

CB GEM – Community based Governance, Extension and Market project in Cao Bang

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Assessment of small-scale drinking water schemes and latrines supported by Helvetas in Cao Bang



Assessment team

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1. Introduction

From 1997 to 2008, within the frame of different phases of the Cao Bang Rural Development Project (CBRDP), and the Community Based Governance-Extension-Market project (CB-GEM), Helvetas Vietnam supported the building of 106 small-scale drinking water schemes and 207 pilot toilets in 29 communes and district towns of 7 districts in Cao Bang province. This support was to meet priorities identified by villagers through participatory rural appraisal (PRA) methods, and by village and commune development plans (VDP/CDP). The main objectives of all these projects were to improve the livelihood of poor farmers of ethnic minority groups through the provision of drinking water supply and sanitation facilities. In addition, at the same time, it was intended to strengthen capacity and ownership of district and commune cadres in public services toward their population and improve working relationships between villagers and local authorities by joint participation in planning, implementation, monitoring and evaluation of the projects.

The present assessment looks at the water supply schemes and latrines supported by Helvetas during the period 1997-2008 and seeks to:

- (i) assess the impact of the Helvetas support in the field of drinking water and sanitation on the population that directly or indirectly benefits from it and;
- (ii) assess lessons learnt for future interventions.

An assessment team consisting of: (i) an independent consultant, a senior expert on water supply and sanitation; (ii) a representative from the private sector working in the field of rural water supply and sanitation; (iii) an representative from the Department of Agriculture and Rural Development (DARD), Cao Bang province; and (iv) a Helvetas-CB staff member was established.

Meetings were held with senior governmental staff of relevant departments of Cao Bang province, including: the Water Resource Management Bureau and the Center for Rural Water Supply and Environmental Sanitation (CERWASS), the People's Committee of Nguyen Binh district, and People's Committees of communes and district towns of the selected water supply schemes for deep survey and assessment. The Assessment Team also conducted surveys and assessments at 10 sites for selected water supply schemes and household toilets, supported by Helvetas. These included interviews with villagers, the water users, and heads of the villages on service quality, operation and maintenance arrangements and impacts on improvement of livelihoods of the households, their satisfaction on provided water supply and sanitation services. Time was taken to explore the opinions of the beneficiaries, village heads, chairmen, vice chairmen, district officers, the director of the Water Resource Bureau as well as the director of CERWASS. They were asked about their views on the Helvetas introduced community based approach for planning and implementation of rural infrastructure development projects, especially on institutionalization of the 12 step approach for planning and implementing the small-scale rural infrastructure projects, published by Cao Bang DARD, with Helvetas support.

Acknowledgement

The Assessment Team wishes to express their thanks to all people from the province, districts, communes and villages, whom the Team met and discussed with the issues with, for their hospitality and for their time during the field surveys and assessments in Cao Bang. Thanks also to all Helvetas staff in Ha Noi and Cao Bang for the time and information as well as planning and logistic arrangements provided to the Team.

2. Objectives of the Assessment

There are two overall objectives of this assessment:

- A. to assess the impact of Helvetas support in the field of drinking water and sanitation to the people, who directly or indirectly benefited; and
- B. to assess lessons learnt for future interventions.

In addition, Helvetas also set up some specific objectives for this assessment, which are included in the Terms of Reference for the Assessment Team:

- Assess the current physical and operational status of the drinking water supply schemes and the latrines supported so far.
- Assess the current quality of these infrastructures related to their specific purposes indicative water quality (visual and taste), the quality of the toilets in the case of latrines, make recommendations on whether further water quality analysis should be done with regards sampling, type of analysis and the most suitable laboratory to perform the tests.
- Assess the impact of these infrastructure on the livelihoods of direct and indirect beneficiaries by considering the following questions:
 - o What has the impact been of the infrastructure projects on coverage?
 - o What has the impact been of the infrastructures on access of the rural poor to safe water and latrines?
 - o Does the use of safe drinking water and latrines have an impact on the health status of the beneficiaries (only indicative figures based on interviews and direct observation by the consultants)?
 - o Could poor rural households save money by using safe drinking water and latrines?
- Make a gender disaggregated assessment especially related to drinking water schemes and sanitation by considering the following questions:
 - o What was the impact on women?
 - o What was the impact on men? What was the impact on the entire household?
 - o Did the more favorable conditions have an incidence on girls and boys of the family and if so which ones?
 - For all these aspects, only indicative figures based on interviews and observation by the consultant during the field visits were used.
- Assess whether the current organizational structure is appropriate to operate and maintain the infrastructure in the long term and if it is recognized by the local authorities. Make specific recommendations on how this organizational structure could be improved in order to become more sustainable and institutionalized.
- Maintenance and repair: does the organization operating the small drinking water system generate funds?
 - o Will these funds cover the recurrent costs of maintenance?
 - o How will the organization finance major repairs?
 - o Assess the possibilities for the organization and the implications of the introduction of water usage fees.
- Assess whether and how the financed projects are collaborating with the private sector and analyze the procurement process for services and supply of materials and equipment. Consequently, make recommendations for improvement.
- Water source protection: assess the possibilities for the introduction of a water source protection system.
- Review the 12 step methodology, especially its institutionalization at provincial, district and commune level, and make proposals for improvement.
- Give recommendations to related partners (e.g. Center for Rural Drinking Water and Sanitation (CERWAS), PPC, DPC, CPC, water user groups) and the CB-GEM project on the improvement of the rural water supply and sanitation system in the province and give advice on possible designs for future interventions.
- Analyze the relationship between this support of Helvetas Vietnam (through the different projects) and the Government policies and programs in the province.

All the above mentioned specific objectives will be addressed in this report except that the impact assessment on having access to safe drinking water and latrines to the health status of the beneficiaries will be indicative only, due to lacking the statistical data on water born diseases before and after putting the water supply schemes and toilets into operation. This issue was already acknowledged and agreed with Helvetas during the contract negotiations in Ha Noi.

3. Assessment Methodology

Due to limitations on time and resources, a representative sample was assessed for synthesis across the implemented program. The Assessment Team's TOR also indicated 10 sample water supply schemes in 10 villages and communes to be selected for in-depth analysis. The Team checked toilets supported by Helvetas in the same selected villages and communes for water supply schemes.

A Criteria for selection of water supply schemes for in-depth assessment

The Team suggested the following criteria for selection of water supply schemes. The scheme should be representative of and assessed by:

- 1 the various years' construction and operation;
- 2 accessibility levels by all means of transportation, such as by car, motorbike, or foot;
- 3 distance to town and city;
- 4 the types of project owners (district, commune);
- 5 the capacities of the schemes (big, medium, small);

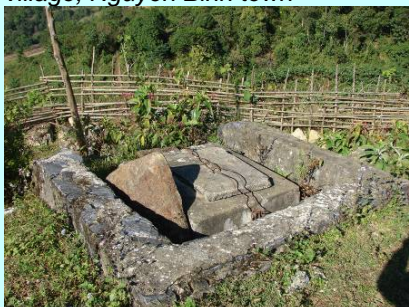
These suggested criteria were discussed and agreed with Helvetas, Cao Bang at the initial meeting on November 3rd, 2008.

B 10 selected water supply schemes for in-depth assessment

Based on the agreed criteria and the list of the Helvetas supported water supply schemes from 1997 till 2007, the Assessment Team together with Helvetas - Cao Bang selected the 10 following water supply schemes for in-depth survey and assessment:



1. Water supply scheme for Pac Man village, Nguyen Binh town



2. Water supply scheme of Phia Den, Thanh Cong commune, Nguyen Binh



3. Water supply scheme of Coc Phuong village, Thanh Cong commune, NBinh.

This water supply scheme represents the earliest constructed group, dating back to the point that Helvetas started working in Cao Bang in 1998. Pac Man village is located about 2km from Nguyen Binh town and about 45km from Cao Bang city; large vehicles can reach the village. The District People's Committee is the project owner, and it supplies water for 100 households;

The water supply scheme of Phia Den was constructed and put into operation in 1999. It supplies water for about 75 households. Phia Den village is located on the inter-provincial road to Na Phac, Bac Kan, at a distance of about 100km from Cao Bang city, and about 15km from Thanh Cong commune center. The District People's Committee is the project owner.

