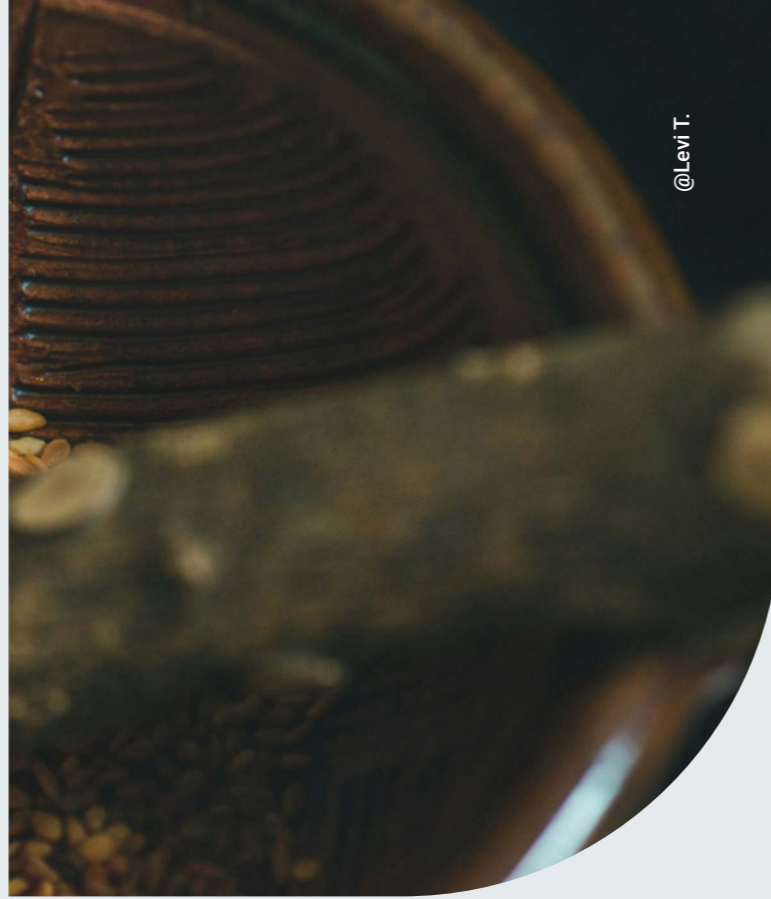


## Case Study

An agroforestry model  
to manage social and  
environmental risks in  
Northern Uganda

March 2024



@Levi T.

Sesame seeds

## Summary

Lush and its subsidiary Alupalum, an agricultural development organisation engaged in reforestation and tree planting initiatives, have been successfully operating an agroforestry-based Partner Farmer Programme in Northern Uganda. Under this programme, Alupalum provides technical assistance to farmers for implementing agroforestry activities, and purchase the harvest at fair prices. This agroforestry model aims to restore the environment, including soil and biodiversity, while also sequestering carbon and enhancing agricultural productivity. Consequently, it improves livelihoods, food security, and acts as a deterrent to further environmental degradation, such as agricultural encroachment into forests.

Partnerships for Forests (P4F) has supported the programme's expansion and the inclusion of additional commodities, such as cocoa and vanilla, along with the implementation of a Payments for Ecosystem Services (PES) carbon project. Sustainable land use and agricultural practices are monitored through Collaborative Forest Management (CFM) groups, which enforce monitoring and reporting of deforestation and mitigate risks of encroachment into protected forest reserves. With P4F's assistance, Alupalum has strengthened its business plan, incorporated cocoa, vanilla, and PES as additional production commodities and income streams, expanded the network of supplying farmers from 150 to 829, established a community-based governance system, and secured access to markets for the new commodities.

