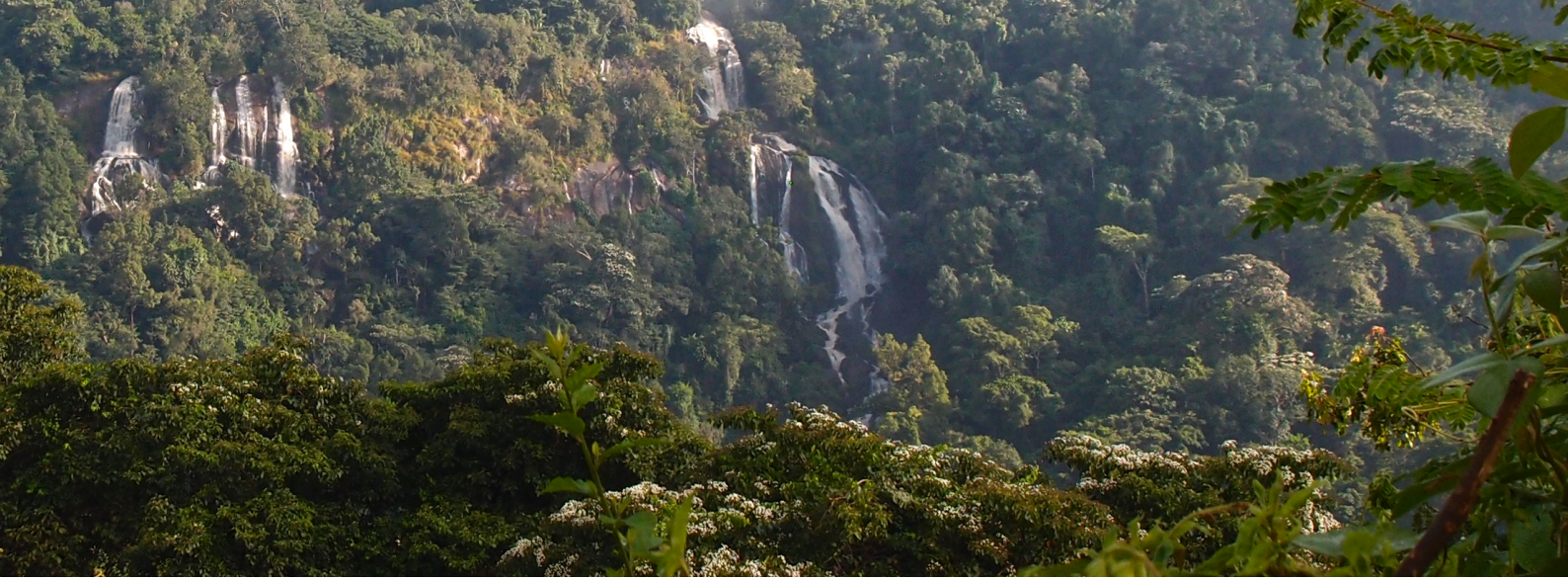

Policy Brief

Aligning improved livelihoods of coffee farmers and forest conservation in Ethiopia's southwest highlands

Background

Ethiopia's southwestern highlands contain some of the last remnants of the critically endangered Afromontane Forest ecosystem of high biodiversity value. Primary and sustainably managed forests, and diverse agricultural land uses create a mosaic landscape that is home to many endemic species, amongst them *Coffea arabica*. Recognizing the high conservation value and need to secure the provision of ecosystem services, regional and local stakeholders created the Yayu Coffee Forest Biosphere Reserve in Illubabor zone, Oromia Region in 2010.

The Ethiopian Government is committed to sustainable economic development. Targets for the implementation and financing of climate change mitigation and adaptation, forest conservation, and forest landscape restoration are embedded in many national strategies for the sector, key policies (e.g., the Climate Resilient Green Economy) and international commitments (e.g., the Nationally Determined Contributions and AFR100 target for Forest Landscape Restoration).

Coffee is a key income source for many households in the region. Smallholder farming families often cultivate coffee under the managed shade cover of native forest tree species in the so-called semi-forest coffee system. Unsustainable practices are a key driver for land use change and degradation, but sustainable alternatives exist.