Coc Phuong village's water supply scheme was constructed and put into operation in 2000. This scheme supplies water for 17 households of the Yao ethnic minority. The village is located about 1km from Thanh Cong commune center and is surrounded by mountains. Is is about 120km from Thanh Cong commune to Cao Bang city; large vehicles can reach the commune.



4. Water supply scheme for EM boarding secondary school and residential areas number 2, 4 of Nguyen Binh town.



5. Water supply scheme for Na Leng village, Lang Mon commune, NB.



6. Ban Chang village water supply scheme, Thanh Cong commune, Nguyen Binh district.



7. Ke Sy village water supply scheme, Lang Mon commune, Nguyen Binh district.



8. Coc Tam village water supply scheme, Nguyen Binh town

The water supply scheme for Nguyen Binh ethnic minority secondary boarding school and residential areas numbers 2 and 4 of Nguyen Binh town represent the “big” capacity group and supply water for about 230 students of the secondary schools and about 350 households. This scheme was constructed and put into operation in 2001.

The water supply scheme for Na Leng village was constructed and put into operation in 2002, it supplies water for 51 households of the Tay and Nung ethnic minorities. Na Leng village is located about 3km from Lang Mon commune center and about 20km from Cao Bang town. Large vehicles can reach the village. The Commune People Committee (CPC) is the project owner of this scheme.

Ban Chang village water supply scheme was constructed and made operational in 2002, it supplies water for 36 households of the Yao ethnic minority. Ban Chang village is located about 3km from Thanh Cong commune center, and about 125km from Cao Bang city; It can be accessed by large vehicles only in good weather. The CPC was the project owner of this water scheme.

Ke Sy village water supply scheme was constructed and made operational in 2006, it supplies water for 27 households of Tay and Nung ethnic minorities. Large vehicles can access the village on sunny days; the village is located about 3km from Lang Mon commune and about 20km from Cao Bang city. The CPC is the project owner for this water supply scheme.

Coc Tam village water supply scheme was constructed and made operational in 2007. It supplies water for 18 households of the Yao ethnic minority and is surrounded by mountains. Though it is a village connected to Nguyen Binh district town it is approximately a 1km walk away. The town People Committee is the project owner of this water supply scheme.



9. Lung Pap village water supply scheme, Mai Long commune, Nguyen Binh district

Lung Pap village water supply scheme was constructed and made operational in January 2008. It supplies water for 19 households of the Yao ethnic minority and a primary school. Vehicles can access the village only during good weather. Lung Pap village is located about 10km from Mai Long commune center and about 130km from Cao Bang city. The CPC was the project owner for this water scheme.



10. Pu Miang village water supply scheme, Mai Long commune, Nguyen Binh district

Pu Miang village water supply scheme was constructed and made operational in January 2008. It supplies water for 13 households of the Nung ethnic minority. Pu Miang village is located about 15 km from Mai Long commune center and is surrounded by mountains. There is a 10km walk to access the village. This village represents the most difficult to access groups. CPC was the project owner for this water scheme.

C Criteria for Assessment

In order to meet the overall and specific objectives of this assessment, the Assessment Team has suggested the assessment criteria and scales for the assessment. These assessment criteria and scales were discussed and mutually agreed with Helvetas, Cao Bang and Helvetas, Ha Noi. Table 1 below shows the assessment criteria and scales.

Table 1: Assessment Criteria and scales						
	Assessment Criteria	Assessment scale				
1	Ownership	Very low	Low	Average	High	Very High
2	Project owner	Province		District		Commune
3	Participation of service users					
3.1	Planning and preparation	Did not participate			Participated – for survey and identified the water source	
3.2	Construction phase	Did not participate			Participated – carrying materials	
3.3	Operation and maintenance	Did not participate		Participated		Actively Participated
4	Training and usage of manpower at localities					
4.1	Survey and identification of water sources	No			Yes	
4.2	Design and construction	No			Yes	
4.3	Technical assistance and construction supervision	No			Yes	
5	Usage of local materials	No			Yes	
6	Unit cost VND mio/ household					
7	% contribution of households					
8	Present physical conditions of facilities	Very poor	Poor	Average	High	Very high
9	Quality of services	Very poor	Poor	Average	High	Very high
10	Service users’ satisfaction	Compeltely dissatisfied	not satisfy	Average	Satisfy	Very satisfy
11	Users’ opinion on current arrangement for system operation and maintenance	Compeltely dissatisfied	not satisfy	Average	Satisfy	Very satisfy
12	Availability of fund for O&M	No fund		Mobilise whenever needed		Monthly or yearly collected, O&M fund available
13	Impacts of the project on the livelihoods					
13.1	Health Impact	No positive impact		Some positive impact		Much positive impact
13.2	Impact on working time and productivity	No positive impact		Some positive impact		Much positive impact
13.3	Impact on live conveniences					
13.3.1	Women	No positive impact		Some positive impact		Much positive impact
13.3.2	Men	No positive impact		Some positive impact		Much positive impact
13.3.3	Children	No positive impact		Some positive impact		Much positive impact
14	Assessment on 12 steps approach					

