

**Peru – CASM**  
**Water Quality Monitoring Based On Community Participation: The Case Of Vicos**  
**Terms of reference**

Mrs. Juana Kuramoto from GRADE will be responsible to implement the activities defined under the present terms of reference:

**Background**

Environmental monitoring with community participation is new in Peru. Funding agencies such as the USAID are sponsoring such experiences as a means of promoting environmental consciousness and citizenship at the local level. One of such experiences is that of the community of Vicos (Province of Carhuaz, Department of Ancash). Under the program APGEP – SENREM, the Mountain Institute and Urpichallay run the project *Agua Para Siempre* (Water Forever) and organized an environmental committee in Vicos to monitor water quality.

Vicos is located at the riverside of the Quebrada Honda river and part of its lands overlap the National Park of the Huascarán, a protected area<sup>1</sup>. The community's main economic activities are agriculture and livestock. The community also owns the Chancos thermal water springs that provide some additional income to the community. In the upstream of the river, small scale mining is performed. At the time of the project implementation, three small mining firms were operating at a daily average capacity of 10 tons. These firms hired some of the Vicos peasants, who extract the polymetallic mineral with non-mechanized artisanal methods. Although mining was not a new activity, there were several abandoned mines, the community noticed that some animal and plant species decreased and that the health of its animals deteriorated. Conflicts arose and the community opted to close the road that allowed the mineral to be taken out to the processing plant outside this region<sup>2</sup>.

In these circumstances, the project *Agua Para Siempre* managed to organize an environmental committee to monitor water quality, having as main indicators pH, conductivity, temperature, dissolved oxygen, acidity, alkalinity, among others. The project trained some peasants with monitoring techniques, both biological and standard technical monitoring. One of the activities of the project was to validate the community monitoring with the results of an environmental thesis that was done simultaneously.

One of the successes of this project was to engage two of the three mining firms (the other closed its operations) in its activities. These two firms made some remediation works such as modify the course of their effluents and treat them in a sedimentation pond before pouring it to the river, revegetate an area with endangered local trees and contribute with the community sanitation works. In addition, one of the firms hired for the first time an environmental engineer.

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<sup>1</sup> There is lack of coherence in the territorial planning because there are at least 5 mines (2 abandoned) in the area.

<sup>2</sup> In 2000, the community closed the road 4 times; by 2001 the road was closed twice; and in these first months of 2002, the road has remained open.

At present, about four months after the formal end of the *Agua Para Siempre* project, some of the environmental promoters have been granted with a certification of an authorized sanitation institution (DIGESA – General Directorate of Environmental Health). Besides the two mines, a different third one is entering into operation but at an informal level (the community which owns the superficial area is “allowing” someone to begin exploitation). There is an interest of some institutions to replicate this experience in other nearby areas as part of an integral environmental management plan for the Santa river watershed (the Quebrada Honda is an affluent of the Santa river).

### **Objective and scope of work**

The purpose of the project is to answer to the following three questions:

- What are the factors that influenced the two small-scale mining firms to become more environmentally responsible?
- Assuming that these firms’ new behavior had an impact on operating costs, what are the firms’ future perspectives to secure their profitability?
- Given that part of the Vicos community work under a contract as artisanal miners, how does the community perceive mining and how does this activity fit in their environmental plans especially in relation to the new informal mines?

### **Products**

The main products of this project will be:

- A descriptive report stating the situation of the Vicos community and the mining firms working in the area.
- An assessment on these small scale mining firms’ ability to pursue responsible environmental practices while maintaining profitability, and on the future prospects of sustaining these practices.
- An assessment on the Vicos community’s ability to integrate mining with other traditional community activities, such as agriculture and livestock.
- A community environmental plan to integrate the informal mines in a waste control strategy.

### **Time schedule**

The estimated time schedule is the following:

Initiation of work: July 15, 2002

Progress report: September 15, 2002

Delivery of the products: October 31, 2002.

### **Fees**

The services will require a maximum of 25 days of work at USD200.00/day, representing a total amount of USD5,000.00.

### **Schedule of payments**

An advance payment of 80% of the total fee will be disbursed at contract signing, in order to arrange proper launching and implementation of the activities

A final payment of 20% of the total fees will be paid upon reception and approval of the products.

**Contact persons**

For all matters related to the contract, you will refer to Mr. Jeffrey Davidson ([jdavidson@worldbank.org](mailto:jdavidson@worldbank.org), tel. +1-202-458 8388) or Mr. Gotthard Walser ([gwalsen@worldbank.org](mailto:gwalsen@worldbank.org), tel.: (202) 473 4234).