

Market consultation

Ecological restoration of the river basin of La Laguna de Zapotlán, Mexico with reference 202410073

Organisation: The Netherlands Enterprise Agency

The Netherlands Enterprise Agency (in Dutch: Rijksdienst voor Ondernemend Nederland, RVO) supports private and public organisations with funding, international business partners, knowledge, and regulations. More information about RVO can be found on: www.rvo.nl and <http://english.rvo.nl/>.

The Partners for Water Programme is commissioned by the Ministry of Infrastructure and Water Management on behalf of the Interdepartmental Water Cluster. In its thematic approach, Partners for Water (2022-2027) gives specific attention to advancing the nexus Water-Biodiversity-Food (WBF). The main objective of this nexus approach is to contribute to realizing sustainable food production systems under the condition of water security for all life on earth (including humans), restoration of biodiversity and combating climate change. In this context, the Partners for Water team closely works together with the Embassy of the Kingdom of the Netherlands in Mexico City (LAN Mexico) to contribute and strengthen opportunities that arise in the WBF nexus. Since 2023, LAN Mexico and Partners for Water work together to provide support to the dynamic collaboration on water security in La Laguna de Zapotlán. Local stakeholders, partially united through a transition committee (as a stepping stone to reactivate the *Comision de Cuenca*), have defined the priorities they would like to collectively work on in the upcoming years. These priorities form the basis of this market consultation and assignment.

The transition committee is composed of the following members and is able to support the consortium with information, facilitation and cooperation:

- Municipality of Zapotlán El Grande
- Patronato de Nevado de Colima
- JIRCO - Junta Intermunicipal de Medio Ambiente para la Gestión Integral de la Cuenca del Río Coahuayana
- CDAAJ - Consejo de Desarrollo Agropecuario y Agroindustrial de Jalisco
- Driscoll's (Berry producer / buyer)
- APEAJAL (Avocado Association)
- Berrymex (Berry Association)

Further context and background on the dynamics in La Laguna de Zapotlán are provided in Annex 1.

Purpose of the notification

The purpose of this market consultation is to identify and assess interest of organisations that are potentially eligible for the execution of this assignment. Additionally, the market consultation aims to gather input on the value of services that match the anticipated activities of this assignment.

Extent and duration

The project will run from 1 April 2024 until 1 April 2025.

Budget indication

Budget range € 100.000 - € 140.000

Purpose of the project

The ambition of this assignment is to support the collective action of local stakeholders in La Laguna de Zapotlán in working towards ecological restoration of the landscape, including improved water quality and availability and biodiversity. The assignment envisions to provide a strong foundation for collective action, by providing technical assistance that backs-up and concretises the desired actions of the local stakeholders and that results in projects that can be financed by governments, private sector and financiers.

Scope of work

The transition committee has developed several strategic plans for the region. This assignment aims to detail some of the prioritized interventions from these strategic plans into a project package ready for follow-up funding. Anticipated activities include:

