

**FINAL TECHNICAL REPORT**

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## **Report of Field Work Accomplished**

The field work accomplished was substantially different to that outlined in the original proposal of this research. This is because the researcher was unable to work in the field site selected, due to lack of institutional and community support, and because of serious ethical and security issues, all of which did not become evident enough until five months after the commencement of activities in the field. At the end of the fifth month, the researcher abandoned the selected field site with very little field work accomplished.

Following this important turning point, the researcher took the necessary steps to find another research site, and to modify the research questions and methodology to suit the new site while maintaining the original intent of the research.

After beginning the research in the new site, social protesters blocked the roads (making it impossible to reach the new site) for more than two weeks. Because of this, and the lack of resolution of the protesters' demands by the government (and thus the likelihood of further social political problems), the researcher made the decision to shorten the time dedicated to the field research in order not to risk its non-completion altogether. (At the moment of writing this report, the social unrest in Bolivia has deepened, and most major roads in and out of cities have been blocked for several weeks).

The new field site selected is situated in the Municipality of Colomi, Province of Chapare, in the Department of Cochabamba, 62kms from the City of Cochabamba. This is an area that PROINPA has identified as a potato and Andean roots biodiversity 'microcenter' because there are approximately 100 local potato varieties (and substantial diversity in other Andean roots and tubers). Farmers in this area cultivate three altitudinal floors ranging from 3,200 meters above sea level to more than 4,000 masl. The Colomi market, held twice weekly, and frequented by traders from major cities such as Cochabamba, La Paz and Oruro, is an important destination for the majority of the potatoes grown in the area. While many of the local varieties are bought and sold in the market, most farmers only grow them for home consumption. Most of the farmers in the area also grow Oca, Papalisa, and Fava beans to sell in the market, and many have other occupations such as masonry, carpentry, bus and truck drivers etc. A large proportion of the population of Colomi migrates seasonally to the tropics of Chapare where many have lands and cultivate potatoes, rice, 'locoto' chilies, tropical fruits etc.

The research was conducted predominantly in a community called Pie de Gallo (in actuality two separate communities Pie de Gallo and Pie de Gallo Alto). In addition to this community, key people were interviewed in three other communities in the same area: Rodeo Alto, Chimpa Rancho and Alto San Isidro. Several key PROINPA staff who work in the area were also interviewed.

The modified research objectives were the following:

- 1) To understand who in the community plants how many, and which varieties and why.

- 2) To understand seed flow and access, among community members, and between communities. To understand the relationship between farmer 'conservationists' (who plant many varieties) and farmers who plant only few varieties.
- 3) To assess loss of knowledge about varieties v/s loss of varieties.
- 4) To understand how the physical proximity to the market affects the conservation of local potato varieties

Pie de Gallo was selected based on the following three criteria:

- (1) Minimal previous work done by PROINPA and other research and development organizations in the community.
- (2) Proximity to communities previously worked in by PROINPA and other organizations.
- (3) Size of community. Pie de Gallo is one of the smallest communities in Candelaria.

The remaining three communities were selected because of the key people, identified as 'farmer conservationists' by PROINPA, who live in these communities.

Participants in Pie de Gallo were initially selected randomly from the community syndicate list. This rapidly proved to be a skewed method as the members of the syndicate are mostly elderly, and mostly men. The selection strategy was thus shifted from a random sample to a purposive sample in which the researcher sought to attain a sample representative of age and gender differences in the community. Participants in the other three communities were selected based on the recommendations of PROINPA staff. The objective in selecting these people was to get a sense of who are the people in the neighbouring communities who have been identified as conservationists by the scientists working in the area, and what is their relationship with people and possible conservationists in the principal community, Pie de Gallo.

### ***Methods***

The principal methods used in the research were Participant Observation, Wealth Ranking and Interviews. Participant Observation was on-going from the beginning to the end of the research and included informal conversations with participants and non-participants of the research in and around their homes and fields, and participation in local events.

Three interviews were conducted with each participant in Pie de Gallo. The first was a survey consisting of 10 basic questions about family ties in the community and in Candelaria, varieties planted this year and last, varieties abandoned, varieties desired, seed sources and access, and women's roles in potato cultivation and their preferred varieties.

The second interview was a potato variety knowledge test. This was conducted using a list of varieties that included the more common introduced and local varieties, and the more rare local varieties. For each variety listed, the participant was asked if he/she knew

the variety, and if so, if s/he could describe the color of the peel and pulp, the tuber shape, and the eyes. In addition, the participant was asked the uses of the potato variety, and the soils that it is usually planted in. The purpose of this potato variety knowledge test was to assess the knowledge of these varieties among the participants in order to see if there is a relation between the loss of knowledge of the varieties, and the loss of the potato varieties. The test also served to confirm, and add potato varieties to the list of varieties that the farmers said that they planted.

The third interview was semi-structured and aimed at understanding various qualitative aspects of local potato cultivation, conservation, and loss. It included questions about the rationales for cultivating a multitude of varieties, access to different varieties, relations between those who plant more varieties and those who only plant a few, the effect of the markets (close-by) in decisions of which varieties to plant, which varieties (if any) are disappearing from the area, possible remedies to this situation etc.

