 75% survival rate of the planted trees so we are targeting 10,000 trees remaining at the end of the project.*

Germinating moringa seedling in Bouanidjè

Tree Aid began a project in 2019, which aims to increase tree cover and promote the sustainable use of tree resources in the Koulikoro Region of Mali. The project aims to reverse the devastating effects of natural resource degradation and deforestation in this area. In doing so, we will strengthen the resilience of rural families to climate shocks, while increasing food security and contributing to poverty alleviation. We also aim to increase the productivity of farmland for 200 rural families, through improved management of the natural resources they rely on.

Project Progress

The project started in March 2019 and will finish in February 2022. This report details progress made between October and March 2020.

Update on security situation and COVID-19 in Mali

Following the coup d'état in August 2020 in Mali, an interim government was put in place for an 18-month political transition period to civilian rule. Presidential and parliamentary elections have now been set for February 2022.

Measures are still in place in Mali in order to help stop the spread of coronavirus. A nationwide state of emergency was declared on 19th December 2020. Amongst the latest measures, gatherings are limited to a maximum of 50 people, festivals and cultural performances have been prohibited, and it is still mandatory to wear a facemask in public spaces. To date there have been 13,815 confirmed case, 481 deaths and 8,467 recovered, and cases have been increasing over recent months. The project team continue to monitor the situation closely and follow all guidance in place, ensuring the safety of staff and beneficiaries as the priority at all times.

Objective 1: Increase forest cover

In order to re-green the degraded land in Koulikoro, we are aiming for 150,000 trees to be established in the area through tree planting and assisted natural regeneration.

We are aiming for 10,000 trees of 'service wood' and to date from the start of the project, we have planted 17,695 service wood seedlings. During October to December, the planted trees were monitored, indicating an establishment rate of 85%. The seedlings that had died were mainly found in the set-aside areas and in the collective plantations. Advice on the maintenance of the seedlings and protection against livestock was provided to the village management committees, who have responsiility for permanently monitoring the condition of trees in all the villages.

Further monitoring took place between January and March, which indicated an establishment rate of 64% in Guihoyo and 51% in Ouolodo. Due to the lower establishment rate as a result of roaming animals, pens have been set up around the planted areas to prevent further damage and loss of seedlings. With the pens now in place we are confident we can meet the target of 10,000 trees planted, with additional planting also taking place in year 3. The GPS coordinates of certain reforested areas were also taken.

Table 1 Breakdown of the service wood tree seedlings planted

Planted species	Year 1			Year 2			Total
	Collective planting	Individual planting	Total	Collective planting	Individual planting	Total	
Kaya senegalensis (cail-cedra)	1,315	0	1,315	2,057	2,283	4,340	5,655
Dakan	0	300	300	700		700	1,000
Eucalyptus	1,000	0	1,000	4,000	1,053	5,053	6,053
Balanzan (acacia albida)	0	80	80	1,840	400	2,240	2,320
Yiriba	0	50	50	1,811	300	2,111	2,161
Soumayayirini	0	16	16	0	0	0	16
Dougoura	150	0	150	0	0	0	150
Kontaba	340	0	340	0	0	0	340
Total	**2,805**	**446**	**3,251**	**10,408**	**4,036**	**14,444**	**17,695**

The project is also aiming to plant 4,000 trees of economic value, and from the start of the project we have planted 8,278 of these seedlings – 5,386 in Oulodo and 2,892 in Guihoyo. Tracking of the planted seedlings took place over recent months and the establishment rate between October and December was found to be 95%. These seedlings have been well maintained as they as most have been planted in indivdiuals market garden sites.