1. Support with the technical development of three projects, including conceptual/technical designs, steps needed to take towards implementation and budget specifications. The following three priority projects have been selected by the transition committee for further detailing:
 - a) Promote the recovery of biodiversity through ecological connectivity
 - Cooperate with and provide sparring to Patronato de Nevado de Colima (local NGO active in the area) on ecological restoration
 - Strategy development, incl. monitoring criteria, to enhance ecological connectivity and recover native vegetation (original biodiversity) in La Laguna de Zapotlán.
 - b) Design of nature-based water treatment systems to treat the surplus of urban wastewater.
 - Review and improve artificial wetland designs, some of which already applied in La Laguna de Zapotlán. Including but not limited to review of technical setup and ease of implementation/replication and the use of alternative varieties of plant species.
 - Guidance of local municipality on developing application and selection criteria for nature-based water treatment systems to support decision making as well as improve quality of contracting.
 - c) Develop a plan to stop the expansion of the agricultural frontier in non-permitted land uses and promote the official protection of water recharge zones:
 - Support a community socialization and awareness plan. Gather inputs from local stakeholders on current incentives/drivers for land use change and translate into an outline for a course or workshop on good environmental practices as formal training for agricultural producers.
 - Identify and list (examples of) local mechanisms for environmental compensation and/or payment for environmental services for the environmental restoration of forests due to their importance as areas of water recharge and climate stability, promoting official recognition as protected natural areas. Preferable built upon examples already applied in Mexico.
 - Identify potential mechanisms for effective establishment and rollout of good environmental practices among the local value chain, that can be embraced by the producer-buyer association.
2. Support the process of co-creation with local stakeholders with workshops and knowledge exchange on the topics above.
3. Support a better understanding of the problems in la Laguna de Zapotlán by linking international knowledge with local stakeholders.
 - a) With support of LAN Mexico and LAN Kenya, organize exchange of knowledge with Lake Nakuru & Lake Naivasha in Kenya, one of the few other endorreic watersheds in the world. As the geographical, as well as the economic and social challenges between the watersheds show similarities, allowing for a learning exchange adds considerable value on both sides.
4. Support the development of an investment agenda, the structure to receive funding and involve potential financiers (involvement of value chains, private sector, donor conference).
 - a) Based on the outcomes of activities 1 and 2, support the local stakeholders in their outreach to applicable private sector, national and international financing options. This includes mapping the options, writing a plan on how they could get involved and organize a conference together with the local stakeholders.

Required experience

- Team lead: Mexico-based/international. First point of contact for the contracting authority and key counterpart organisations. Background in stakeholder management, agribusiness, water management, ecology or comparable profile, with at least 7 years of experience in managing international projects and a strong capacity of working in complex multi-stakeholder environments. Ability to communicate in Spanish at level B2 or higher (language level indication according to the European Framework of Reference) is a requirement.
- Co-lead: Mexico-based expert, with a background in governance, ecology, water management, project finance or a combination. Ability to communicate in Spanish at level B2 or higher (language level indication according to the European Framework of Reference) is a requirement.
- Technical team: (group of) expert(s) with expertise on water (treatment) infrastructure development, nature-based solutions, ecology, biodiversity. Experience in Mexico is a pre.
- Governance team: (group of) expert(s) with Mexico-specific expertise on the Mexican legal and jurisdictional system, particularly related to national, regional and local regulations related to agriculture and natural resource management. Ability to communicate in Spanish at level B2 or higher (language level indication according to the European Framework of Reference) is a requirement.
- Financial team: (group of) expert(s) on project structuring and financing in the Mexican context, including a focus on private sector, (local) government and international project financing.
- Logistical support team: (group of) expert(s) supporting the team in the logistical preparations required for the execution of this assignment, such as preparation and planning of interviews, meetings and workshops. Ability to communicate in Spanish at level B2 or higher (language level indication according to the European Framework of Reference) is a requirement.

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

Application

Interested companies are invited to send an expression of interest to The Netherlands Enterprise Agency by sending an e-mail to gert.goorhuis@rvo.nl of the Procurement Office and a copy to silvi.hurkmans@rvo.nl and simon.vanmeijeren@rvo.nl.

Please state the name of the contact person of your company and his or her e-mail address.

In the expression of interest, highlight:

- in max. 0,5 page the proposed team composition and / or partners that you deem to fit the purpose and requirements for this assignment
- in max. 1 page a reflection on the anticipated activities, including:
 - The anticipated activities and their completeness, are there any activities missing?
 - How would you approach executing the anticipated activities?
 - What potential risks do you foresee executing this assignment?
 - What value of services do you deem necessary to execute the anticipated activities?
 - Any other remarks / suggestions
- in max. 1 page your organization's information, (web) address, a short expression of letter of interest and a brief track record in line with the skills and experience required.

Note: do not send a proposal. Please respect the maximum page number. Additional information provided will not be taken into account.