14.1	At provincial level	Very much not appropriate	Not appropriate	Appropriate	Very much appropriate
14.2	At district level	Very much not appropriate	Not appropriate	Appropriate	Very much appropriate
14.3	At commune level	Very much not appropriate	Not appropriate	Appropriate	Very much appropriate
14.4	At village level	Very much not appropriate	Not appropriate	Appropriate	Very much appropriate
15	Application of 12 step approach in other projects/programs				
15.1	At provincial level	Not applicable	Applicable for rural infrastructure development projects/programs	Applicable for social economic development planning	
15.2	At district level	Not applicable	Applicable for rural infrastructure development projects/programs	Applicable for social economic development planning	
15.3	At commune level	Not applicable	Applicable for rural infrastructure development projects/programs	Applicable for social economic development planning	

D Methodology and time frame for assessment

The Assessment Team carried out the work in three steps, described below:

Step 1: Desk Study (Ha Noi) – 2 days

- i) Studied the Impact Assessment Report, prepared by a local team in 2005;
- ii) Studied the 12 steps methodology of planning and implementation of small scale infrastructure;
- iii) Discussed and reached an agreement with Helvetas on levels of impact assessment for some of the objectives, namely:
 - Visual assessment on water quality, no sampling nor analyzing were carried out;
 - Indicative health impact assessment of improved water supply and toilets;
 - The team could not do cost analysis for purchased materials and labors for supported projects (objective 7), however, the unit costs for each investigated scheme were calculated for comparison.

Step 2: Field works – 13 days, including traveling days between Ha Noi-Cao Bang-Ha Noi and to the districts and communes

- i) Based on the agreed selection criteria, the Team has selected 10 water supply schemes, representatives of all criteria group to visit for survey and assessment in-depth;
- ii) The Team suggested assessment criteria and scales, discussed and reached agreement with Helvetas-CB and Helvetas-HN;
- iii) Visiting selected water supply schemes and carrying out survey and assessment, following the agreed criteria and scales for assessment;
- iv) Meeting with district and commune people's committees, and inhabitants to interview and compare with other projects and programs from other donors..

Step 3: Writing a synthesis report in Vietnamese and English (Ha Noi) – 8 days

- i) Debriefing Helvetas on the findings of the field work;
- ii) Writing report in Vietnamese and English;
- iii) Finalizing the Report based on comments of Helvetas.

4 Results of assessment for 10 selected water supply schemes

In order to assess and compare the results from field surveys, the Assessment Team divided 10 surveyed water supply schemes into two groups: (i) water supply schemes constructed and put into operation in the period of 1997-2002, Table 2; and (ii) water supply schemes constructed and put into operation during the period of 2003-2008, Table 3. In general, all 10 surveyed water supply schemes have gained very high scores of the 15 assessment criteria and its sub-criteria.

- 1) *The ownership* of the villagers on water schemes supported by Helvetas, financially and technically, is very high. Every village inhabitant believes that these water supply schemes are their own and that Helvetas was a supporter, technically and financially, for the planning and construction of the schemes. There is a signboard “the scheme constructed by villagers with support of Helvetas and HAPPEL funds” on the central tank of almost every scheme



“The water scheme constructed by villagers” is a village’s scheme, meaning high ownership of the villagers of the scheme. It would seem that whenever ownership is high, the responsibility for management, operation, and maintenance is high too. This is a significant difference between schemes supported by Helvetas with other schemes constructed by other sources of funding.