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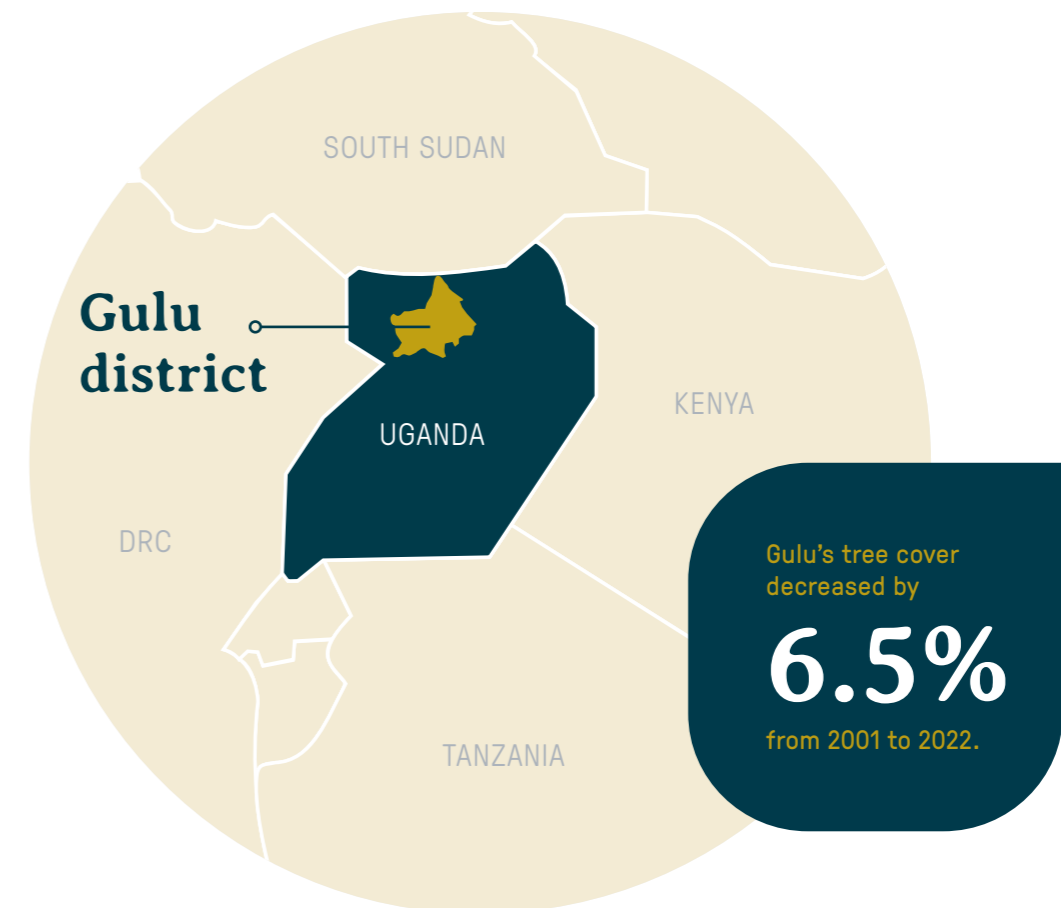


## Context

Agriculture plays a pivotal role in Uganda's economy, contributing significantly to the nation's GDP, exports, and employment. However, the agricultural sector in Northern Uganda, particularly in Gulu, grapples with numerous social and environmental challenges. Unpredictable rainfall patterns and prolonged dry spells adversely impact agricultural productivity, often resulting in crop failure, diminished yields, and food insecurity. The region's soil is also susceptible to erosion, degradation, brush fires, and nutrient depletion due to deforestation, poor agricultural practices, and overgrazing. According to Global Forest Watch, Gulu's tree cover decreased by 6.5% from 2001 to 2022. Additionally, limited access to modern farming technologies exacerbates low agricultural productivity, perpetuating social and economic difficulties and leading to further environmental degradation, such as deforestation through forest encroachment. Conflict and displacement

have also significantly hindered agricultural development. The Lord's Resistance Army (LRA) insurgency from 1986 to 2008 displaced over a million people, destroyed infrastructure, and disrupted agricultural activities, exacerbating food insecurity and reducing agricultural output.

A different approach to agriculture is needed to address existing environmental and social challenges and prevent further deterioration through a move to more unsustainable practices. Agroforestry has the potential to create more diverse, productive, profitable, healthy, and sustainable land-use systems. It involves cultivating combinations of trees alongside or among crops or pastures, thereby enhancing farm profitability, mitigating soil erosion, fostering wildlife habitats, managing animal waste, increasing biodiversity, and enhancing soil structure and carbon sequestration.