As a result of the market consultation, RVO can decide to start a follow-up process.

Deadline

The deadline for responding to this market consultation is set at 13 January COB.

.....

ANNEX 1

Introduction of La Laguna de Zapotlán

La Laguna de Zapotlán sub-basin, located in the state of Jalisco in Mexico, hosts a thriving system for agricultural activities, among which the production of avocado, berries, and agave. The climate and the natural resources of the region make it very attractive for agriculture and, due to the competitive market for these crops, farmland continues to expand. Currently, approximately 50% of the landscape territory is used for agriculture. The rapid expansion in recent years of activities in fragile and natural areas has also affected biodiversity and ecosystem quality. In particular the Laguna de Zapotlán, a Ramsar site, is threatened.

Although the Laguna de Zapotlán sub-basin is considered part of the larger Lake Chapala water basin, it is actually a closed system (endorheic watershed), meaning that its rivers and streams converge to the inner lake of the basin, the Laguna de Zapotlán. The catchment of the landscape is again subdivided into 9 smaller micro-basins. The total area of the landscape is about 46,015 ha. Another main element characterizing the landscape is the Colima mountain range that bounds the landscape in the south, which is a Protected Area in the category of National Park. The range exists of two volcanic peaks: the inactive Nevado de Colima reaching 4,330 meters high, and the (very) active Volcán de Colima reaching 3,830 meters. The volcanic activity has provided the region with rich soils.

The current total population in the landscape is around 132,000 people, spread over 2 main municipalities, Zapotlán el Grande and Gomez Farias, covering respectively the southern and northern part of the landscape. Additionally, around 40,000 seasonal workers come to the region during harvest season. Most people (~90%) live in the main urban centers in the landscape: Ciudad Guzman located south of the Laguna de Zapotlán and the smaller San Sebastian del Sur in the north.

La Laguna de Zapotlán is a sweet water lake at 1,497 meters above sea level and is located in the lowest part of the landscape, and it stands out for hosting a considerable number of threatened and endangered species such as the Mexican long-tongued bat, the milk snake, whipsnake, and Mexican pine snake. The lake is also an area of refuge for an average of 25,000 waterfowl. Since 2005, this lake is formally designated as a priority area to be protected under the RAMSAR wetlands convention. The lake is also an important corridor for migratory birds from North, Central and South America, especially from November to March.

For the population and activities in the landscape, the lake is a key water reservoir, as well as a water body receiving nearly 34,000 m³ of treated, but also increasingly untreated, urban wastewater. Its maximum capacity is 27,000,000 m³ with an average area of 13.7 km² and depth of 4.5 meters, corresponding to a volume of approximately 20,000,000 m³, that is, 74% of its capacity.

Challenges in the Laguna de Zapotlán landscape

Uncontrolled expansion of activities since 2010, deforestation, erosion, forest fires

The rapid expansion of monocultures led to uncontrolled growth into vulnerable areas, including deforestation on slopes and the clearing of forests for accommodating plantations of avocado, agave and berries. The local government has insufficient capacity for inspecting lands and monitoring deforestation. The removal of natural vegetation affects soil quality and structure which, in turn, makes it more susceptible to erosion in occasions of high precipitation. Another consequence is more incidence of forest fires from the reduction in water infiltration and humidity in the remaining vegetation.

Effects on water quality, lack of infiltration, insufficient aquifer refill

Water from precipitation flows downstream, through natural and agricultural lands, bringing to the lake sediments (sludge) and contaminants from agricultural activities and other land uses. According to local sources, 8.5 tons of solids are deposited in the laguna per day. The wastewater

treatment plants are outdated and don't treat sufficiently the increased volume of wastewater, resulting in 30% to 50% of residual water flowing directly into the lagoon. Water quality concerns also persist due to residues from life stock and agricultural chemicals. Increasingly, local residents are reporting health issues which are thought to be linked to water quality problems.

