Netherlands Enterprise Agency

www.rvo.nl

TERMS OF REFERENCE

Assessment of Water Use, Biodiversity Impacts and Sustainability Opportunities in Colombia's Hass Avocado Sector in Support of Dutch–Colombian Water and Food System Cooperation

Project code: PVW526CO04

Date: 16 July 2026

CONTENTS

1. INTRODUCTION

This assignment is financed through the Partners for Water Program, executed by the Netherlands Enterprise and Development Agency (RVO), part of the Netherlands Ministry of Economic Affairs and Climate. The Partners for Water Program is commissioned by the Ministry of Infrastructure and Water Management on behalf of the Interdepartmental Water Cluster.

The Netherlands is internationally well-known for its expertise on water management, which is therefore one of the cornerstones of the bilateral relationships the Netherlands maintains. Through the Netherlands International Water Ambition (NIWA), more strategic relationships with other countries are aimed for, which are fostered through strategic partnerships with seven so-called delta countries. Under the NIWA, several ministries are involved: Foreign Affairs (BZ), Agriculture, Nature and Food Quality (LNV), Economic Affairs and Climate (EZK) and Infrastructure and Water Management (I&W). Ultimate aim is to increase water security and water safety in the world of humans, plants and animals, and optimize the Dutch contribution to this aim.

This assignment is closely linked to other instruments and policy ambitions, such as the Climate, Water and Food Facility (CWF), under which a complementary project is being proposed on landscape and greening governance in the Eje

Cafetero region[1], where this project will also be implemented. The CWF proposal will examine the interactions between local production systems and surrounding landscape and greening challenges and governance.

Overall, this assignment is fully aligned with the Combi Track strategy[2], as avocado is one of the prioritized productive systems, and the intervention contributes to strengthening sustainability, improved water governance, and enhanced climate resilience.

2. SPECIFICATIONS

Ambition
The water-biodiversity-food nexus is one of the cornerstones of the Partners for Water programme and particularly also the bilateral cooperation with Colombia. Past projects have focused on increasing water efficiency, availability and quality for commodities that include coffee, palm oil and bananas. In close alignment with the Combi-track Strategy of the Government of the Netherlands, this project aims to independently investigate the possibilities of positioning Colombia's Hass avocado sector as a sustainable sourcing origin, with particular attention for the water use and associated environmental impacts. This is preferably done in alignment with creating and sustaining business opportunities for Dutch companies to secure a stable, resilient, and long-term supply in the global food system, especially to the Netherlands.

Over the past decade, the avocado sector in Colombia has expanded rapidly, with planted area increasing by more than 600% (from 13,000 ha in 2012 to over 100,000 ha by 2025) and exports growing more than 500% (from 20,000 tons to over 130,000 tons annually). Colombia now ranks as the world's third-largest producer of Hass avocados and the second-largest exporter to the EU, with the Netherlands accounting for 55% of its exports. This highlights the sector's growing importance to the national economy, while also underscoring the need to ensure that such rapid expansion remains sustainable and well managed.

The ecological and climatic conditions under which avocados are produced in Colombia play an important role in shaping production practices and their interaction with surrounding biodiversity. Understanding how these conditions differ from those in other sourcing countries, such as Mexico, Peru, and Chile, is essential for placing environmental impacts into context. This includes considering relevant indicators related to water dynamics, biodiversity conservation, ecosystem integrity, and the broader environmental interactions that characterize avocado-producing landscapes in Colombia.

In this context, the project contributes to key Sustainable Development Goals (SDGs) in a complementary manner: SDG 6 (Clean Water and Sanitation) by promoting efficient water use and safeguarding water-related ecosystems, which underpins more sustainable practices aligned with SDG 12 (Responsible Consumption and Production) through transparent, data-driven sourcing.

[1] The Eje Cafetero is Colombia's most important avocado and coffee producing region.

[2] Combi tracks: doing business with impact in emerging markets | RVO.nl

Together, these efforts help advance SDG 13 (Climate Action) by supporting resilient, low-impact production systems, while simultaneously contributing to SDG 15 (Life on Land) by protecting biodiversity and maintaining ecosystem integrity in production landscapes.

The project serves as an input to policy- and cooperation-related discussions and programmes between The Netherlands and Colombia and is envisaged to enable international buyers to make informed decisions, and support the sector in balancing growth with environmental stewardship.

