

Puki Willki Jankoaqui – Safe Drinking Water System

- 1. Name of Project:** Implementation of Safe Water System by gravity and manual pumps in the Sub Central Puki Willki in the three communities of Centro Jankoaqui, Rosario and Huancani Andino.
- 2. Location of Community:** The Sub Central of Puki Willki is located in the Municipal Authority of Corocoro in the Province of Pacajes, Department La Paz, at an altitude of between 4,069 m. approximately 120 kms. from La Paz, along the route Calamarca / Sewencani / Tumarapi, and from there on dirt roads to the communities, taking about 3 hours in a light vehicle or 4-5 hours in public transport.. The minor roads are sometimes impassable in wet weather. The climate is semi-cold to cold and dry to semi-arid especially in winter and spring, with an annual average temperature of 7.6°C, a range between 2.6 °C and 10.7°C and precipitation of 403.3 mm., heavy, and frequently damaging, between December and March and minimal the rest of the year. Frosts, hail and drought present the greatest risks to agriculture and farming, with frosts 15 days of the month during 6 months of the year and an average of 6 days of hailstorms per year. N.B. The elders interviewed say that the climate is changing a lot and as a result it is difficult to predict the weather for their agricultural activities from traditional indicators such as constellations, lunar cycle and the behaviour of the plants and animals. The landscape is varied with hills and plains and escarpments and variable soil depth (dark grey), sand and gravel, heavily eroded; moderately acid to very alkaline. Flora is limited and used for medicine, fuel and food. Fauna is varied including species that are destructive of vegetation and crops such as hares. *Vizcacha (Lagidium visacaccia)* are increasingly rare.
- 3. No. of Participants:** 78 resident families directly plus 10 indirectly.
- 4. Partners:** Gobierno Municipal de Corocoro (with funding of 28% of total cost)

5. Profile of community

Cultural and Social: The Sub Central is part of the Sub Alcaldia of Topohoko and has 372 inhabitants (2001 Census) in three communities or 395, approx. 79 families, according to a survey in 2010, although 18% of these live in the cities for work or study. The highest proportion is children under 9 years; young males tend to migrate in search of work. NB Only 22% is aged between 20 and 40 years. The Sub Central is fully integrated in the political structures of the Central Obrera Boliviana through its affiliation to the FSUTPP and the CSUTCB. Aymara is mainly spoken.

Economic: The economy is based on agriculture and livestock. The principal crops are potatoes, barley and quinoa. Sheep and camelids are raised especially for manure plus to a lesser degree cattle, bred on native pasture, meadows and barley and grass. Land holdings since the 1952 agricultural reform are 2 has. per inhabitant or 10 has. per family. All farming is traditional with no technological introductions - a single potato crop p.a. without irrigation and rotation of cereals such as barley, oats and quinoa. Fodder crops are grown to encourage manure.

Services: There is a state primary (80 students) and secondary (96 students) schools, a total of 16 teachers, with electricity but no water. There is no health post and the population travel to other communities, to the hospital in Patacamaya or to La Paz. There are 107 houses, of which 87% are adobe with mud floors (79%), although 45% have corrugated metal roofs as opposed to straw (55%). 95% have no access to safe water and water is carried, mainly by women (31%), from rivers and springs, a trip of 15-25 mins. 30% have rustic latrines. Rubbish is thrown outside. Wood and dung are used for fuel. Only 75% use the electricity supply.

6. Project Justification

The survey of the Municipal Authority of Corocoro carried out by FQBL in 2009 (QBL-US funded) identified the Community of Jankoaqui (Ankoaque) as second priority in terms of poverty. As with most of the communities in the zone, houses are much dispersed. For this reason the proposal is to provide subsystems for those families that are close together and wells with manual pumps for the most dispersed. Of the 78 families, 37 will have water piped to domestic taps, two taps will be provided for the primary and secondary school and two for the teachers' accommodation; 41 manual pumps will be built. Finally, four public taps are proposed, one at each corner of the *cancha* or football pitch 'for the students'!

Detail of the distribution of the domestic taps and wells

| Community | No. families | Taps | Manual pumps |
|------------------|--------------|-----------|--------------|
| Centro Jankoaqui | 23 | 10 | 13 |
| Rosario | 27 | 13 | 14 |
| Huancani Primero | 28 | 14 | 14 |
| Total | 78 | 37 | 41 |

| Complementary infrastructure | | | |
|---------------------------------|--------------|------|--------------|
| Educational centre of Jankoaqui | | | |
| Level | No. students | Taps | No. teachers |
| Primary | 80 | 1 | |
| Secondary | 96 | 1 | |
| Primary | | 1 | 6 |
| Secondary | | 1 | 7 |

| Public taps | | | |
|------------------|----------|----------|---------------------|
| Community | Location | No. taps | Benefiting families |
| Centro Jankoaqui | Cancha | 4 | 15 (?) |

7. Project Description

7.1. **Initiation and planning:** The prime motivator is the GM Corocoro 'because the great percentage of the population is forgotten by central government, .. and other non-governmental institutions'. The project was assumed by the Sub central recognised as the OTB under the Law of Popular Participation, through the formation of a Water Committee.

7.2. **Project phases and programme:** Six months consisting of:-

Months 1-2

- i. Pre-investment collection of data and information including house visits
- ii. Baseline socio-economic survey by FQBL staff – max. 2 days incl. collection of data on acute diarrhoea amongst children

Months 2, 3, 4

- iii. Workshops on health, hygiene and the environment using DESCOM methodology and including practicals such as cleaning teeth etc.
- iv. Survey of systems
- v. Execution of works including laying pipeline and installing domestic connections
- vi. Installation of manual pumps
- vii. Domestic visits

Months 5, 6

- viii. Training in maintenance and sustainability fund
- ix. Final handover
- x. Post-project: Visits to families at 3 and 6 months periods after completion to measure impact and to monitor CAPS and economic sustainability

7.3. **Training:** Training in maintenance, administration and operation of the system by FQBL-Bo; and on agreement of annual quota and its use.

7.4. **Anticipated Risks (from Log frame):** Stable political, social and economic conditions; active participation, including payments into the sustainability fund; no adverse environmental or climatic factors.

8. Project Budget

The project will cost of which the QBL contribution is \$22,230. The QBL contribution per family is \$us 285 or about £382 which is low as the municipal government is putting in 28% of the budget (similar to Condo Chejwaya). The budget includes items such as water analysis and hydraulic test; plus the cleaning kits for school-age children (an average of 3 per family).

8.1. Community input: Local contribution in form of excavation, local material amounting to 14% of the budget.

8.2. Materials/ design to be used: The design is complex.

9. Sustainability

Social: Through the educational workshops and domestic visits.

Environmental: Category 4 environmental impact as the scale of the construction of the systems and pumps will not have an adverse impact on flora and fauna.

Technical: The community will form a CAPS (local water Cttee) to monitor and maintain and manage the project and the payment of 2 Bs. monthly per family into the sustainability fund.

Economic / financial: Through monthly payments into the maintenance fund, held in a local financial institution.

10. Anticipated benefits of the project

- 78 families with access to safe water, contributing to a 10% reduction in infectious disease and Acute Diarrhoea in children after one year.
- Construction of 37 domestic taps and 41 manual pumps
- Safe water supply to school, teachers' accommodation and to football pitch
- At least 80% of the families educated in health, hygiene and care of their environment; 80% of these exhibiting lasting changes in habits after 9 months.
- 78 families trained in the maintenance and operation of the system
- a local Water Committee organised to manage and administer the system