Table 2 Breakdown of the economic tree seedlings planted

Planted species	Year 1			Year 2			Total
	Collective planting	Individual planting	Total	Collective planting	Individual planting	Total	
Moringa	0	0	0	0	837	837	837
tamarind	0	250	250	0	450	450	700
baobab	0	1,148	1,148	0		0	1,148
Cinnamon apple	0	0	0	0	708	708	708
Nere	0	605	605	0		0	605
Zaban	0	0	0	0	250	250	250
Balanites	0	0	0	0	458	458	458
Gomier	0	0	0	0	750	750	750
Mango grafted	0	24	24	0	55	55	79
Simple mango	0	14	14	0	1,183	1,183	1,197
Zizyphus	0	0	0	0		0	0
cashew	0	0	0	0	519	519	519
guava	0	0	0	0	677	677	677
Deutarium	0	350	350	0	0	0	350
Total	**0**	**2,391**	**2 391**	**0**	**5,887**	**5,887**	**8,278**

The project is organising 'Best Assisted Natural Regeneration (ANR) field' competitions in order to encourage farmers to adopt ANR on their land. The second round of this competition took place in March. Over recent months 42 fields (20 in Guihoyo and 22 in Ouolodo) - 2 fields per village - were ranked as the best ANR fields by communal commissions.

Protection of trees

The awards were presented during ceremonies organised in Guihoyo and Ouolodo in the presence of communal authorities, water and forestry department officials, traditional chiefs, recipients, members of the management committees, as well as the Project Coordinator and his assistant.

Under the leadership of the Mayors, prizes were given to the 42 winners, which included 8 women. 21 wheelbarrows were given to 21 first prize winners, while the 21 second prize winners received a set of equipment consisting of spades, picks and secateurs. All 21 women (8 in Guihoyo and 13 in Ouolodo) who participated in the competition received 3 metres of culturally significant cloth. Media coverage of the event was provided by Radio Beledougou of Kolokani.

Objective 2: Capacity building in natural resource management

The project is aiming to restore 600 hectares of severely degraded land through soil and water conservation techniques and land management practices. All targets under this objective have already been met or exceeded including 1,041.28 hectares of degraded land restored.

Objective 3: Reducing human pressures on the land

The project aims to reduce human pressures on the land through fuel-efficient stoves, in order to reduce the amount of firewood needed for cooking, alongside supporting communities to form nutrition gardens to grow food to eat and sell.

The project aims to install four nutrition gardens planted with nutrient rich moringa and baobab seedlings in order to improve dietary diversity, increase incomes for women who can sell surplus produce to earn additional income. Plant cover in the area will also increase through the gardens, as the seedlings are transplanted out in later years. Two gardens were set up in March 2020 in Bouanidjè and Sirababougou villages (Guihoyo Commune). The additional two were set up in recent months in N'Djibougou (Nossombougou Commune) and N'tjila (Ouolodo Commune). The plots where the gardens were set-up are subject to agreements between the village authorities and the women's groups in order to ensure access.

Nutrition garden being established

The four gardens have been provided with moringa and baobab seeds, including 48 sachets of baobab and 60 sachets of moringa seeds. 12 packets of baobab and 15 bags of moringa were supplied to each village. The women of Bouanidjè quickly made use of their nutrition garden by sowing it with the supplied seeds. The plants are currently germinating.

203 women from the villages of N'Djibougou, N'Tjila, Sirababougou and Bouanidjè participated in training in how to operate and manage the nutrition gardens. 98 women attended in the Commune of Ouolodo and 105 in Guihoyo.

During 8 days of training the women learnt the following skills:

- The layout of the plots (3m long by 1.5 m wide)
- Sowing and maintenance
- Processing
- The use of the leaves for food and marketing
- Transplanting the plants after two years, in the village and surroundings
- Calculating profits after deducting all financial and material expenses

Nutrition garden with moringa and boabab

There have been issues with insects damaging the growing baobab plants. Our local partner ADAF/Galle recommended the use of a solution of soap, tobacco and neem to biologically control the insects.

Out of the four gardens installed and provided with seeds, only the Bouanidjè garden is currently in operation with moringa and baobab plants in full growth. The first moringa leaves have been picked and shared among all the women of the village, contributing to improve their diets. In the second harvest, the women farmers were able to collect around 100 kilos of moringa leaves. The women use the leaves in various ways including porridge dishes enriched with moringa leaves, omelettes made with crushed moringa leaves and sauces for couscous.

