grow grounds

Non-Technical Summary

Gold Standard for the Global Goals (GS4GG) VPA

"Syntropic Agroforestry Coffee Project in Nyeri County, Kenya"

Context

Forests are of great importance for biodiversity, climate, healthy soils, retention of water and food production. However, according to the Global Forest Watch, between 2001 to 2023, Kenya lost 386 kha of relative tree cover, equivalent to a 12% decrease since 2000. Out of this Nyeri lost 6.34 kha of tree cover, equivalent to a 3.7% decrease in tree cover and 3.82 Mt of CO_2e emissions[1]. Deforestation linked to agriculture is a major driver of climate change. Agriculture is the main driver of forest loss in Kenya due to high demand for land for livestock keeping, and food crops (maize, pulses, beans, and vegetables). These products are responsible for 80%[2] of deforestation and are mostly consumed domestically. Estimated tree cover loss from commodity-driven deforestation is typically large-scale deforestation linked primarily to commercial agricultural expansion. This type of tree cover loss usually represents permanent deforestation[3].

The economic impact on society is enormous. In terms of coffee, drier and hotter conditions are jeopardizing coffee production in Nyeri County and Kenya in general, with climate change and deforestation being the main causes. In particular, climate change has significantly impacted coffee production by causing erratic rainfall patterns, rising temperatures, and increased susceptibility to pests and diseases, leading to lower coffee yields and potential decline in the quality of the coffee beans.

Nyeri County is a good region for coffee farming because of its rich volcanic soil and temperate climate[4]. Coffee is mostly grown under full sun in monoculture plantations and on smallholder farms. Farmers report that coffee plantations are more and more exposed to pest and disease attacks (such as Coffee Berry Disease (CBD), Coffee Leaf Rust (CLR), Bacterial Blight of Coffee (BBC), Fusarium bark disease (FBD), Fusarium root disease (FRD)). In response to this, farmers seek to increase the use of external inputs in the form of pesticides and fungicides along with the use of chemical fertilizers. The use of glyphosate is very common, one application destroying 80% of the microbiological life.[5] Almost all of the producers complain about decreasing coffee productivity over the last few years. This is where the proposed project

[1] Kenya Deforestation Rates & Statistics | GFW

[2] https://news.mongabay.com/2012/09/agriculture-causes-80-of-tropical-deforestation/

[3] https://ourworldindata.org/grapher/commodity-driven-deforestation?tab=chart&country=~KEN

[4] https://coffeaalchemy.com/kenya-nyeri-coffee-beans/

[5] According information provided by Soil Food Web.

activity “Syntropic Agroforestry Coffee Project in Nyeri County, Kenya” comes in in order to change that situation.

Objectives, applied approach and location of the project

The “Syntropic Agroforestry Coffee Project in Nyeri County, Kenya” is the first voluntary project activity in Kenya targeting a project area of approximately 50 hectares to be included under the broader framework of the Programme of Activities (PoA) “Global Syntropic Agroforestry Program”. (GS13053). The PoA establishes the guidelines for any project that will make part of the PoA. Other VPAs are expected to be implemented in Kenya within Nyeri county under the PoA. This first voluntary project activity (called real case VPA) as well as several possible follow up projects (called regular VPAs) make part of a grouped local stakeholder consultation (LSC)[6].