Scope
The project will perform an environmental assessment of Colombia's Hass avocado sector, focusing on how these impacts can be measured in the field and which indicators are needed to understand them. It will explore which indicators (potentially supported by Dutch technologies) can be used to assess biodiversity, water use, and broader ecosystem interactions. In doing so, the project also aims to better understand the suitability of avocado cultivation across different Colombian landscapes and its interactions with surrounding environmental systems. It is explicitly required for the contractor to maintain a fully independent and scientifically sound approach to the investigations and reporting taking place as part of the assignment.

Focusing on two representative landscapes, it will generate actionable insights into the food–water–biodiversity nexus in areas undergoing rapid land-use change:

- **Manizales, Caldas province**: Historically a coffee-producing region now experiencing rapid conversion to avocado cultivation. The study will focus on avocado crops within the supply chain of FLP, a Colombian export company participating in Albert Heijn's regenerative agriculture programme. FLP has expressed a strong interest in participating in this study by identifying and proposing farms to serve as case studies. This case enables a better understanding of the impacts of these regenerative practices financed by AH and the role of the Dutch private sector in fostering cross-country collaboration.
- **Sonsón, Antioquia province**: An area where avocado expansion overlaps with high-value ecosystems, including the Páramo de Sonsón. Given the páramo's crucial function in water provision and ecological balance, this case will be key to understanding potential trade-offs and synergies between production and conservation.

Findings will strengthen the evidence base for Colombia's sustainability performance and serve as inputs that Corpohass could incorporate into its sustainability platform to showcase the social and environmental indicators of the sector. This platform, co-financed by the Embassy of the Netherlands through the PIA Fund by LVVN, aims to consolidate sector-wide information on social and biodiversity indicators. It supports transparent decision-making across the value chain (including Dutch buyers) and helps inform strategies for sustainable sector growth. In addition, findings will provide insights in the environmental monitoring challenges (in terms of technical, governance, capacity, resources etc.) and include recommendations to further improve the environmental monitoring of the avocado sector for the two landscapes analysed.

Activities and deliverables

a) Project Kick-off Activities, Baseline Assessment, Indicator Development, and Field Data Collection

This component establishes the analytical foundation of the project by using measurable environmental indicators to assess the sustainability performance of Colombia's Hass avocado sector and to identify the key environmental impacts and risks associated with rapid sector expansion, of which the water footprint requires particular attention.

An Environmental Indicator Framework needs to be developed covering five dimensions: (i) water use and availability, (ii) soil health, (iii) biodiversity (iv) vegetation structure and (v) ecosystem integrity. Indicators need to be selected based on scientific robustness, feasibility, and relevance to both Colombian stakeholders and international markets. Alignment with international sustainability frameworks and the requirements of Dutch and European buyers should ensure credibility and usability in sourcing and reporting.

The interaction between production systems and surrounding ecosystems is to be analysed through geospatial mapping and field data collection, enabling clear visualisation of the food–water–biodiversity nexus, including key trade-offs and synergies. Limited fieldwork should be carried out across a representative sample of farms, combining primary data with existing datasets. Where relevant, opportunities for applying Dutch technologies need to be identified.

This component consists of the following set of activities and deliverables:

Activities:

- Organise an in-person project kick-off, based on the approach identified in your work plan, review and refine the work plan and deepen the partnership with key counterpart organisations and other stakeholders.
- Work with key counterpart organisations to define a set of measurable environmental indicators covering water use, soil health, biodiversity, vegetation structure and ecosystem integrity and other key environmental metrics.
- Align indicators with international sustainability frameworks and buyer requirements.
- Conduct field assessments on a representative set of farms, proposed by Corpohass in the Paramo de Sonsón and FLP company in Manizales, to document land-use dynamics and environmental indicators. Combine these assessments with at least two in-person workshops or comparable moments for interactions with key stakeholders, including Corpohass, farmers, authorities and others.
- Map production systems and their interactions with surrounding ecosystems, analysing the food–water–biodiversity relationships.

