

Environmental diagnosis of dams on the Peruvian coast. Case Study: Gallito Ciego dam

Researchers: Carlos Tavares Corrêa (Geography Section) / Nadia Gamboa Fuentes (Chemistry Section) / María Isabel Quispe Trinidad (Industrial Engineering Section) / Victoria Ramirez Valdivia (Civil Engineering Section) / Patricia Alva Carolina Zúñiga (School of Science and Engineering -Chemistry) / Carmen Celia Alvarez Gutierrez (School of Science and Engineering - Chemistry) / Natalia Ríos Perales (School of Science and Engineering - Chemistry) / Renzo Alberto Matienzo Bernabé (School of Science and Engineering - Chemistry) / Gabriel Andrew Koo Urcia (School of Arts and Humanities - Geography and Environment) / Estefanía Carmela Fox Llerena (School of Arts and Humanities - Geography and Environment) / Michelle Jahnsen Cisneros (School of Arts and Humanities - Geography and Environment) / Carlos Miguel Incháustegui Perez (School of Arts and Humanities -Geography and Environment) / Jorge Eduardo Cieza Aubert (School of Science and Engineering - Civil Engineering)

Coordinator: Carlos Tavares Corrêa

Research Assistants: José Flores Satoshi Takahashi (School of Science and Engineering - Chemistry) / Gustavo Adolfo Rondón Ramírez (School of Arts and Humanities - Geography and Environment) / Nelson Omar Zapata Salazar (School of Science and Engineering - Industrial Engineering)

Funded by: Contest of Interdisciplinary Project. Research vice -rector's Office

Department of Science - Chemistry Section - Group GRIDES

The importance of dams on the Peruvian coast is undeniable. Water storage can meet multiple needs such as irrigation, drinking and hydroelectric power generation, among others. However, it is necessary to know impacts caused by the damming of the river water in the geographic catchment area.

This project is aimed to provide a methodology to recognize and quantify the major environmental impacts downstream from the Gallito Ciego dam, in order to propose mitigation and prevention actions necessary to extend the service life. To do this, a monitoring program will be designed for the reservoir and downstream the dam, methodologies for assessing environmental impact will be applied and one methodology

for impacts recognition and quantification for dams, comparable to the case study, will be proposed.

This research results from the concern that erosion can be caused by the interruption of sediment supply to the lower basin of a river, both in the river and in oceanic beaches, and thereby cause an environmental impact needed to be evaluated. Moreover, farmers may use at some point in the dam sediments confined as a natural fertilizer, if they have high organic nutrients without evaluating the content of other toxic or ecotoxic chemicals.