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unqiue land use GmbH

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On the demand side, along coffee value chains and among consumers, awareness how coffee is produced is increasing notably. Consequently, global coffee value chain actors are ever more committing to source sustainably produced, zero-deforestation coffee. Initiatives like the European Union's proposed regulation on deforestation and forest degradation free commodities are expected to further increase the need to, invest in sustainable coffee production and trade.

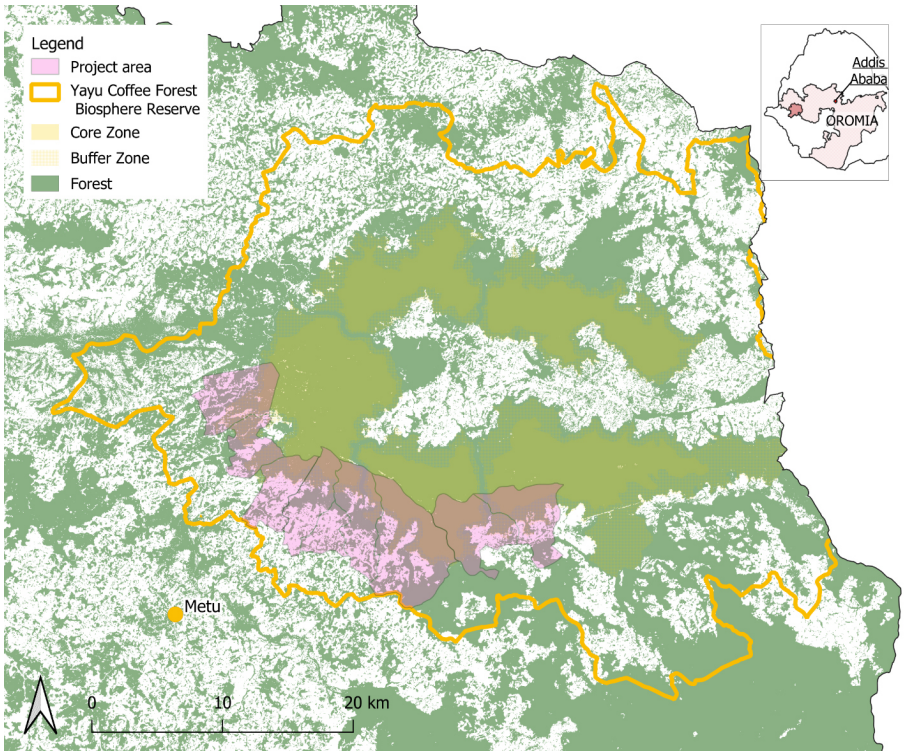
As a consequence, governments and value chain actors require credible evidence to demonstrate the achievement of targets, access additional finance (e.g., results-based payments), ensure access to key export markets, and document the validity of sustainable sourcing. Effective and efficient monitoring systems are needed to document successes and aid the transition from unsustainable to sustainable practices. However, a comprehensive landscape-level system for monitoring forest degradation in Ethiopia does not yet exist.

The project

Since 2018, the Hanns R. Neumann Stiftung (HRNS) and unique land use GmbH jointly implement the project Restoring degraded coffee landscapes in the transition zone of the biosphere reserve. The project is supported through the German International Climate Initiative (IKI). The main objective is to develop and promote economically viable restoration business models with significant scaling potential and meaningful contributions to climate change mitigation and adaptation.

The implementing institutions, HRNS and Unique, believe that the improvement of livelihoods of coffee farming households is a key success factor for large scale adoption of sustainable coffee practices. The implementation of sustainable practices on farms supports the conservation of natural forests and biodiversity by addressing coffee as a significant driver of forest degradation.