The gardens in Sirababougou and N'Tjila have faced difficulties due to their wells drying up as they weren't deep enough. Despite the efforts of the women who fetch water from distant wells in order to water the gardens, they have not yet been able to to get a harvest. The garden in N'Djibougou also hasn't yet started its activities due to its lack of water and even though the garden in Bouanidjè has been able to produce moringa and baobab, it has also faced problems due to its supply of water drying up during the dry season. Therefore, the

Successful baobab and moringa leaf picking in Bouanidjè

decision was taken to install a well for each of the four gardens, in order to ensure the viability and productivity of the gardens in the long-term.

In April, the process began of installing the wells, which needed to take place at the very end of the dry season, when the water table was at its lowest so the team know how deep to dig. This took place outside of the current reporting period, so full details will be provided in the next report.

Cascade training for stove construction

The project is also promoting fuel-efficient stoves in order to reduce the amount of firewood required by women. Training on the construction of these stoves was organised. In total, 46 women and 13 men took part in the training, including 29 people in Guihoyo (20 women and 9 men) and 30 people in Ouolodo (26 women and 4 men). The men who attended are members of women's groups (as is the case in Bambara society). These men will accompany the women in the 'cascade' training (finding soil, kneading, fixing nuts, etc.), in which the trained women will go onto train their peers in their respective villages. Through this cascade training 1,000 women will learn how to construct a stove.

Fuel-efficient stove

A total of 21 small moulds, 21 medium moulds and 2 large moulds were made and delivered to the villages. All 21 project villages were provided with a small and medium mould to help with the construction of the stoves with the large moulds going to the communes of Ouolodo and Nonkon as the other communes already had large moulds (donated by another partner).

The cascade training took place in six villages and the 46 women were supported by the project facilitators to effectively pass on their skills, promoting

understanding and adoption of the stoves. 'Talk and debate' sessions were held by the facilitators highlighting the advantages and usefulness of improved stoves in each village. 520 women and six men participated in the cascade training across the six villages (Djinijabougou, Trakenien, Siranidji, Djibougou, Djecouma and Ouolodo). The remaining villages will carry out their training in April 2021.

Summary of Progress to Date

Number of trees regenerated: 162,450
Number of hectares of land restored: 1,041
Number of trees planted of economic value: 8,278
Number of trees planted for service wood: 17,695
Number of nutritious gardens set up: 4

M&E Update:

Surveys took place at the end of the second year in order to monitor progress and triangulate data collected in our field reports. The project's final evaluation will further verify the data collected. Key highlights from the year two surveys include:

- The project is aiming for 90% of the farmers trained to have adopted at least two agro-ecological practices on their farmland by the end of the project. Surveys at the end of the second year indicated increases in the use of ANR (+7% from baseline), firebreaks (+27% from baseline) stone bunding (+6.2% from baseline), brushwood check-dams (+42.1% from baseline) and gabions (+23.5% from baseline). In addition, a substantial decrease (44.7% from baseline) in the number of households reporting no use of gully control techniques.
- Surveys around the amount of fuel wood use found that households using a fuel-efficient stove consume an average of 39% less fuel wood than those using a traditional stove.
- Surveys have also highlighted possible confusion amongst beneficiary farmers during the baseline survey which took place at the start of the project, where people reported using techniques but didn't actually know what it involves. These later surveys have taken place after farmers have received the training and therefore fully understand what each technique is. This confusion has led to a perceived reduction in the adoption of skills. We aim to invest more in the final year of the project in order to address this, including increased investments in awareness raising and follow-up to ensure high adoption of the techniques.
- The project team have faced challenges monitoring the ANR and soil and water conservation sites, as these sites are on individuals land rather than communal land. This means it requires more time and resources to monitor the sites. We aim to invest more in the final year of the project in order to address these challenges, through more investments in staff for M&E.