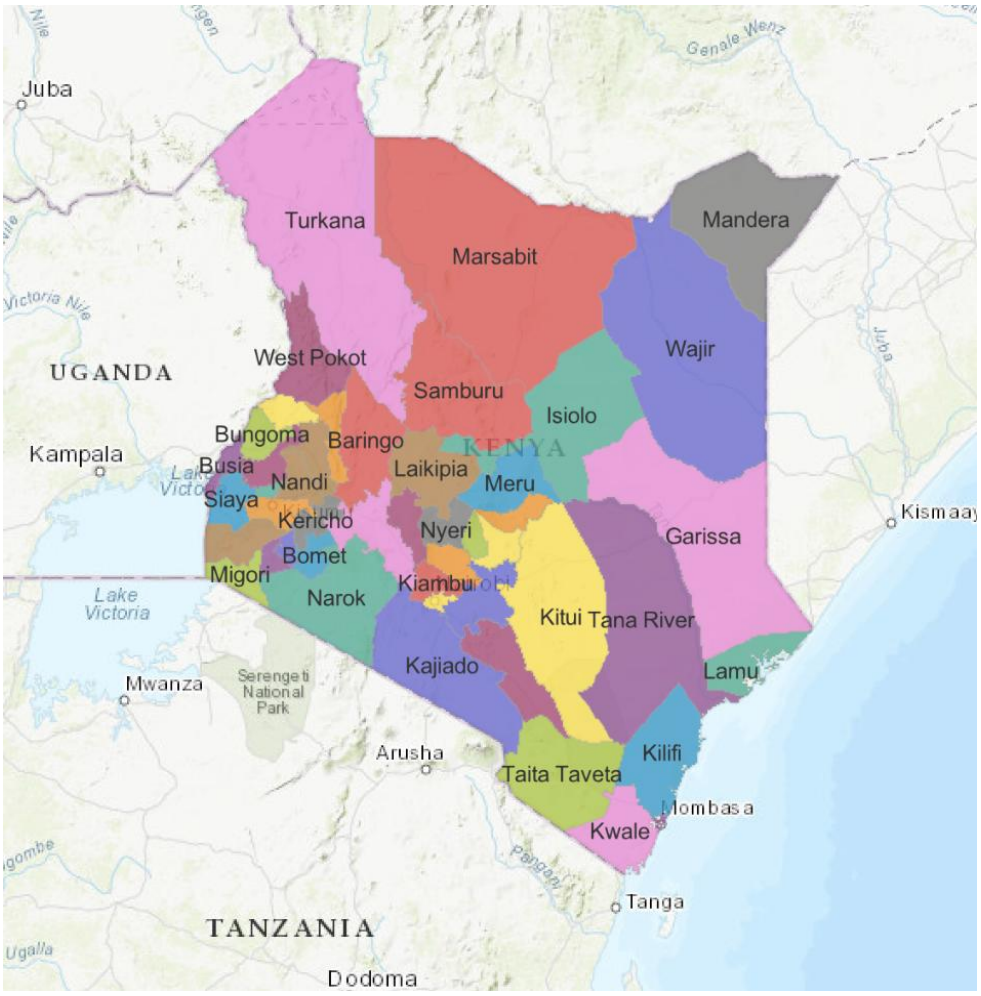

Figure 1 : Country map of Kenya indicating the location of Nyeri County[7]

[6] A grouped stakeholder consultation is a single stakeholder consultation which is valid for both real case project (real case VPA) and/or several regular projects. Regular projects correspond to the same real case project, are implemented in the same geographical boundary as outlined in this Non-Technical Summary and are included in the PoA within 2 years of this announced Local Stakeholder Consultation meeting.

[7] https://www.arcgis.com/apps/mapviewer/index.html?webmap=0b7ca83c35cd4ce48b95bb9ecoe6094b