During the first phase of the project (until April 2022) the partners focused on piloting sustainable coffee farm management, introducing gender sensitive climate-smart practices, and assessing the business case for scaling up. The feasibility study revealed that investing in sustainable management of semi-forest coffee results in an economically viable production system that is more resilient to climate change, acts as a buffer to and corridor between conservation forests, stores carbon, and protects biodiversity. Investments in



Project area in the Yayu Coffee Forest Biosphere Reserve,Illubabor, Oromia

BR boundaries: GIZ (2018): Biodiversity and Forestry Project Ethiopia.
Forest cover: WLRC (2016). Land cover and use for Ethiopa. Water and Land Resource Center, Addis Ababa University.

the replacement of old, unproductive coffee trees and climate smart farming can double yield and double to triple profitability.

Going forward, the project partners are planning to support the establishment of a monitoring system that meets the above-described demands. This brief provides an overview of the challenges and the stepwise approach for monitoring forest degradation. It outlines the contribution of the project to overcome monitoring challenges.

Addressing forest degradation at landscape-level in Oromia

The Oromia Forested Landscape Program (OLFP) is a jurisdictional REDD+ program under the BioCarbon Fund's Initiative for Sustainable Landscapes. It is implemented since 2013 by the Government of Oromia through the Oromia Environment, Forest, and Climate Change Authority. The program covers the entire state, including nine million hectares forests. It targets the reduction of emissions from deforestation and forest degradation. Besides grants and co-financing, the program foresees results-based payments for up to ten million tons of carbon dioxide emission reductions. Illubabor zone is one the priority intervention areas.

The OFLP has identified the expansion of unsustainable coffee production as one of the main drivers of forest degradation and deforestation in the region. Owing to the relatively high density of shade trees, semi-forest coffee farms are classified as forest by the Ethiopian forest definition. Felling shade trees without replacement qualifies as degradation. Coffee traders and roasters with zero-deforestation/degradation commitments or falling under the jurisdiction of the proposed EU regulation, and sourcing from semi-forest coffee farms will have to prove that producers were not involved in deforestation or forest degradation.

Monitoring forest degradation in Oromia – status quo and challenges

The OFLP has developed a 'forest reference emission level' for land use change / deforestation. The program monitors land use change and the actual deforestation against this baseline in regular intervals. However, the monitoring system cannot yet inform about forest degradation, even though stakeholders agree that forest degradation is a significant source of emissions across the Afromontane Forest ecosystem in the south-west and should be included in the OFLP in the mid-term.

Generally, monitoring degradation (forest remains forest) is more complex than monitoring land use change (conversion of forest into non-forest land). It requires sophisticated methods and technologies – especially when spatially explicit, high-resolution information is needed that allows attribution of detected changes to coffee or other activities. Reliable numbers for degradation rates and trends, and the resulting greenhouse gas emissions do not yet exist.

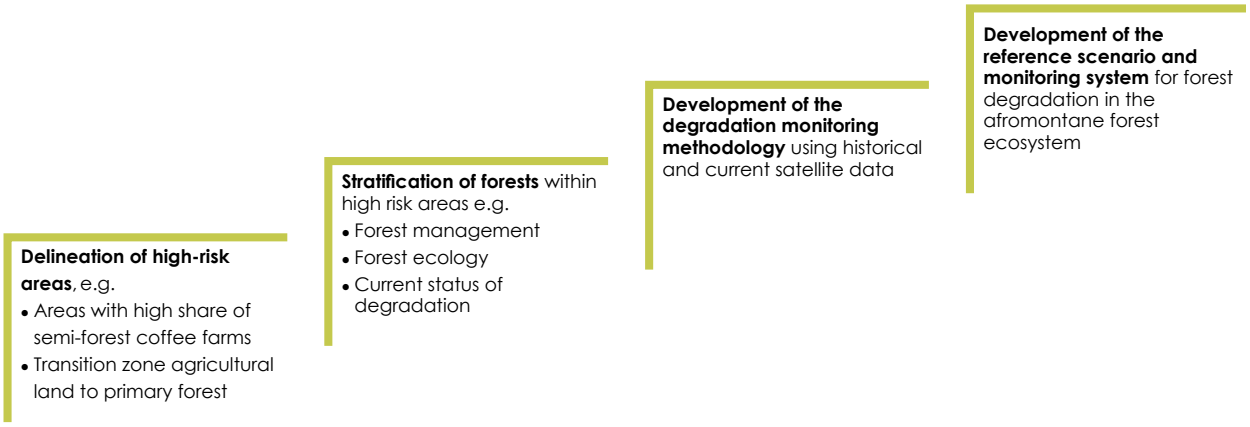
Monitoring challenges specific to the semi-forest coffee areas in the project landscape include:

- the landscape is very heterogeneous, with a mosaic of land uses and forest types,
- units of land ownership are very small,
- different drivers of deforestation and forest degradation exist in the landscape, and
- tree loss takes place dispersed over space and time. Canopy gaps created by felled trees are often visible for a brief time only.

To overcome these challenges the project proposes to initiate and pilot a stepwise process, which includes all relevant stakeholders, including producer associations, government authorities, and value chain actors.

In phase one of the IKI project, the potential to detect and monitor forest degradation in the project area using free, high resolution satellite imagery was assessed and confirmed. With the data from Planet Scope, made available by Norway's International Climate and Forest Initiative, even minor changes in the canopy layer could be detected. Furthermore, the project has begun to map the coffee farms of project participants – an important condition to prove the degradation-free origin of coffee.

Additionally, the proposed process can build on the results and experiences of a number of projects and programs that support coffee farmers in adopting good agricultural practices and that work on



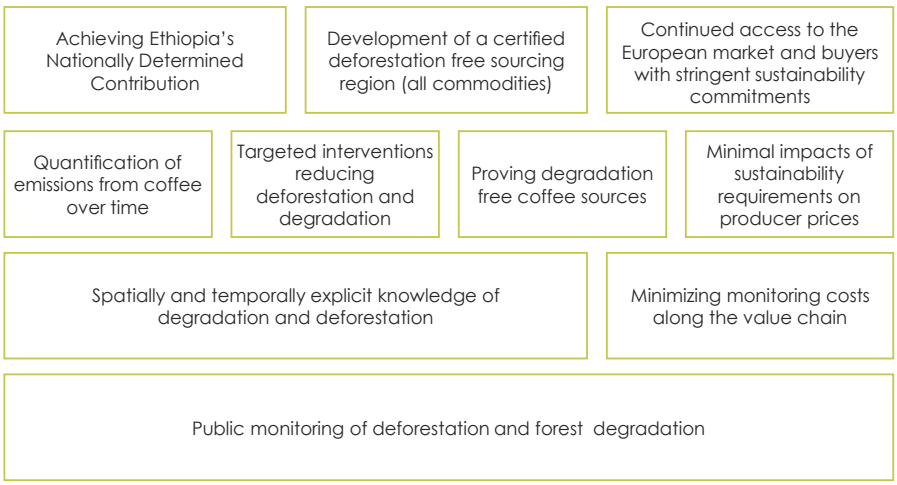
Steps towards monitoring of forest degradation in landscapes with semi-forest coffee farms

sustainable forest management in Illubabor.[1] These projects are funded by the Governments of Norway and Germany, and private foundations.

The project partners will continue the development of the method for degradation monitoring, focusing on cost-efficient technical solutions, piloting them in the project area. The method will be shared and refined with local, regional and national stakeholders. Last but not least, the project will contribute to the development of the regional reference scenario for forest degradation and future monitoring system.

Outlook

Enhanced monitoring of forest degradation addresses a key bottleneck in the accounting for Ethiopia's national and international land use policy targets. The monitoring system has significant potential for upscaling within the country and can also inform the monitoring of policy effectiveness, for example the Climate Resilient Green Economy strategy or Ethiopia's Nationally Determined Contribution. Enhanced and credible information allows for targeted interventions of donors and authorities, is needed as a basis for results-based payments, and to ensure continued access to key export markets.



Monitoring of deforestation and forest degradation for the implementation of Ethiopia's Climate Resilient Green Economy

[1] For example: Initiative for Sustainable Agricultural Supply Chains; Involving communities to strengthen forest management in Ethiopia; Forest coffee value chain project

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