Despite being a protected Ramsar area, the lake suffers with much proliferation of water lily and tule due to nutrients flowing into the lake. Water lily has covered up to 75% of the lake in previous years, while 30% of coverage is the maximum accepted. The government, fishermen and volunteers assist with removal of water lily. Aside from the mechanical removal invested to mitigate this problem.

Water availability

Currently, 75% of the available water is used for agricultural purposes. 73% of the underground water in the municipality of Zapotlán el Grande is used by agriculture. In the broader context, there is a race against time for the water basin to adequately recover from its negative water balance, with a deficit of 26 mm³ for the year 2020 and 31 mm³ for 2023. The more groundwater is extracted, the faster the layer of fossil water (salted) is reached. The excessive sedimentation throughout the rivers and channels down to the lake prevents water to infiltrate effectively, which has implications to the refill capacity of the local aquifer.

Flooding of urban and agricultural areas bordering the Laguna de Zapotlán

The past years have shown an increase of the surface area of the lake, probably due to sediments (including sludge) accumulating in the bottom of the lake as a result of runoff in seasons of high precipitation and the increased use of groundwater (flowing back into the lake). According to local farmers, over 500 hectares were affected by floods since 2022.

Lack of coordination between initiatives and commitment to collective action

Water governance is another challenge expressed by various stakeholders in the Laguna de Zapotlán landscape. Local actors - including farmers, NGO's, local government and private sector - are well aware of the problems in the landscape, though they realize that collective awareness of the causality of drivers and impacts within the broader community needs to be improved. In addressing the current environmental challenges, various actors are individually undertaking actions within their own mandates and capabilities. Though driven by the best intentions, to increase broader synergies and impacts within the landscape, and really address the drivers of environmental degradation, these actions could benefit from more alignment, prioritization and coordination.

Other challenges pertain to the enabling environment

At all three levels of government, there is no policy setting a maximum limit on the amount of nitrogen that farmers can use, which is crucial for protecting local biodiversity and water quality. Additionally, there is a challenge in facilitating a market transition towards a sustainable farming. Although there is some export to Europe and Asia, The United States is the primary importer of various Mexican products, including avocados. However, the environmental requirements for these products to enter the American market are minimal, which means producers are not compelled to adopt sustainable practices. As a result, the international private sector is not incentivized to support a sustainable transition of this market and farmers in the Laguna de Zapotlán landscape lack the urgency to invest in reducing water consumption and increasing biodiversity on their lands as no policy requirements, certifications or other incentives are available or in force.