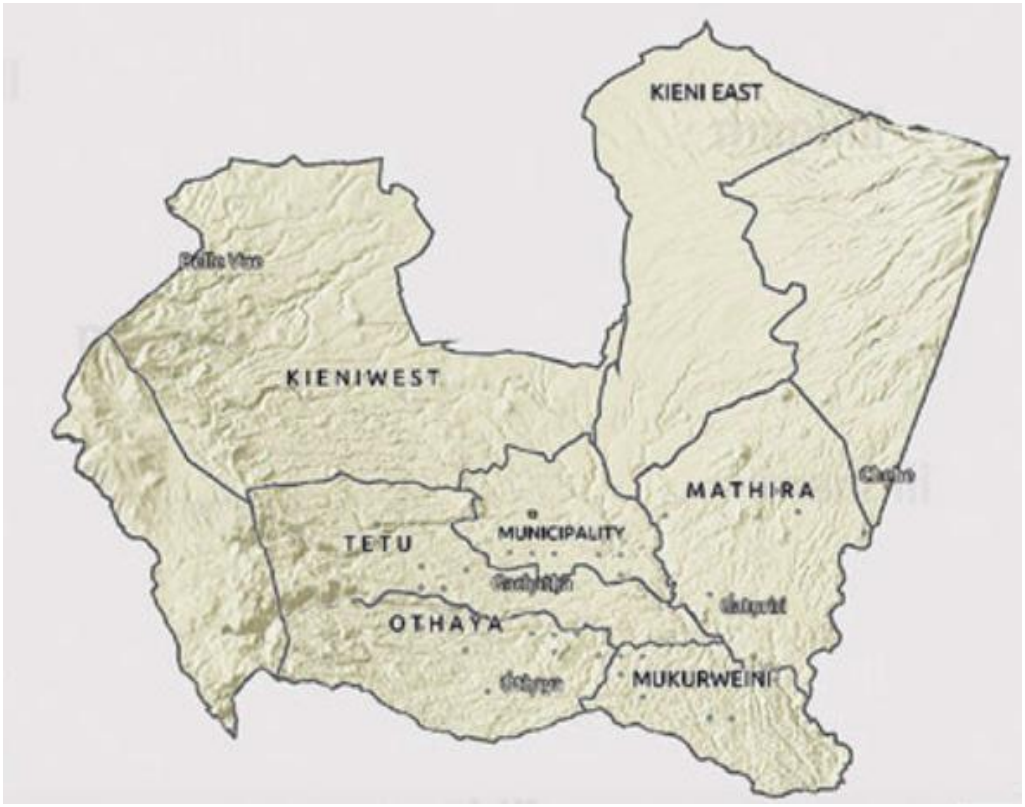

Figure 2: County Map of Nyeri County[8]

This project consists of conversion of existing coffee monoculture plantations under full sun towards an agroforestry system with a high density of both native and exotic trees (such as Croton macrostachys, Grevillea robusta (Grevillea), Mangifera indica, Senna Siamea, Azadirachta Indica (Neem), Acrocarpus fraxinifolius, Cordia Africana among others). This will be incorporated together with fruit trees (such as guava, avocado, macadamia, mango, and pomegranate) and other annual crops.

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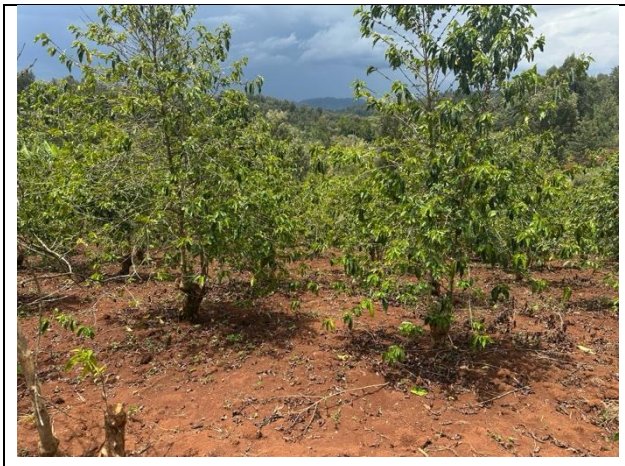
https://www.researchgate.net/publication/349446419/figure/fig2/AS:1080278948810774@1634569980275/Map-of-Nyeri-County-showing-the-different-subcounties-municipality-represents-Nyeri.jpg



Coffee under full sun in monoculture and uncovered soils.

Coffee planted in an agroforestry system together with fruit and timber trees, banana.

Figure 3: Comparison between coffee as monoculture under full sun and coffee planted in an agroforestry system.