Deliverables:

- Updated work plan and project implementation strategy, further defining cooperation with key counterpart organisations and other stakeholders.
- Baseline Assessment Report summarizing current data and environmental performance across selected landscapes and includes recommendations to further improve environmental monitoring. The report will be prepared for relevant stakeholders such as Corpohass, academia, the national government, and Dutch partners.
- Environmental Indicator Framework with measurable indicators for water, soil, biodiversity, vegetation structure and ecosystem integrity.
- Geospatial Maps illustrating land-use, ecosystem interactions, and production system patterns.

b) Case Study Development and Data Analysis

This component translates the Environmental Indicator Framework into practice by applying it in two representative landscapes, Manizales and Sonsón, thereby illustrating how the selected indicators perform under real production and ecological conditions. Building on the baseline assessment, the case studies will assess the environmental performance of avocado production systems through a combination of field data, geospatial analysis, and, where feasible, real-time monitoring technologies. Particular attention will be given to evaluating trade-offs and synergies between production and conservation, using landscape-based approaches that capture interactions between farms and surrounding ecosystems, including sensitive areas such as the páramo in Sonsón.

The case studies will also provide a structured approach to monitoring regenerative agriculture initiatives, such as the collaboration between FLP and the Albert Heijn Foundation, by linking farm-level practices to measurable outcomes on soil health, water use, biodiversity, vegetation structure and ecosystem integrity. This enables an evidence-based assessment of the effectiveness and scalability of such approaches. Comparative analysis between the two locations will identify key drivers of sustainability performance and distil lessons that are applicable across the wider Colombian avocado sector.

In addition, the analysis will position Colombia in an international context by comparing indicators with other major producing countries, highlighting both sustainability aspects, such as reliance on irrigation, and potential risks related to land-use change and ecosystem pressures. The resulting insights will be consolidated into case study reports, a synthesis report, and a sector sustainability brief, providing actionable recommendations for producers, policymakers, and international buyers, while demonstrating the practical relevance and robustness of the developed indicator framework.

Activities:

- Environmental performance of avocado production systems in selected areas.
- Comparison of indicators with those in other major producing countries, primarily in Latin-America and secondarily in other parts of the world.
- Trade-offs and synergies between production and conservation.

- Highlight lessons learned and scalable practices for broader sector application.

Deliverables:

- Development and application of methodologies to measure the biodiversity and water footprint indicators, including indicators related to water, soil, biodiversity, vegetation structure and ecosystem integrity.
- Case Study Reports (Manizales and Sonsón) with analysis, lessons, and recommendations for sustainable practices to conserve/promote biodiversity, with a particular focus on water-related impacts.
- Synthesis Report consolidating analysis, comparative insights, and strategic recommendations for the avocado sector. Further dissemination is foreseen through Corpohass and other key counterparts identified.
- Sector Sustainability Brief highlighting key findings for policy, producers, and buyers.

c) Stakeholder Engagement

Activities:

- Advice Corpohass on the translation of indicators and analytical findings into the Corpohass digital platform. Engage key stakeholders, including producers, exporters, Corpohass, and international buyers, to share and communicate the project results.
- Organise a hybrid event in the Netherlands, to update Dutch stakeholders (e.g. importers, RVO) about the outcomes of the project. This even may be organised at RVO.

Deliverables:

- Stakeholder workshop/webinar to present findings, share feedback with producers, and agree on key action points.
- Report (or other format to be agreed upon with RVO and Corpohass) on the digital platform integration guidelines, detailing how the indicators and data feed into the Corpohass platform
- Final report on project activities and findings, in Spanish and English, including a separate attachment on recommendations for RVO on how to incorporate the findings in future activities, as well as specific advice on counterpart interactions, policy alignment and future projects.

The contractor has to share the final versions of all deliverables generated throughout the project as one package at the end of the project.

d) External communication about the project

To discuss possibilities concerning communication and to make agreements about deadlines, an online meeting with Partners for Water's communication agency 'PINO' is mandatory within two months after the start of the project.

Minimum deliverables:

- 1 project summary
- 3 high-resolution images (free of use)
- 2 LinkedIn messages for the Partners for Water LinkedIn company page
- 1 Article for the Partners for Water website

Specifications and conditions about the deliverables will follow during the online meeting and are to be found in the online toolkit.

The contractor has to share the final versions of all deliverables generated throughout the project as one package at the end of the project.