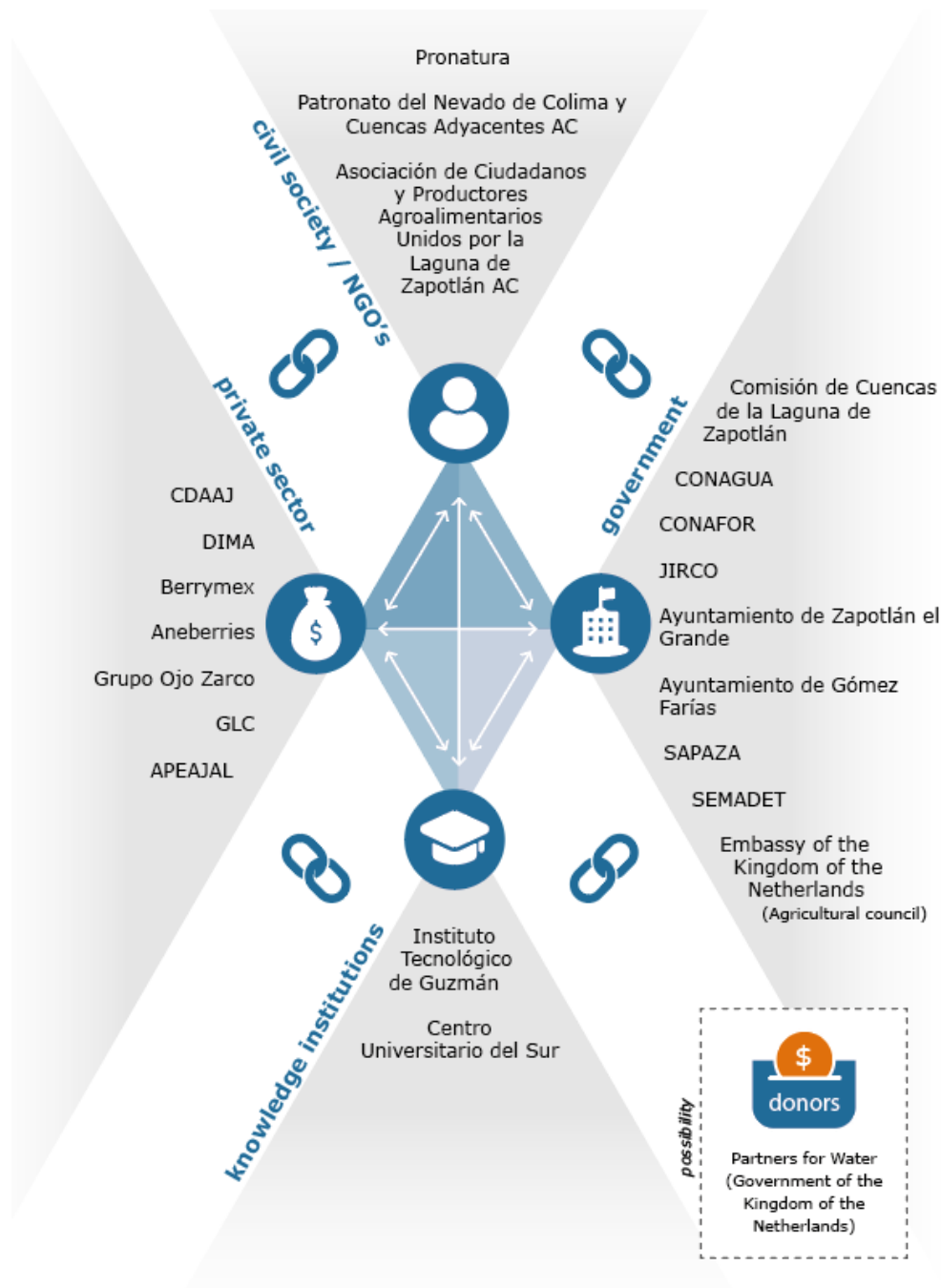
These challenges also affect many agricultural plantations, particularly avocado. Decreasing water quality and irregular water availability, erosion, sedimentation flow (with the soil ending up in the laguna), and high temperatures, all of which affect current productivity and the long-term sustainability of the business model. With high quality groundwater running out, there is an additional risk of avocado plantations collapsing due to salinity of the available groundwater.

Local stakeholder action

In response to these environmental pressures, there has been a growing focus on sustainable agricultural practices in recent years, with some efforts aimed at reducing deforestation and managing water resources more efficiently.

Various actors within the Laguna de Zapotlán landscape are actively taking steps and engaging in discussions aimed at improving the conditions of the water basin. Actors of the civil society and

individual farmers are sharing their stories, water-related problems and their initiatives for mitigating losses from extreme floods and erosion. NGO's are seeking financing opportunities for supporting initiatives on reforestation and sustainable land use. Knowledge institutes are researching conditions and changes in the water basin, as well as investigating the effects of mitigation measures being taken. Although enforcement is difficult, local government has taken steps towards creating concrete institutional frameworks for protecting native areas and limiting deforestations. The private sector, which includes larger farmers' associations, are investing in measures for reducing the effects of plantations on the environment and supporting reforestation.



Using local knowledge and the already existing studies that have been done, the above-mentioned actors are aware of the origin of the problems in the Laguna de Zapotlán landscape and are taking their own measures for mitigating risks.