# Alumalum and Lush's agroforestry model

Lush, a cosmetics company committed to ethical sourcing and sustainable investments in agribusinesses, integrated Alumalum, an agricultural development organisation focused on reforestation and tree planting initiatives, as a subsidiary in 2013. The collaboration between Lush and Alumalum aims to enhance agricultural productivity, improve farmers' livelihoods, and promote environmental conservation through a Partner Farmer Programme. Alumalum provides technical assistance to partner farmers, encouraging the cultivation of perennial crops and native trees on both Alumalum's and the farmers' lands. Alumalum then acts as a buyer for sesame and moringa, to process into oils for the cosmetics industry.

In its first year in 2016, 150 farmers across Gulu enrolled in Alumalum's Partner Farmer Programme to supply moringa and sesame to Lush. To support these activities, Alumalum acquired land for demonstration plots for a mixed cocoa agroforestry model and constructed a solar-powered processing plant to add value to moringa and sesame by processing raw seeds into oils. In 2018, the partnership and the Partner Farmer Programme expanded beyond trading sesame and moringa to launching an agroforestry initiative aimed at transitioning farmers from subsistence farming focused on annual crops to diversified income streams and more sustainable land management practices. To this end, Alumalum provides training on regenerative farming through agroforestry practices, raises awareness about the benefits of agroforestry, and supplies farmers with seedlings, produced through these agroforestry systems.

The approach has been successful and so from 2020-2024, Partnerships for Forests (P4F) partnered with Lush to improve and scale-up Alumalum's agroforestry business plan, expand the Farmers Partner Programme and facilitate access to additional markets for additional commodities.



Cocoa Pods



FIGURE 1 | Alumalum and Lush's agroforestry model





# Strengthening and scaling the agroforestry model

With support from P4F, Alupalum strengthened its business plan by including cocoa, vanilla and PES as additional commodities. The network of supplying farmers expanded significantly from 150 to 829 farmers, and a community-based governance structure was established.

Prior to P4F's support, Alupalum had piloted an agroforestry model, providing shade trees, seedlings, and vines from its demonstration plots for cultivating not only sesame and moringa but also cocoa and vanilla.

P4F then supported Alupalum in conducting an agronomy study to evaluate the viability of its existing agroforestry model and to offer technical recommendations for enhancing the productivity of cocoa and vanilla. The revised approach involves planting a diverse mix of indigenous shade and fruit trees, along with common agroforestry species like Musizi, Beyo and African Mahogany (Tido), as well as food crops and shrubs over time to boost yields compared to

monocultures. Additionally, a processing study was conducted to evaluate market access, the political environment, quality standards, certification requirements, and the processing framework for the new commodities. Under the agroforestry model, each crop will be harvested and sold at different times to ensure diversified revenue streams for farmers.

On the supply side, the project expanded the agroforestry initiative from 150 to 829 farmers. Newly enrolled farmers received training on good agronomic practices, access to agricultural inputs such as tree planting materials, and assistance in accessing markets for oilseed crops such as sesame, sunflower, moringa, and progressively, cocoa. The support also enhanced the capacity of Alupalum's field staff, farm leaders, and management team with comprehensive knowledge of good agronomic practices, as well as harvest and post-harvest handling techniques for cocoa.



Agroforestry plot with cocoa, papaya, plantain and timber

Practical training for Alupalum staff



# Managing environmental and social risks through agroforestry

Alupalum's agroforestry project effectively manages both on-farm and off-farm environmental risks to agriculture, as well as agricultural risks to the environment and social risks within its operational context. On-farm risk management strategies include enhancing soil health through farmer education on organic fertiliser usage and adopting good agronomic practices, alongside providing tree and crop seedlings for intercropping practices. These efforts create favourable conditions for crops, leading to increased productivity. The off-farm benefits include mitigating the risk of deforestation and reducing pressure on natural forests for timber and charcoal production through the integration of trees into farmlands. Moreover, initiatives such as tree planting and farmer education on establishing tree nurseries contribute to reforestation efforts on degraded lands.

In addition to engaging with the original network of farmers, the project manages environmental and social risks by collaborating with Collaborative Forest Management (CFM) groups. Alupalum created CFMs which play a vital role in managing and benefiting from Central Forest Reserves. CFMs are tasked with protecting and patrolling forest reserves, monitoring and reporting deforestation activities to relevant NFA authorities, engaging in reforestation activities, and raising awareness about agroforestry. In return, CFM members are permitted to engage in activities within the forest reserves, such as beekeeping, collecting non-timber forest products, and establishing tree plantations in degraded areas.

