

Chuchulaya – Safe Drinking Water System
Prepared November 2006 to May 2007, received 4th June 2007

1. **Name of Project:** Safe Drinking Water System in the Community of Chuchulaya
2. **Location of Community:** Chuchulaya is situated in the Province of Larecaja, 1st section of Sorata Municipality, Department of La Paz and is one of 18 communities in the Canton of Chuchulaya, in three of which QBL has provided water during 2006 (Villa Concepción, Chichaque and currently Chiquiruni). It is 165 kms. from La Paz, and about 35 kms from Sorata. There are two access routes – via Sorata (2 hours on earth road in small vehicles) or via Achacachi (7 hours in total from La Paz with part of the road asphalted and passable all year). The community is in a valley with moderate to steep slopes, influenced by the Eastern and Sub Andean Cordillera at an altitude of 2,809 m.; climate is sub-humid, with annual rainfall between 500 and 1000 mm., low in winter, average temperatures between 12^o and 18^o C. and relative humidity around 70%. Soils are average depth, subject to erosion (defined by the Superintendencia Agraria as degraded) and are used for pasture and for cultivation.
3. **No. of Beneficiaries:** 112 families, approx. 336 inhabitants, further 448 projected after 20 years
4. **Partners:** The project is in partnership with the HAM of Sorata which has already provided technical help in the design and preparation of the proposal from its co-participation funds.

5. Profile of community

Economic: The principal form of economic activity is agriculture, cultivating maize, wheat, papa milli, peas and vegetables and in the lower areas chirimoya, avocado and lemon. There are pigs, sheep, cows, geese and ducks, kept for family consumption.

Cultural and Social: According to the 2001 census the population is 327 inhabitants in 105 families. The community register is 100 families plus 12 in Mollepampa. Temporary migration to Las Yungas and the mines and to La Paz, Santa Cruz is common; about 4% migrate permanently. Life expectancy is 52 years. 15% speak Spanish but the majority are Aymara. Whilst 84% of the population are literate, the percentage for women is 67% (a difference between men and women higher than the average for Bolivia which is 12%). School attendance is 67%, lower than the national average for rural areas of 75%. Socially the community is organised under the Agrarian Syndicate, recognised as the OTB, Junta Vecinal and Comité Civico. The anniversary is 16th July.

Services: Children attend the school in Chiacani to primary level. There is a health centre. Most of the houses are of tapial / adobe with corrugated metal roofs and earthen floors. 77% do not have piped water (although 69% have access to public standpipes according to the data). Seven families have latrines and the majority electricity.

6. Project Justification

The community of Chuchulaya has a drinking water system, constructed by the residents 20 years ago which is deficient and does not cover current needs. Due to the location of the tank, pressure is low and water does not reach the houses in the higher part of the community where families access springs and wells. The community have formed an alliance with Mollepampa to take water from springs in Carazani through Mollepampa providing water in the process to 12 families in this community. However the legal arrangements have not yet been agreed.

7. Project Description

7.1. **Initiation and planning:** The project was promoted by the Civic Committee which will be in charge of the project and prepared by the engineers of the Municipal Authority of Sorata.

7.2. **Project phases and programme:** Duration of project, six months from receipt of funds. The programme includes:-

- Pre-investment: this stage includes meeting with the communities, municipal authority, engineers, trainers and skilled labourers in the preparation of the project, verification of data, revision of design and programme of project.
- Information and education workshops on health and hygiene
- Meetings to coordinate the works

- Construction of the system – a rectangular storage tank; excavation of ditches of 40-50 cm and laying of the principal pipe network by skilled labour; excavation and installation of domestic connections;
- Inspection of system – two domestic visits
- Home visits and education using the poster “My family enjoys health, because we have good hygiene habits” (first stage);
- Post-investment Stage – evaluation of impact and monitoring of the changes in habits (social sustainability), monthly payments (economic sustainability) and functioning of system (technical sustainability)

The Civic Committee will be in charge of the project within the community through its Water Committee (CAPyS), forming a registered organisation for the management and maintenance of the system once completed (EPSA).