- 2) *Project Owner:* During earlier years (1997-2000), most water schemes supported by Helvetas had District People’s Committees (DPCs) as project owners, however all water supply schemes constructed after 2000 had respective Commune People’s Committees take this role. 3 out of 10 surveyed water supply schemes had DPC as project owners, while the other 7 water supply schemes had the respective CPCs as project owners. Interestingly, decentralization to district level is a goal of the National Target Program for Rural Water Supply and Environment Program II.

Decentralization of project ownership to commune level together with the application of the 12 step approach for planning and implementation of small rural infrastructure development projects published by the Department of Agriculture and Rural Development (DARD) with support from Helvetas has become an important factor, contributing to the success of rural mountainous small water supply schemes in Cao Bang supported by Helvetas.

- 3) *Participation of the community:* The group of water supply schemes which were planned and constructed during the period of 1997-2002, did have community participation, however it was not as active as for the schemes which were planned and constructed during the later period (2003-2007). In the later phase the 12 steps approach for planning and implementation of small rural infrastructure projects had been developed and improved significantly and the inhabitants of villages had participated to a greater extent in the surveys, identification of the water resources, location of water distribution tanks or the option to make connections to each household. The proposals, the applications for support to construct the water supply schemes, following the steps and forms of the guidelines to carry out the 12 step approach for planning and implementation of small rural infrastructure development projects, had been prepared by each commune and submitted to Helvetas-CB.

In all surveyed water supply schemes, village inhabitants had actively participated in the implementation phase, through carrying the construction materials and equipment to the construction sites, at times a distance of upto 10km (Lung Pap village), and the value of the community contribution upto 30% of the total construction costs of each water supply scheme. This figure is rather high for ethnic minority groups in mountainous regions. This is also a target

figure of the National Target Program for Rural Water Supply and Environment Sanitation, phase II (NTPII) as, at present, NTPII provides up to 90% of the costs.

During the operation and maintenance phase: As the village inhabitants own the schemes, they discussed and agreed on the operation and maintenance and developed the “regulation” for the water supply scheme management for every household in the village to follow. The Commune People’s Committees did not have to get involved in the process. However, it was not always successful with the community management model for the water supply schemes which supply water for more than 100 households (in the EM boarding secondary schools¹, Pac Man village).

- 4) *Training and usage of local manpower:* It is a fact that at the beginning of the program, Helvetas organized training and mobilized local manpower. In many villages, there are masons, who have been trained by Helvetas and can make concrete slabs to make water tanks with the volume 1-3 m³ each. These groups of masons have the capacity to construct water intakes and sedimentation and filtration tanks for water supply schemes. As the capacity is there, the villages are able to repair the water supply schemes, whenever it has small problems. Moreover, Helvetas has trained some local technical people from the villages, who can act as supervisors and provide technical support for construction of water supply schemes in other villages in the district and province.
- 5) *Usage of locally available materials:* Whenever possible, stone, gravel and sand were used for construction of water supply scheme structures. As a principle, Helvetas only supported the purchase of material and equipment which were not available locally and affordable by the people, such as steel, cement, pipes and fittings.
- 6) *Average unit cost per household:* This is the criteria to assess the investment capital efficiency. The calculations show that for the group of water supply schemes constructed during the period of 1997-2002, the average unit cost per household ranges from 0.8mill VND to 1.2mill VND, the group of water supply schemes constructed during 2003-2007, has an average unit cost per household which ranges from 2.0mill VND to 2.4mill VND (the inflation is the main reason for the difference), calculated on the actual number of households with access to water schemes, not on total number of households in the village. This figure shows that the efficiency of investment capital of water supply schemes supported by Helvetas is very high. Average unit costs per household of other water supply schemes, funded by other programs, such as program 134, 135, and NTPII, in the same localities are much higher² compared to the schemes supported by Helvetas.
- 7) *The water user household contribution ratio:* The constitution ratio of water user households by labor (carrying materials, equipment), use and transportation of local materials (to the construction sites, where vehicle access was not possible) calculated in monetary terms (according to the labor price at the time) was up to 30% of the total water supply schemes costs. This is a significant figure, even higher than rural water supply programs in the delta areas³.

The water user contribution policies of different programs and projects are different, in the same localities, causing (i) envy among inhabitants of the localities, (ii) causing difficulties for local authorities during the program implementation⁴.