Through its partnership with CFMs, Alupalum gains access to a broad network of additional farmers to expand its Partner Farmer Network, while also contributing to the mutual commitment between CFMs and the NFA to restore degraded land. In addition to the rights and obligations outlined between CFMs and the NFA, the Memorandum of Understanding signed between Alupalum and 20 CFMs ensure that participating farmers receive technical capacity-building



Community engagement and awareness creation event

training on harvesting, intercropping, and planting. Furthermore, farmers have access to tree seedlings for moringa, cocoa, and shade trees, ensuring adherence to best practices in managing environmental risks and enhancing yields, leading to increased income and reduced food insecurity.

These MOUs also mitigate social risks by ensuring fair prices for crops through Alupalum and by enhancing food and income security through improved yields and additional income streams. Participating farmers are guaranteed access to markets for cocoa and moringa, and they engage in a PES carbon project, currently subsidised by Lush. To benefit from these payments, farmers are required to protect their land using agroforestry methods and maintain forest cover for 25 years. Alupalum also collaborates with CFMs to promote greater involvement of women as lead farmers and advocates for female land ownership within communities.



**“We started the project post-LRA revolution when people who were in Internally Displaced People camps eventually started going back to their original homes. Our question was “How do we plant more trees while providing farmers with an income? So, we had the idea of enrolling as many farmers as possible, give them planting materials, give them the knowledge that they need and give them the support that they need to succeed. With the partnership of P4F we’ve been able to achieve what would have been a 7 years’ target within three and a half years which is a remarkable thing to recognise.**

**The community governance model opened the eyes of the community members to find people who are doing deforestation for charcoal business, and they now put locks and charge penalties. The penalties are used to purchase seedlings. The model also helped us engage with communities in a different age bracket.”**

Anthony Akera, Operations Manager AluAlum



## Integrating a carbon Payment for Ecosystem Services scheme within the agroforestry model

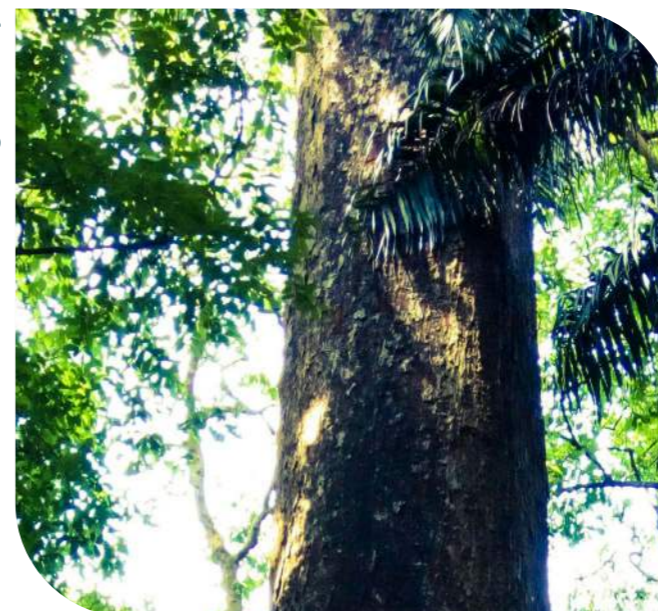
P4F supported the development as an additional income source for farmers. Previously, farmers received PES from Lush for planting and maintaining tree cover. Further activities in issuance of carbon credit are underway depending on validation of results. During the P4F period of support, additional activities included conducting a carbon feasibility study, developing a carbon cashflow model, establishing the required legal governance structure, and providing training to 11 members of AluAlum’s management team on carbon project management. These efforts were aimed at establishing a solid timeline for meeting the thresholds required for third-party verified carbon credits.

The PES scheme operates by collecting farmer data and developing a farmer database, a critical component for carbon verification. Consequently, AluAlum now possesses records of the GPS waypoints of each farmer in the partner farmer network, detailing the distribution of tree seedlings, field assessments from field officers, and PES payments made for trees that have survived on their land.

This data is scheduled to be transferred onto a fully integrated digital platform during 2024.

