

Doctoral Dissertation Research: Water Pollution Governance in Lake Titicaca: Creating Political Spaces of Democratization

Data Management Plan

Data and materials to be produced: Data generated for this project will be collected by Co-PI Cueva Alegría. The primary data generated will include audio files from semi-structured interviews, oral histories, focus groups, handwritten notes from interviews and participant observation, and Social Network Analysis (SNA) survey results. A password-protected, encrypted external hard drive will be used exclusively for the purpose of storing all primary data, and which will be accessed only through the Co-PI's password-protected laptop. This data will not be stored in the laptop in any format. When internet is available during fieldwork, the data will be uploaded to the University of Kentucky's encrypted One Drive cloud storage.

Standards for data format: Software used for the processing and analysis of data collected during fieldwork will include Microsoft Office Suite, ATLAS.ti qualitative coding software, and the Social Network Analysis software UCINET. Metadata generated from interviews and survey responses will include date, location, type of informant (e.g. rural civil society or state). For rural civil society environmental actors, metadata will be gathered on their rural environmental organization attributes; namely, information on its age, size, legal status, financial status, and geographic reach of the organization. For state actors, metadata will be gathered on the state institution they represent; namely, government level, name of state institution/department/organization, age, size, and endowment. Metadata will be stored in ATLAS.ti, Microsoft excel spreadsheets, and UCINET data files in the password-protected external hard drive.

Data confidentiality and security: As pertains this research and its publications, steps will be taken to ensure confidentiality for all respondents unless the participant chooses to reveal his or her identity. All semi-structured interviews, oral histories, focus groups, and surveys will only be conducted after the participant gives their verbal or written consent. The co-PI will implement the informed consent and assent protocol approved by the University of Kentucky's Institutional Review Board (IRB) which explains why an adult is being invited to take part in the research, who is doing the study, the purpose of the study, where the study will take place and for how long, what participants will be asked to do and their optional participation, possible risks and benefits, and how privacy of their information will be maintained.

Coded identifiers will be used for audio recordings and all transcriptions and state actors and Puno rural civil society environmental actors will be assigned a random number. Pseudonyms will be used in any products resulting from this research such as written reports and publications to protect the anonymity of interview participants. All identifying information will be kept in a password-protected master sheet on a separate external hard drive from the one containing the audio recordings (from semi-structured interviews, oral histories, and focus groups), interview transcripts, surveys, and observational field notes. Unless the participant elects otherwise, no identifying information will be included in the audio recordings or in their transcriptions nor in the survey responses or in the observational data. The master sheet will be used to link the name of the participant to the number that corresponds with their audio recording, transcript, survey, or observation from field notes.

Photos taken during participant observation of public events by the Co-PI will be numbered and include the date and location. All identifying features will be redacted such as names and addresses. Images of individuals will be maintained only if individuals provide voluntary consent. Textual data such as newspaper articles, rural environmental organization planning documents, brochures, fliers, and pamphlets will be listed by name and date and will be digitized with a computer scanner and stored with digitally-accessed text.

All data will be kept in a locked bag while in the field. Then, every evening, in the PIs residence, the electronic data collected in the field will be separated into two password-protected hard drives (one for the master sheet and one for all the other data) and will be stored in separate locked cabinets. All paper data will also be stored in a separate file cabinet.

Interviews will be translated into English and transcribed only by Co-PI Cueva Alegría utilizing NVIVO's online automated transcription service. NVIVO's transcription data is encrypted and only the account owner has access to and control over their data. Audio files will be uploaded to the secure website, but will not be stored there. As soon as transcription takes place the audio files and the transcription files will be deleted from the website. As such, the primary data produced through this project will not be released to other parties.

Once the Co-PI returns from the field, the password-protected hard drives with the electronic data and master sheet will be stored in separate locked cabinets in the Department of Geography at the University of Kentucky. The paper data will also be stored in a separate locked cabinet. To allow for follow-up studies in the future, Co-PI Cueva Alegría will keep an encrypted copy of the master sheet with participant contact information on a secured storage device. In compliance with the University of Kentucky's IRB, all other data and materials with identifying information will be destroyed and the external drive will be reformatted with a file shredder tool upon completion of data analysis or after a maximum of six years from the date of data collection. Public documents like newspaper articles, policy documents, fliers, and brochures will not be destroyed.

Dissemination and sharing of results: For the purpose of making the data collected from qualitative and multi-method research publicly available and accessible for future use and reanalysis, the Qualitative Data Repository (QDR) (<https://qdr.syr.edu/>) located at Syracuse University will serve as a data repository and for data-sharing. QDR has been certified as a "trustworthy data repository" by CoreTrustSeal with the capacity to store, publish, and durably preserve social science data and documentation acquired from publicly-funded research for public use and access at no cost. Its trained staff will curate data to make them usable, discoverable, meaningful, citable, secure and durably preserved. The Co-PI has received confirmation from QDR staff that the data are suitable for archiving with QDR. Thus, all redacted interview transcripts (.docx), qualitative coding results (.qdp), survey responses (.xlsx), SNA diagrams (.doc), results of descriptive statistical analysis from SNA surveys (.txt), audio (.wav), and metadata will be stored in a specific open source virtual archive at (<https://data.qdr.syr.edu/>). This data will be published with Data Documentation Initiative (DDI) metadata and issued a Digital Object Identifier (DOI) to facilitate findability and allow stable citations to the data. In case participants have given explicit consent to use their names, then identifiable records will be stored in this way.

The results of this research will be shared via conferences, peer-reviewed journal articles, public scholarship, and training and teaching materials. To guarantee the confidentiality of all participants, results will be disseminated in aggregate form or under pseudonyms. Written reports ('white papers') of findings will be shared with the Co-PI's local affiliations, all Puno rural environmental organizations, local Puno state institutions and Central government institutions involved in water pollution governance of Lake Titicaca. Additionally, if the participant gives permission, redacted interview transcripts from oral histories without identifying information will be distributed to environment-focused media outlets such as La Mula and NoticiasSer, as well as Puno's Municipal Library, Peru's National Library, and the National Water Authority's Library, unless the participant gives permission to do otherwise. Interview transcripts will not be redacted and identifying information will not be removed if a participant elects to speak on-the-record and will do so with full knowledge through the informed consent process that their unredacted interview transcripts will be disseminated and stored in this way.

Participants will be informed that they can contact the researcher for the results of the study. For participants for whom confidentiality is being maintained, the researcher will provide individuals with the Co-PI's business card with contact information. Within a year of completing data analysis, a preliminary summary of research results will be written up, with findings devoid of any personal identifying information of those who participated in the study. This research summary will be provided to participants and local leaders.

Once the dissertation is completed, it will be made publically available through the University of Kentucky Library. The dissertation will be used for further dissemination through producing journal articles or a book. For compliance purposes, the IRB was consulted during the development of this research project. This project has received approval in November 2019 by the University of Kentucky IRB under Expedited Review with protocol #50260.