¹ Water supply scheme for the EM boarding secondary school and residential areas 2 and 4 of Nguyen Binh town is managed by the town’s war veteran union.

² The Assessment Team has been informed that the water supply scheme for four Yao ethnic minority households in Ke Sy village, Lang Mon commune, Nguyen Binh district, using funds of the 134 program spent about 100mill VND. If this is true, the average unit cost per household of this water schemes is 25mill VND per household.

³ In the Red river Delta Rural Water Supply and Sanitation project being implemented in Nam Dinh, Ninh Binh, Thai Binh and Hai Duong, funded by the World Bank, household have to contribute only 10% of the schemes costs.

⁴ Water supply scheme for Ke Gia village, Lang Mon commune, Nguyen Binh district, constructed with the support of Italia, community did not have to contribute any thing, people got paid by carrying materials and equipment to the construction sites.

Mr. Hoang Xuan Minh, chairman of Lang Mon commune expressed his concerns: *“there are many programs/projects on water supply and sanitation within the commune, however, each program/project has its own policy on user contribution. For example, NTPII requires 10% contribution from the water users; in Ke Gia village (Italian funding), there is support for 100% of the scheme cost; whereas, the Helvetas program requires water users to contribute upto 30% of the scheme cost, This causes jealousy between the villages with different supporting agencies and different supporting policies”*.

- 8) *The physical conditions of the water supply schemes:* 8 out of 10 of the surveyed water supply schemes are in very good condition. Though there were 2 water supply schemes facing small problems: (i) the head works of Pac Man water supply scheme (constructed and put into operation in 1998) has been covered by soil and rocks (due to a new road construction project to a refuse disposal site). The village needs funds to move the head works about 500m upstream. (ii) The water users in Coc Phuong village, Thanh Cong commune, complain about water sharing from the distribution water tanks (constructed and put into operation in 2000), especially during dry season. The water users wish to have house connections to each household in the same way as recently constructed water supply schemes in the commune.

Table 2: Assessment of water supply schemes constructed during period of 1997-2002

	Assessment Criteria	Pac Man	Phia Den	Coc Phuong	EM Boarding school	Na Leng	Ban Chang
		1	2	3	4	5	6
0	General information						
	• Putting into operation in	1998	1999	2000	2001	2002	2002
	• Commune	NB town	TC	TC	NB town	LM	TC
	• Distance to Cao Bang	50 km	105 km	120 km	45 km	17 km	125 km
	• Population/Number of Households	302/99	350/75	126/22		219/55	230/43
	• Ethnic Minority	Tay/Nung	Tay/Nung	Red Yao		Tay/Nung	Money Yao
1	Ownership	Very high	Very high	Very high	high	Very high	Very high
2	Project owner	District	District	District	Town	Commune	Commune
3	Participation of service users						
3.1	Planning and preparation	Yes	Yes	Yes	Not much	Yes	Yes
3.2	Construction phase	Yes	Yes	Yes	Not much	Yes	Yes
3.3	Operation and maintenance	Not much	Not much	Not much	No	Not much	Not much
4	Training and usage of manpower at localities						
4.1	Survey and identification of water sources	Yes	Yes	Yes	No	Yes	Yes
4.2	Design and construction	Yes	Yes	Yes	No	Yes	Yes
4.3	Technical assistance and construction supervision	Yes	Yes	Yes	No	Yes	Yes
5	Usage of local materials	Yes	Yes	Yes	Yes	Yes	Yes
6	Unit cost per household (Mill VND)	0,797	1,207	1,186	1,076	1,27	0,972
7	% Users contribution	25%	44%	31%	19%	30%	29%
8	Present physical conditions of the facilities	Average	Very Good	Average	good	Very Good	Very Good
9	Quality of services	good	good	good	Very Good	Very Good	Very Good
10	Service users' satisfaction	Satisfy	Satisfy	Average	Satisfy	Very satisfy	Very satisfy
11	Users' opinion on current arrangement for system operation and maintenance	Satisfy	Satisfy	Satisfy	Satisfy	Very satisfy	Very satisfy
12	Availability of fund for O&M	yes	yes	Mobilise as needed	yes	yes	yes