The interview conducted with the farmers in Rodeo Alto, Chimpa Rancho, and Alto San Isidro was tailored to their condition of local 'conservationists' but also had some overlap with the third interview for participants from Pie de Gallo. It was also a semi-structured interview. Questions included rationales and motivations for planting so many varieties, obstacles felt in the maintenance of these varieties, relations with others who plant many varieties and with those who do not, opinions regarding the disappearance (or not) of local varieties and possible remedies, number of varieties planted before having contact with research institutions, market influences etc.

The interview conducted with PROINPA staff had the purpose of complementing and formalizing information obtained in informal conversations, and in the institution's annual reports and other documentation. Each interview varied slightly according to the specialization and area of action of the particular person. Questions included facts and opinions on the loss (or not) of local varieties in the region, the persistence of numerous local varieties, comparisons between local and introduced materials, the functioning and obstacles faced by the Native Potato Growers Association, PROINPA's in-situ conservation strategy (including Potato Variety Gardens and Variety Fairs) etc.

Wealth ranking was conducted with three community members (in Pie de Gallo and Pie de Gallo Alto). Each person was asked to organize cards, on which were written the names of all the community members, according to their perceptions and definitions of local wealth categories. Each ranking was assigned a score and then averaged in order to determine the wealth ranking of each person.

### ***Methodological Issues***

Several issues are worth noting:

- The modified methodology has the evident shortfall of relying heavily on conversations with local people (be it in an interview or in informal interactions) and less so on

Participant observation over an extended period. The limited time frame made it so that some of the issues, such as social networks, and access to seed, that would perhaps have been better understood over time, through participant observation and informal conversations and interactions, had to be limited to formal parts of the interviews. This evidently affects the depth of understanding attained by the researcher on these issues.

- The use of a strictly reduced set of methods decreased the possibility of triangulation. This issue was addressed by designing the interviews in ways that allowed the confirmation and clarification of information gathered in the first interview, in the second, and information gathered in the first and second, in the third interview (for the participants from Pie de Gallo).

- The shortened time frame eliminated the possibility of conducting the focus groups planned in the original proposal, and an action research component suggested by the Centre reviewers (and agreed upon by the researcher) during the review of the proposal.

- The area studied is predominantly Quechua speaking. Most men speak a little bit of Spanish, but none of the women do. This made it necessary to work through an interpreter. At first, for lack of other options, the researcher worked with the local school teacher as interpreter. The response from the participants was mixed, apparently due to that person's personal relations with the different families visited. The researcher soon replaced the school teacher with a young professional from another rural area. Since it was impossible to find a professional translator who was willing to spend weeks in the field, the interpreter was not an experienced translator or interpreter. This led to some doubts on part of the researcher as to the quality and accuracy of the translation. For this reason, each interview (third interview) was recorded and then reviewed with the interpreter to make sure he translated all that was said. Afterwards, each recorded interview was re-translated by a professional translator in the city in order to confirm the first interpreter's translations.

### ***Summary of Preliminary Results and Findings***

- The majority of farmers interviewed do not plant more than five or six varieties of potatoes including introduced materials and local varieties. The average number of varieties planted in both communities is 6.4 and the range is 1 – 16. Only five farmers of the twenty interviewed in Pie de Gallo and Pie de Gallo Alto plant ten or more varieties. Only seven plant five or more local varieties.

- Women do not plant any (different) materials on their own accord but they do influence family decisions on which varieties to plant. Generally they prefer the local varieties denominated 'waykus' because they cook quickly and do not require peeling. Some women however favour the more commercial varieties because they bring in more money.

- Most of the farmers interviewed do not feel that their access to any materials is restricted or difficult. Many mentioned that those who have the seed of certain varieties are not willing to sell or give seed of certain varieties but the reason stated is mostly a shortage of seed. This results in a very high cost for seed of certain varieties.
  
- In Pie de Gallo and Pie de Gallo Alto most of the participants explained that they are slowly stopping to grow the local materials because they are very susceptible to diseases and do not produce (as much as the introduced materials). The idea of the loss of potato varieties from the region is seen with some scepticism. While most farmers say that they are being lost, very few think that they can be lost altogether. Most are confident that if in one part of the region people have stopped planting any one variety, in another part of the region there must be some-one planting it.
  
- Almost all the farmers in the region plant potatoes predominantly for sale in the local markets. This makes the market, and potato prices major forces in the decision of which potatoes to grow. In spite of this, the region still has a significant number of local varieties which are not commercial. The decision of which of these to plant each year is determined by the seed available to the family and the size of the family (mostly they use their own seed from the previous harvest).
  
- All of the farmers interviewed as farmer ‘conservationists’ (identified as such by PROINPA) increased the number of varieties that they plant as a result of their interactions (including provision of seed) with PROINPA staff. Most only planted around 10 varieties before interaction with PROINPA. Now two of them plant more than 35 varieties. Obstacles to maintaining so many varieties include limited land available, the work involved in separating and keeping track of varieties, and the low production rates of these varieties. While two of the six interviewed continue to plant many varieties, the other four ‘conservationists’ are no longer planting more than a few varieties.