Syntropic farming concept

The syntropic farming concept has been created by Ernst Götsch, a Swiss farmer and researcher. Syntropic farming imitates nature with the aim of increasing diversity, complexity and life in similar way to that of a natural forest. It is amongst others characterized by active interventions through pollarding and pruning, optimization of photosynthesis taking into consideration vertical stratification and the natural succession, continuous soil cover and being process based eliminating the use of external inputs like chemical fertilizers, pesticides, fungicides, herbicides.

The main objectives of the VPA are to restore soils and hence to stabilize or even increase coffee productivity, enhance food security of farmers, increase resilience of supply chains and remove the greenhouse gas carbon dioxide (CO2) from the atmosphere through carbon sequestration.

Coordinating and Managing Entity (CME) and other entities involved.

The Coordinating and Managing Entity (abbreviated CME) of the PoA is the sustainability-focused Danish-based company 'GrowGrounds ApS'. GrowGrounds is focused to decrease coffee's negative CO_2 impact and helps farmers to move away from monoculture coffee farming to syntropic agroforestry systems.
The entities involved on the project (VPA) level are the implementing partners, carbon and agroforestry advisory companies as outlined below:

GrowGrounds ApS (GG), being the Coordinating and Managing Entity (CME) of the PoA and at the same time project developer of the VPA, is a Danish-based impact-driven start-up that

is focused to decrease coffee's negative CO2 impact and helps farmers to move away from monoculture coffee farming to syntropic agroforestry systems, while giving farmers access to the global carbon market.

Origin Connect Services (OCS) is a coffee sector consultancy with expertise across the entire value chain, from sourcing and marketing to fair trade practices, and compliance to regulatory requirements and emerging environmental, social and governance issues. At the heart of its engagement with farmers is the promotion of sustainable coffee farming, enabling cooperatives and estates to improve post-harvest quality, meet market needs and compliance requirements, and adoption of ethical marketing practices. OCS has been active in Kenya since 2022 and will be the local project implementer on the ground for the project in Kenya.

Forests4Farming (F4F), a non-profit organization with long-term expertise in the implementation and management of tree-based farming projects following syntropic farming principles. F4F will transfer the necessary knowledge and know-how to farmers and technicians on the ground.

Julius Carbon Ventures is a carbon consultancy firm that conducts end-to-end carbon projects management, Training and Field Team Operations, Data collection and Analysis, Monitoring & Evaluation. Julius Carbon Ventures will be responsible for the Carbon Asset development aspects of the project in line with the requirements of the GS4GG requirements guided by **mkaarbon safari GmbH**, having several years of experience in Nature-Based-Solution projects.

Carbon credits

Greenhouse gas (GHG) sequestration achieved through the plantation or assisted natural regeneration of trees[9] will result in carbon credits following Gold Standard certification rules and procedures. The PoA will apply the Gold Standard methodology "Afforestation/Reforestation GHG Emissions Reduction & Sequestration Methodology".

For project activities implemented by GrowGrounds, 60% to 80% of revenues from the sale of carbon credits are expected to be paid directly back to the farmers. The remaining portion of the revenues are used to finance the carbon certification related costs and to cover costs incurred by the project developer/implementer.

[9] Carbon credits may be also generated through Soil Organic Carbon and/or Biochar.

Duration and Time-schedule

The duration of the VPA is at least 30 years following the Gold Standard for the Global Goals requirements.

The inclusion of Kenya into the PoA along with the 1st real case VPA being implemented in Nyeri County, Kenya is expected to be certified with the Gold Standard for the Global Goals by Q1, 2026. The first trial plots are expected to be installed in Nyeri in October, 2025.

Registration with other Carbon standards

The voluntary project activity is not registered with any other carbon standard, nor is it seeking registration under any other GHG programs, and hence there is no likelihood that double counting would occur.

Compliance with the Safeguarding Principles

The VPA will comply with the established safeguards as defined in the Gold Standard requirements, which are as per the following.