	Assessment Criteria	Pac Man	Phia Den	Coc Phuong	EM Boarding school	Na Leng	Ban Chang
		1	2	3	4	5	6
13	Impacts of the project on the livelihoods						
13.1	Health Impact	Improved	Improved	Improved	Improved	Improved	Improved
13.2	Impact on working time and productivity	Much improved	Much improved	Much improved	Much improved	Much improved	Much improved
13.3	Impact on living conditions						
13.3.1	Women	Much improved	Much improved	Much improved	Much improved	Much improved	Much improved
13.3.2	Men	Improved	Improved	Improved	Improved	Improved	Improved
13.3.3	Children	Improved	Improved	Improved	Improved	Improved	Improved
14	Assessment on 12 steps approach						
14.1	At village level	Good	Good	Good	Good	Good	Good
15	Application of 12 step approach in other projects/programs						
15.3	At commune level	Applicable	Applicable	Applicable	Applicable	Applicable	Applicable

Table 3: Assessment of water supply schemes constructed during period of 2003-2008

	Assessment criteria	Ke Sy	Coc Tam	Lung Pap	Pu Miang
		7	8	9	10
0	General information				
	• Putting into operation in	2006	2007	2008	2008
	• Commune	Long Mon	N/Binh town	Mai Long	Mai Long
	• Distance to Cao Bang	20 km	55 km	120 km	125 km (10 km walk)
	• Population/Number of Households	140/36	125/23	173/28	95/19
	• Ethnic Minority	Tay/Nung/Yao	Red Yao	Red Yao	Nung
1	Ownership	Very high	Very high	Very high	Very high
2	Project owner	commune	commune	commune	commune

	Assessment criteria	Ke Sy	Coc Tam	Lung Pap	Pu Miang
		7	8	9	10
3	Participatory of service users				
3.1	Planning and preparation	yes	yes	yes	yes
3.2	Construction phase		yes	yes	yes
3.3	Operation and maintenance	yes	yes	yes	yes
4	Training and usage of manpower at localities				
4.1	Survey and identification water sources	yes	yes	yes	yes
4.2	Design and construction	yes	yes	yes	yes
4.3	Technical assistance and construction supervision	yes	yes	yes	yes
5	Usage of local materials	yes	yes	yes	yes
6	Unit cost per households (Mil. VND)	2,343	1,962	2,440	2,006
7	User contribution	37%	30%	31%	10%
8	Present physical conditions of the facilities	good	good	good	good
9	Quality of services	good	good	good	good
10	Service users satisfaction	satisfy	satisfy	Average	satisfy
11	Users' opinion on current arrangement for system operation and maintenance	satisfy	satisfy	satisfy	satisfy
12	Availability of fund for O&M	yes	yes	Mobilize as needed	Mobilize as needed
13	Impacts of the project on the livelihoods				
13.1	Health Impact	improved	improved	improved	improved
13.2	Impact on working time and productivity	Much improved	Much improved	Much improved	Much improved
13.3	Impact on living conditions				
13.3.1	women	Much improved	Much improved	Much improved	Much improved
13.3.2	men	improved	improved	improved	improved
13.3.3	children	improved	improved	improved	improved
14	Assessment of 12 step approach				
14.1	At village level	good	good	good	good
15	Application of 12 step approach in other projects/programs				
15.3	At commune level	Applicable	Applicable	Applicable	Applicable

- 9) *Quality of the services:* In general, the quality of the services provided by all 10 surveyed water supply schemes is good. One of the advantages of the Cao Bang mountainous villages is that they can access good quality natural water sources⁵, thus there is not so much need for treatment. Before the water supply schemes were constructed and put into operation, the village inhabitants had to go to the water sources to carry water or they had to install bamboo pipelines to bring water home. After the water supply schemes had been constructed and put into operation, safe clean water flows to their homes or water reservoirs close by therefore saving time. One consequence being that the working time for farmers is extended, as they do not have to go home early to carry water home. This may also be the reason for a low frequency of water born diseases in all 10 surveyed villages, before and after putting the water supply schemes into operation.

