

**Hot Potato: The Global Importance of Conserving the Culture and Ecology of the Chiloé Agricultural Heritage System.**



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## **Introduction**

While industrial agricultural production is claimed to “feed the world”, it is traditional agricultural systems that sustain global agricultural biodiversity, resilient ecosystems, and valuable cultural knowledge systems providing food security for billions of people worldwide. The United Nations recently developed the Globally Important Agricultural Heritage System (GIAHS) as a worldwide initiative to conserve valuable crop genetic diversity, ecologically sustainable agricultural practices, and traditional agroecological knowledge. Traditional potato-producing communities in the Chiloé region of southern Chile have been designated one of five pilot sites in the world for GIAHS conservation. The Chiloé Project is intended to conserve traditional agroecological heritage and crop genetic resources currently threatened by severe social and environmental impacts from the intensive labor and production practices of industrial salmon aquaculture (FAO 2006). I am requesting summer travel funding to Chile to: establish working relationships with the UN/GIAHS field office, regional supporting organizations such as the Centro de Educación y Tecnología (CET), acquire preliminary institutional, socio-economic, cultural, agricultural, and spatial information that is not readily available out-of-country, and visit traditional potato producing communities in the rural islands of the Chiloé region. The focus of the research funded by this summer travel grant is to inform the development of my PhD dissertation proposal to critically study how the conservation of traditional Chilote agroecological knowledge and practices might or might not satisfy potentially conflicting global interests in important agricultural resources such as farmed salmon and heritage potatoes while meeting the subsistence and development needs of local communities.

## **Background**

The subsistence farmer-fisher communities of the Chiloé region have maintained largely self-sufficient agroecological systems for centuries. Chiloé is one of the Vavilov centers of origin of crop diversity in the world. Recent DNA studies have confirmed that more than 99% of the genetic material in industrial potato varieties currently produced throughout the world are directly descended from the Chilote potato (*Solanum tuberosum*) of the Chiloé islands (Yao 2010). However, the rapid development of industrial aquaculture (salmon farming) over the past 10 years along the Chiloé coast is claimed to have resulted in increasing abandonment of traditional food production practices in favor of a consumer economy dependent on transitory wage labor and imported goods (Terram 2000, UN 2006). This ‘development’ process has led to severe pollution of coastal areas from aquaculture waste and debris causing toxic algal blooms and shores piled with aquaculture flotsam. Concurrently, the commodification of labor relations with in formerly mutually aiding communities has challenged traditional social equities long maintained in this agrarian culture. Many Chilote families have ceased their traditional practices with the hope of entering the global community of wage labor and consumer goods. However, long hours of physically demanding work in dangerous conditions on the floating salmon farms has also resulted in unsustainable living habits including increased rates of alcoholism, domestic violence and diminished dietary health (Barrett et al 2002). The GIAHS project in Chile is the first of six global heritage sites proposed in Latin America. The Chiloé Project in particular is intended to encourage global public recognition and revive the local potato-producing knowledge and practices in the Chilote communities of southern Chile as important sources of ecological heritage and crop biodiversity.

## **Objectives and Methods**

One objective for the summer research is to identify perceived and actual environmental and social threats to the traditional Chilote potato agriculture from the perspective of local communities, regional NGOs, as well as national and international institutions. This will be used to inform the dissertation project design so that it may better address the actual concerns of those most intimately involved in the development-conservation processes. A second objective is to document and represent current socio-ecological processes of traditional potato production, salmon farm operations, artisanal fishing and shellfish collecting activities. Beginning to identify the intensity and spatial extent of the primary subsistence and production activities will help guide the allocation of future research time and resources once the dissertation project is implemented in the field.