Principle 1 - Human Rights

The project respects internationally proclaimed human rights and is not complicit in violence or human rights abuses of any kind, as defined in the Universal Declaration of Human Rights. It does not discriminate on the basis of gender, race, nationality, ethnicity, social or indigenous origin, religion or belief, disability, age, or sexual orientation.

Principle 2 - Gender equality and women's rights

The project activity does not support any form of discrimination based on gender. The project will take into account the gender roles and capacities of women and men to participate equally in the project design and consultation activities and aims including women to the largest extent possible in project activities.

Principle 3 - Community health, safety and working conditions

The project will not expose the community to increased health risks and will not adversely affect the health of workers and the community. Workers involved in the project activity are not exposed to unhealthy working environments, as the project activity will not involve hazardous chemicals or other hazardous materials. It will be ensured that youth/farmers involved in pollarding activities will be properly trained and equipped with protective equipment as and when necessary.

Principle 4 - Cultural Heritage, Indigenous Peoples, Displacement and Resettlement

The project activity will not negatively impact cultural heritage, indigenous peoples or displace or resettle people. The project is not located on lands/territories claimed by indigenous people.

Principle 5 – Corruption

The project does not involve, complicit in, or inadvertently contribute to corruption or corrupt projects. The project is implemented on farmers' lands who have full control over their land.

Principle 6 -Economic Impacts

No negative economic consequences are expected from the project activity. On the contrary, the project is expected to contribute to sustainable economic growth. The project will respect all labor rights and follow the respective national laws.

Principle 7 - Climate and Energy

The project will sequester CO2, which will be monitored and verified in accordance with Gold Standard carbon requirements.

Principle 8 - Water

The project will not have any negative impact on natural water patterns/flows or cause further erosion and/or instability of water bodies. On the contrary, increased vegetation through trees and other plants allow for better water retention and infiltration, which has a positive impact on groundwater availability.

Principle 9 - Environment, ecology, and land use

The project will not have any negative impact on the environment and ecology. The project does not adversely affect or alter intact or high conservation value (HCV) ecosystems, critical habitats, landscapes, and key biodiversity areas.

Contribution to Sustainable Development

The project aims to contribute to the following Sustainable Development Goals (SDGs). Note that not necessarily all of the SDGs will be claimed and monitored later on:

SDG 2 – Zero hunger

The project activity will implement resilient agricultural practices, hence create better soil conditions and sustainable food production systems, which will benefit farmers in form of stable incomes and food for subsistence. The project activity expects to reduce or even eliminate the use of external inputs (chemical or organic fertilizer, pesticides, herbicides, fungicides) resulting in cost savings for the farmers. The farmers will benefit from the carbon project in form of cash and/or in-kind payments.

SDG 4 – Quality education

The project activity will provide training/workshops to farmers and technicians in agroforestry practices following syntropic farming principles, thereby enhancing their skills and knowledge of sustainable agriculture. This will make their work more efficient, effective and sustainable for soils and the environment.

SDG 8 – Decent work and economic growth

The project activity expects to create jobs for technicians, service providers for conducting pollarding activities, for staff carrying out monitoring activities and others. Hence, the project activity will increase business and income opportunities in the municipalities where the project will be implemented.

SDG 13 – Climate action

The project activities result in carbon removals through planted trees as well as from trees of assisted natural regeneration. Soil Organic Carbon and/or biochar are further possible carbon sinks in future.

SDG 15 – Life on land

The project activity expects to convert up to 50 ha of full-sun monoculture coffee plantations (or coffee plantations with some few trees) with different coffee farmers scattered across Nyeri County following syntropic farming principles. This will provide new habitats for flora and fauna.

Contact

For any questions or comments, please contact:

Christina Singh

Chief Operations Officer

Email: christina@growgrounds.org

agroforestry@originconnectservices.co.ke

Phone: +45 41760744 (WhatsApp)