AluAlum has engaged with a verifier and issuer, Open Forest Protocol, to develop a pathway to guaranteed income for current and new smallholder households based on the carbon sequestration of trees in the ground on their land plots. This digital monitoring system will enable the tracking and affirmation of tree survival through remote sensing and field collection data, leading to the issuance of carbon credits to AluAlum’s partner farmers within 12-18 months of registration under the platform. Additionally, the verification processes establish a regular monitoring system (annual and semi-annual cycles) for the environmental benefits of the agroforestry system. This carbon derived income will provide farmers in CFMs with access to the finance necessary to sustain best practices under the agroforestry model and maintain land regeneration near and around the buffers of the Central Forest Reserves.

@Keith Kasaija





# Environmental and social impact to date



Farmer receives PES payment

During the project period, the implementation of the agroforestry model has had a significant impact on the production of sesame and moringa seeds, as well as cocoa beans. The total revenue generated from this amounted to approximately £63,000 for sesame oil and £54,000 for moringa oil. Additionally, 15 farmers received revenue totalling £5,600 from the sale of cocoa beans. In addition to the increased production revenue, farmers also received PES payments totalling £49,425.

Moreover, 909 hectares of farmers' land have been brought under sustainable land management practices, including:



Implementation of agroforestry practices, resulting in the planting of 212,317 hardwoods; 172,576 fast growing and 50,530 cocoa seedlings by Dec 2023. Expected to distribute 100,000 seedlings for next planting season;



Soil and water management techniques such as mulching and the implementation of resilience designs like smiling bumps, minimum tillage practices through ring weeding of trees planted, and planting cover crops, preferably legumes like beans, groundnuts, and soybeans;



Adoption of organic agriculture practices that discourage the use of chemicals in agricultural production.

# Long-term success of the environmental and social management system

The long-term strategy of the community-driven management system relies on providing high-quality technical support, field-level monitoring, a dedicated administrative management team, and guaranteed access to ethical markets that deliver competitive prices. Additionally, farmers are incentivised in the long term to adhere to the system via MOUs and future carbon credits based on tree survival and emissions removals coming from the softwood and hardwood trees. Importantly, farmers widely accept the combined environmental and social management system because it addresses immediate household needs by incorporating food intercropping in the initial years of the agroforestry system set-up. The model also includes tree species that address limited household demand for firewood while maintaining hardwood timber trees and provides training on good agronomic practices that reduce exposure to climatic hazards.

Management of environmental and social risks is at the forefront of Lush's sourcing policy as an ethical buyer of raw materials. Lush requires all suppliers to comply with and adhere to its environmental and social commitments. Some of the environmental requirements include the usage of organic fertilisers, protection of the environment and biodiversity, no destruction of natural habitats, natural pest control, and no use of synthetic pesticides. Thus, the continued application of Alupalum's agroforestry model is critical to farmers to allow them to continue as a supplier of raw materials to Lush.

Looking ahead, Alupalum will continue to provide access to technical and financial resources for farmers to maintain and/or intensify agroforestry

**“Before the project, I was only concentrating on short-term seasonal crops, but I’ve realised the effects of weather and started coming for these perennial crops. As far as livelihoods are concerned, for my family, I want to ensure that they are food-secured and also our income is able to flow, and my kids are able to get education. It has created interest from the nearby farmers, even other districts, to come and learn from my farm.”**

Simon Komakech, Partner Farmer

practices on their lands. While Alupalum is committed to continuing to off-take the raw materials produced under the agroforestry model. Additionally, Lush is committed to financing the carbon project as part of Alupalum's agroforestry model using the Open Forest Protocol platform. This will ensure the validity of the carbon project is maintained and verified for long-term financial incentivisation and traceability of forest cover for Central Forest Reserves and farms near their buffer zones. The PES scheme will further improve farmer livelihoods by providing additional income. Interested farmers have been added to a prospectus list under the initiative to create a pool for the expansion of the agroforestry system. These farmers are either existing farmers in the Partner Farmer Network or new farmers that have expressed the desire to work with Alupalum to adopt agroforestry and insetting of trees on their land.

This case study profiles of how famers, Alupalum and Lush have worked together in designing and delivering an innovative and expanding agroforestry production system in the challenging environment of Northern Uganda. Enhanced environmental and social monitoring processes, systems and capacity are at the heart of helping to make this a sustainable and potentially transformative agricultural and natural resource management system.



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