

# Caminos de Agua- Strategy groundwater treatment Volunteer job description

## **Information about the Charity:**

Founded in 2012, Caminos de Agua's mission is to improve human health and community well-being through adequate and affordable access to clean water, in response to the decline of water level and quality of the Alto Río Laja Aquifer, in northern Guanajuato State, Central Mexico.

The organization works in partnership with local communities, grassroots organizations, government (municipal, state, and federal), international NGOs, and leading research institutions to provide open-source water solutions for over 680,000 residents, in the watershed and beyond. Caminos de Agua also trains aspiring, socially responsible engineers, scientists, and other young professionals looking to make social and environmental impacts in their work. The activities of the organization are sub-divided in several projects, including:

- the production and distribution of certified ceramic water filters, created by Caminos de Agua to eliminate water-borne pathogens,
- community-based installations of rainwater harvesting systems,
- water quality monitoring at well sites throughout the Alto Río Laja Watershed,
- research and development of specifically engineered solutions for the removal of arsenic and fluoride from drinking water,
- grassroots community development, education, and training regarding regional water quality issues and solutions,
- national water politics, and public policy work at the municipal, state, and federal levels.

Caminos de Agua has an extensive history of working with foreign volunteers, including three SAFAD volunteers and four Cranfield MSc students on thesis placements. See [www.caminosdeagua.org](http://www.caminosdeagua.org) for more information about the charity.

## **Information about the project:**

Groundwater in the Alto Río Laja Watershed is becoming increasingly contaminated with toxic elements such as Arsenic and Fluoride, which have severe health consequences. Complementing other activities (such as community rainwater harvesting), Caminos de Agua has developed a low-cost, easily replicable, community-scale groundwater treatment system (GTS) to remove these contaminants. After years of collaborating with various academic and community partners, we have built our first two systems, which are operated by community members under Caminos' supervision and can providing drinking water to up to 130 families.

We are actively working toward implementing more systems, in different communities, with the objective to have 10 installed by 2027. Beyond implementation, we are also working toward systematisation of those systems as a large-scale solution, to create processes and an ecosystem that would support their wide-spread acceptance

A dedicated team, composed of social promoters and technicians, has been put together to support this ambition. The project will be based between our office in San Miguel de Allende, and rural communities where those systems are implemented. These communities are typically 30-60min away from Caminos' offices.

The volunteer will be integrated to Caminos' Research and Development team ("Tech Team"). The volunteer will be a key person moving forward our pilot groundwater treatment systems. Technical guidance will be provided when relevant. The responsibilities of the volunteer might include (but not be limited to):

### **Specific volunteer tasks**

The volunteer will be integrated to Caminos' Groundwater water treatment team. They will help define the organisation GTS strategy to make our ambitions become a reality.

The responsibilities of the volunteer will include (but not be limited to):

- Mapping other entities (In Mexico or abroad), that have been implementing decentralized community-scale water treatment schemes in low-to-mid resource settings
- Compiling or creating case-studies to understand the context of those other entities and the methods used, and what can Caminos learn from them
- Establishing relationships with the most promising ones, to pursue any potential synergies and/or knowledge transfer
- Helping to shape a vision of what a GTS ecosystem that fulfils the organization's mission might look like in 10-15 years
- Proposing different roadmaps and implementation models (for-profit entities, cooperatives, public-private partnerships etc.) that would help turn that vision into reality
- Mapping local actors that could play a role in the implementation of GTS in Mexico (either under Caminos' supervision, or as independent spin-offs)
- Conducting interviews, focus-group discussions or any other relevant tools with either local or international stakeholders
- Conducting economic and social analysis to evaluate the long-term viability of the proposed scenarios

Depending on the progress made on the project, and on the interest/skills of the volunteer, the project could be extended in different directions.

### **Skills required:**

- Academic/professional background: Social entrepreneurship, Development sector, Strategy or any other relevant fields

- Fluent (DELE C2) in either English or Spanish with working proficiency (DELE >=B2) of the other;
- Dedication to organisation development for social justice;
- Self-starter; able to take an abstract task and work independently;
- Demonstrated problem solving skills;
- Understanding of the context of the “Bottom of the Pyramid”

**Additional Preferred Qualifications:**

- Experience working in the field with rural communities; in a cross-cultural setting; in Latin America
- Understanding of community-based organisations and cooperatives
- System thinking
- Familiarity with water treatment technologies, especially decentralized ones
- Basis in social sciences and economics
- Experience working with the public sector

The volunteer should be available from September or October 2024 and should be with Caminos de Agua for a minimum of 6 months. Ideally, a volunteer would commit to a one-year stay. Depending on the progress made on the project, and on the interest/skills of the volunteer, other projects can be considered during the stay of the volunteer.

Meeting the expectations of our volunteer is of great importance to us. We are open to discussing the scope of the projects with the incoming volunteers to match interests.