### Calendar of Activities

July 16	- Arrival in Cochabamba, Bolivia
July 24	- Meeting with PROINPA and RICCERCA e Cooperacione regarding possible field site in Llallagua, Potosí
until Aug. 20	- Meetings with PROINPA staff – Genetic Resources Group - Familiarization with PROINPA’s work and documentation relating to the topic of my research - Visit to PROINPA field sites in Cochabamba province: Candelaria and communities in Sub-tropics - Paperwork for Bolivian Visa
August 20-30	- Visit to RICCERCA/CAD (Centro de Apoyo al Desarrollo) office in Llallagua, Potosí - Visit to field sites in Llallagua, Potosí Province: Siwingani, Falawcani, Walk’eri, Kamani, Circuyo... - Introductions and meetings with CAD staff

September	<ul style="list-style-type: none"> <li>- Signing of Memorandum of Understanding and collaboration with RICCERCA/CAD</li> <li>- Initial meetings with communities, and commencement of field activities in communities of Siwingani and Walk'eri, Ayllu Chullpas, Llallagua.</li> <li>- <i>Explanation of research topic, methods, informed consent..., Participant Observation, Seasonal Activity Calendars (only in Siwingani)</i></li> <li>- Paperwork for Bolivian Visa</li> </ul>
Oct. 2	- <i>Map of lands used by community to plant potatoes (Siwingani)</i>
Oct 3 - 8	- Paperwork for driver's license
Oct. 9	- Abandoned community of Walk'eri (and CAD)
	- Search for and recruitment of independent field assistant
Oct. 11	- <i>Community family tree (Siwingani)</i>
Oct. 13	- Meeting with community of Siwingani, and their request for special permission from their traditional authorities to participate in research activities
Oct. 22	<ul style="list-style-type: none"> <li>- Formal request for letter of permission from traditional authorities</li> <li>- Meetings with various traditional authorities of Ayllu Chullpas, with community of Siwingani, with Cabildo of Walk'eri, with RICCERCA representative in Llallagua, with PROINPA staff...</li> </ul>
November	<ul style="list-style-type: none"> <li>- Travel to La Paz to request my Passport from Immigration Offices</li> <li>- Paperwork for new Bolivian visa application</li> <li>- <i>Participated in Siwingani festivities</i></li> <li>- E-mail exchange with RICCERCA representative in Llallagua regarding respect and ethical treatment of community and need for support in attaining letter of permission from traditional authorities</li> <li>- Paperwork relating to theft of rental vehicle documentation, keys...etc.</li> </ul>
December 5	- Municipal Elections in Bolivia
December 8	- Received letter of permission (written and signed by RICCERCA representative)
Jan. 4, 5 (2005)	- Meetings with supervisors in Ottawa
January 10-24	<ul style="list-style-type: none"> <li>- Inter-city roads blocked (1 week)</li> <li>- Search and recruitment of new research assistant</li> <li>- Visit to community of Siwingani with letter of permission</li> <li>- Meetings with RICCERCA representative and CAD field staff</li> </ul>
January 25	- Abandoned Llallagua
until – Feb. 15	<ul style="list-style-type: none"> <li>- Consultations with supervisors</li> <li>- Meetings with PROINPA staff (Genetic Resources and Director)</li> <li>- Meetings and/or communications with other possible host organizations: FOCAM, IESE, AGRUCO, Institutor Campesino (Colombia)</li> </ul>
February 19	<ul style="list-style-type: none"> <li>- New visit to PROINPA field site Candelaria, Cochabamba</li> <li>- Redesigning research to suit new field site and shorter time frame</li> </ul>
Feb. 20	- Meeting with Candelaria Farmer Syndicate to ask for permission

	to work in the area
Feb. 22	- Meeting with community Pie de Gallo Syndicate to express interest in working with this community and to ask permission
Feb. 25	- Meeting with community Rodeo Alto and Chimpa Rancho to ask permission to work with a few farmers from their communities
Feb. 22 – March 6	- Began work in Pie de Gallo and Pie de Gallo Alto - <i>Selection of participants and initial survey</i> - Search for and recruitment of research assistant/translator
March 6 - 20	- Social protests, inter-city roads blocked in Bolivia
March 20-27	- Holy week
March 28-	- <i>Wealth rankings, surveys, potato variety knowledge test</i> - <i>Familiarization with the study site through informal conversations with farmers, PROINPA field staff, and collection and reading of documentation on the area</i> - <i>Third interview with participant farmers</i> - <i>Semi structured interviews with additional farmers from Pie de Gallo, and with selected farmers from Chimpa Rancho, Rodeo Alto and Alto San Isidro</i>
April 21- 28	- Termination of field activities and feedback meeting with farmers - <i>Semi- structured interviews with key PROINPA staff</i> - Meetings with PROINPA staff and presentation of field work and reflections - <i>Collection of remaining documentation on Candelaria, visits to several specialized libraries in Cochabamba for more information</i>