3. KEY COUNTERPART ORGANISATIONS

A broader set of counterpart organisations is supporting and/or connected to this assignment:

Organisation	Type of involvement and responsibility
RVO – Partners for Water	Contracting authority.
RVO – Climate, Water & Food Facility	The Climate Water and Food Facility (CWF) is a program commissioned by the Netherland's Ministry of Foreign Affairs and implemented by RVO, works with Dutch diplomatic missions in almost 40 countries to ensure a green (following EU green taxonomy) and just transition. The goal is to increase greening and just ambitions and accelerate green actions of Dutch and local actors in these countries. CWF is in the process of exploring for new collaborations in relation to greening the avocado and coffee sectors in Colombia and supporting integrated landscape management approaches. In this regard the CWF advisor will follow this project with interest and engage actively when greening challenges or opportunities for follow-up arise.
Embassy of the Kingdom of the Netherlands in Colombia	The Embassy of the Kingdom of the Netherlands (EKN) in Colombia and the Ministry of Agriculture, Fisheries, Food Security and Nature (LVVN) support bilateral policy dialogue and help translate findings into actionable insights for Dutch stakeholders, in line with shared priorities on sustainable food systems and deforestation-free supply chains. As part of this assignment, EKN will facilitate stakeholder engagement, organize meetings with relevant counterparts, support coordination with government institutions, and advise on synergies with ongoing Dutch initiatives in Colombia.
Corpohass	Corpohass is the national industry association representing Colombia's Hass avocado sector. It brings together producers, exporters, and other value chain actors to promote sustainable sector development, strengthen international market access, and support compliance with environmental and social standards. The expert

	team can expect Corpohass to facilitate engagement with avocado producers and other relevant stakeholders, support access to selected farms and field activities, provide available sector data and insights, and assist in the dissemination of project findings through its established networks and communication channels.
FLP	
Regional Environmental Authorities (CARs)	The Regional Environmental Authorities (CARs) in the Páramo de Sonsón and Manizales areas will play a key role in strengthening environmental governance at the territorial level. The expert team may rely on CARs to provide access to relevant environmental data, offer technical inputs on biodiversity and land-use considerations, and support the validation and interpretation of ecological information relevant to the study areas.
Ministry of Agriculture and Rural Development	The Ministry of Agriculture and Rural Development will provide strategic oversight and policy guidance for the assignment, ensuring alignment of project findings with national priorities on sustainable agriculture and environmental compliance frameworks.
Ministry of Environment and Sustainable Development	The Ministry of Environment and Sustainable Development will provide strategic oversight and policy guidance for the assignment, ensuring alignment of project findings with national priorities on sustainable agriculture and environmental compliance frameworks.

4. PLANNING AND PHASING

Activities defined in this ToR are to be carried out from 1 November 2026 (or as soon as the tendering and contracting procedure has finished) until 30 November 2027. No extension of the project after this date is possible. Final deliverables and the final invoice need to be submitted to RVO on, or before that date.

5. REQUESTED QUALIFICATIONS AND TEAM COMPOSITION

A multidisciplinary team is required for the execution of this assignment, consisting of Colombia-based and international organisations and/or individual experts. At least 80% of the experts deployed need to have full professional proficiency in Spanish, both written and spoken. The team lead role is proposed to be combined with the Environmental Systems expert, but alternative role divisions may be proposed. The following qualifications need to be incorporated in the team composition:

- Team lead and Environmental Systems & Natural Capital Expert:

Combines overall project leadership with technical oversight of the indicator framework. Integrates water, soil, biodiversity, and ecosystem integrity into a coherent methodology, ensuring scientific robustness and consistency between the baseline assessment and case studies. Full professional proficiency in Spanish is required.

- Agroecology and Water Specialist:
  Brings together expertise in hydrology, soil science, regenerative agriculture and agricultural systems. Assesses water use (green/blue), soil health, and translates farm practices, including regenerative approaches, into measurable environmental outcomes at both farm and landscape level.
- Biodiversity and Landscape Expert (incl. GIS/remote sensing):
  Combines ecological expertise with spatial analysis. Develops biodiversity indicators and conducts geospatial assessments of land-use change, habitat connectivity, and ecosystem interactions, including visualisation of the water-biodiversity-food nexus.
- Data, Monitoring and Digital Systems Expert:
  Integrates monitoring and evaluation with data systems and technology. Designs data collection protocols, supports (near) real-time monitoring where relevant, and ensures data quality and interoperability, including integration into the platform of Corpohass.
- Market, Policy and Stakeholder Engagement Expert:
  Combines knowledge of international sustainability standards, value chains, and stakeholder processes. Aligns indicators with EU due diligence and buyer requirements, facilitates stakeholder engagement, and translates findings into actionable policy and market recommendations.

For environmental and budgetary reasons, it is encouraged to propose an expert team and role division (local/international) in such a way that limited intercontinental travel is necessary.