A three component methodology is proposed for the summer study trip: institutional analysis, livelihood studies, and geographic information science (GIS). These three components are intended to mutually inform one another in an iterative process of information building for dissertation proposal development. The institutional analysis of the GIAHS program with specific emphasis on the Chiloé Project as a case study will be based on the acquisition of institutional and ethnographic data collected from written documents, public records, and semi-structured interviews with U.N., FAO, participating regional and local NGOs, and community members in Chiloé. Livelihood studies based on site visits and semi-structured interviews with Chilotes will provide valuable context and insight into the spatial, social, economic, and environmental conditions of the area from the local's perspectives. The acquisition and analysis of GIS databases and satellite imagery of the region is the third component. The integration of GIS techniques is intended to supplement the institutional and ethnographic information to provide enhanced spatial representation and analyses of the social and ecological conditions that make-up the project area. The use of satellite imagery allows for the most up to date analysis of the distribution of salmon farms, agricultural lands, and residential areas as well as specific analyses of ecological conditions in both the marine and terrestrial environments to further inform interview data.

## **Summer Research**

The goal of this summer's research is to provide me with a "ground truthing" of essential contacts, specific geographic sites, and necessary baseline data to help develop a thorough and viable dissertation proposal. The estimated five weeks of travel in Chile will be distributed between the locations of Santiago, Valdivia, and Chiloé. Some prior communication has been established with in-country contacts to ensure an efficient and successful use of time and resources. However, unstructured time has been allotted in each area to allow for the pursuit of new and alternative lines of inquiry or contacts as necessary.

While in Santiago, I hope to acquire more detailed information regarding the Chiloé potato conservation initiative that is not currently available without establishing direct professional contact with the GIAHS Chile field staff as well as obtaining geographic information data from Chilean Military Geographic Institute (IGM). Meeting directly with the GIAHS field staff will provide essential information regarding the actual implementation, development, and challenges of the project from direct interviews. This will inform and identify areas of further investigation and critique for the institutional analysis. Concurrently the IGM is

the national geographic data collection and storage institution. This integrative research approach incorporates geographic information science (GIS) techniques to provide quantitative analyses of the study area's current and historic land-use dynamics. These very large data sets that include national census data and satellite imagery can only be obtained in-person from the IGM due to file size and the specificity of the data. New and original maps of the region's socio-ecological dynamics will be produced as a direct result of this summer research.

I also plan to visit the Southern University of Chile in Valdivia en route to Chiloé to meet with José Uribe Retamal, Director of the Center for Education and Technology. CET has been identified by the FAO as the designated regional organization to coordinate and conduct the Chiloé project's education and outreach programs in the potato-producing communities. CET has been involved with the project for several years developing contacts and conducting community awareness workshops concerning the conservation of local varieties of Chilote potato. Meeting and interviewing José and other staff will allow me to discuss the realities of fieldwork with the communities, gather specific information on local contacts, and obtain direct introductions to willing contacts.

Perhaps the most important part of this dissertation development trip will be a several week visit to the Chiloé region to meet with local potato producers within the GIAHS project area. I hope to conduct some initial interviews and site visits in the Chiloé area in order to better inform my dissertation research design. The Chilote communities' long history of potato production is thought to be a vital component of their traditional horticultural practices and unique cultural traditions. I have some contacts obtained several years ago during my Master's thesis work on traditional barter networks that included local potato farmers from the area. My previous immersion in the local customs and dialects will also contribute to the depth and breadth of information and observations that I will be able to obtain during a brief orientation visit such as this. Arriving in late July-early August will allow me to visit local potato farmers as they begin planting for the year's crop. This will allow me to obtain not only interviews, but also experiential and material data on the Chilote potato system. Upon completing this summer research I look forward to better understanding the dynamic factors involved in global conservation initiatives, traditional agroecological knowledge and practices, and the development needs of local communities.

**Summer travel expenses:** International airfare \$1,200, in-country transportation \$200, and Chile Reciprocity Visa Fee \$140 for a total of \$1540. Lodging and some meals have been arranged in both Santiago and Chiloé with Chilean colleagues and local contacts.

I am very much looking forward to this opportunity to represent the University of Georgia in critical Latina American research on rural development and the conservation of traditional knowledge and practices.

Thank you for your consideration.

Richard Vercoe