7.3. **Training:** As well as the educational workshops, the CAPyS will be assisted in the setting up of a fund to cover maintenance and technical aspects of the infrastructure.

7.4. **Anticipated Difficulties / Risks (from Log frame):** Technical adequacy of the system; participation of the partners – HAM Sorata (no delays in disbursement of funds), QBL and the community; training appropriate to the cultural context; proper use of water by beneficiaries.

8. Project Budget

8.1. Budget summary (in \$us):

	Item	Community	HAMS	QBL	Total
A.	Pre-investment stage			975.00	975.00
B.	Execution				
	Administrative costs	Stationery		120.00	120.00
	Human Resources	Nurse (2 mths)		200.00	200.00
		Manual labour	4,790.00	5,944.00	10,734.00
		QBL Technical Assistance		900.00	900.00
	Equipment and tools	Hire of VHS			0.00
		Hire of TV			0.00
		Tools		580.80	580.80
	Fixed costs	Inlet		356.90	356.90
		Adduction system		5,646.03	5,646.03
		Storage tank		1,836.50	1,836.50
		Conduction network		3,370.20	3,370.20
		Main distribution network		1,178.40	1,178.40
		Domestic installation		2,528.40	2,528.40
		Hydraulic test and disinfection		30.90	30.90
	Services & transport	Educational videos		20.00	20.00
		Training manuals		392.00	392.00
		Evaluation materials		56.00	56.00
		Transport and food - technicians		1,000.00	1,000.00
		Services and transport of materials		612.00	612.00
		Training		365.00	365.00
C.	Post-execution	Health consultant (30 days)		200.00	200.00
		Post-project report		60.00	60.00
	Totals		4,790.00	5,646.03	20,726.10
	%		15%	18%	67%
					100%

The total cost per family is \$us 278 (cf. \$us 482 in Chiquiruni) and from QBL \$us 185, although this should reduce if more of the manual labour is taken on by the community. Some items (hire of video / TV) have not been included; pre-investment is very high; monitoring and TA by QBL is not defined and is also high.

- 8.2. **Community input:** \$us 4,790 in manual labour for the digging of trenches and installation of the system – 15% of total project cost. There is no financial contribution to the food / lodgings of technicians shown.
- 8.3. **Other counterparts:** HAM Sorata's assistance is in the preparation of the project (*pre-inversion*) not costed, and the materials for the piped network (\$us 5,646 or 18% of project cost)
- 8.4. **Materials / design to be used:** PVC pipes; rectangular tank.

9. Sustainability:

Social: Through training and education to ensure that the project results in changes in habits which will decrease the incidence of acute diarrhoea.

Environmental: There is no foreseen negative environmental impact (Category 4) from the project works.

Technical: The community will form an EPSA for the maintenance of the system, trained in the management of the system and administration of its sustainability fund.

Economic / financial: A payment of 2 Bs. per month per family (approx. \$us 28) into a bank account is required. At the beginning this will be used for tools and materials and then for maintenance and repairs.

10. Anticipated benefits of the project

- An increase in the families receiving piped water in the Canton Chuchulaya (total 1,638 inhabitants, therefore 20% increase)
- Improved drinking water supply for 112 families
- CAPyS trained in the management and operation of the system.
- EPSA established for the long-term maintenance of the system
- Change of habits and improved hygiene amongst participant families.

11. Specific queries and comments (pending as at 20th June).

11.1. The budget is inflated in a) pre-investment, b) stationery (which comes from the 13.5% overhead), c) manual labour – builders' assistants (*ayudantes*) and labourers (*peones*) are all charged to QBL whereas some of this labour is normally provided by the community. As a result the %-age contribution from the community is low. (15%)

11.2. The budget lacks clarity on some items e.g. *capacitacion* and omits some items such as the hire of TV and video equipment

12. General comment (PRR)

- Being a larger community with its own health centre, QBL has the chance to monitor more closely the improvement in health (decrease in cases of severe diarrhoea) at the community level.
- Sorata municipal authority still has its funds frozen so dependency for materials may delay the project.
- The legal arrangements over access and use of the water source between the three communities are yet not agreed.