Mrs. Ly Thị Minh Thu, head of the clinic of the secondary school said: *“Before having the Helvetas supported project, the school had to install bamboo pipelines to supply water to pupils and teachers. After putting the Helvetas supported water supply schemes into operation, the water supply for the pupils and teachers has much improved, the attitudes of the pupils and teachers has also improved very much, the health of the pupils also improved. The common diseases of the school pupils are seasonal fevers, there are no cases of water or sanitation related diseases”.*

- 10) *The water user’s satisfaction:* In all 10 villages, the Assessment Team visited and contacted village residents, both men and women, and found a generally good level of satisfaction with the water supply schemes.

Mr. Ly Kiem On, an inhabitant of Coc Tam commune, Nguyen Binh town said: *“Thanks to Helvetas for its support to construct the water supply scheme, now our residents do not need to go home early from work to carry water home. Returning from work, we wash ourselves as much as we can without concern about lacking water”.*



- 11) *Water user’s opinions on current operation and maintenance arrangements:* Operation and maintenance arrangements were mutually agreed at the village meetings in all 10 surveyed water supply schemes, this includes collecting or not the water usage fees, the rates of the fees, the method of collection, monthly or annually, as well as the usage of the collected fees. At the village meetings, they also drafted and reached mutual agreement on water use, operation and management regulations. The regulations also indicate the person in charge of water supply scheme management, operation and maintenance.

8 out of 10 surveyed water supply schemes (Pac Man, Phia Den, Coc Phuong, Ban Chang, Na Leng, Ke Sy, Lung Pap, and Pu Miang) are managed by the head of the village together with the head of village police. Those people do not get monthly payments for water supply scheme operation and management. There are selected people to operate and manage the other two water supply schemes (EM boarding secondary school and Coc Tam village); those people get monthly payments for their works. The water supply scheme of the secondary school and residents of group 2 and 4 of Nguyen Binh town being operated and managed by the local branch of the Veterans’ Union which consists of three persons; each receives 800,000 VND monthly as their salaries. In Coc Tam village one person was selected to operate and manage the water supply scheme and he receives 18,000VND/month, collected from water user households. In general, the water users of all 10 surveyed water supply schemes are satisfied with the current arrangements for water supply schemes operation and management.

⁵ All the water sources of 10 surveyed water supply schemes were identified and selected by the local residents, taken from rock springs, in the middle forest, cattles can not access.

- 12) *Availability of funds for operation and maintenance:* 6 out of 10 surveyed water supply schemes (Pac Man, Phia Den, Na Leng, Ban Chang, Ke Sy, EM boarding secondary school) have their funds available for operation and maintenance. The funds are accumulated from the collected water fees of the user households, monthly or yearly. In one village (Coc Tam), people decided to collect 1,000 VND/household/month as water usage fees, however all this collected money was being used as the salary for the person in charge of the water scheme's operation and management, thus no fund was available for maintenance and repair works. In the other 3 villages (Coc Phuong⁶, Lung Pap, Pu Miang), people decided not to collect fees and any funds will therefore need to be mobilized whenever needed for maintenance or repair work.

Almost 100% of households using the service pay their monthly or yearly water fees in all 7 villages, where people agreed to pay fees. Even though the agreed water fee levels are low, ranging from 1,000 to 2,000 VND/household/month, the collected funds are rarely spent as there are not many problems that actually happen with the water supply schemes, except in two cases, where the collected money was spent as a salary for people in charge of the water schemes operation and management (EM boarding secondary schools, Coc Tam).

- 13) *The impacts of the Helvetas supported water supply schemes to improve livelihoods of the residents:* As indicated above, due to no statistical data on water born diseases in the Helvetas supported villages before and after putting the water supply schemes into operation, the quantitative impact assessment on the residents' health status become impossible. However, interviewing the heads of health clinics in Lang Mon, Thanh Cong, Mai Long commune and EM boarding secondary school of the Nguyen Binh town, the responses were more or less the same *"there are no cases or evidence of water born diseases even before and after putting water supply schemes into operation"*. This can be explained as follows: (i) The traditional water sources and the current water supply sources (supported by Helvetas) have very good water quality, water taken from rock springs has not been polluted in the same way as water sources in the Red river delta region, Mekong delta region, or down stream of rivers; (ii) Local ethnic minorities, Tay, Nung, Yao do have habits of boiling water before drinking; (iii) the population density in the Cao Bang mountainous villages is very low, thus the negative effects of not having the hygienic latrines is not as big as in the delta region, where the population density may be a hundred times higher.

The most visible impacts of the surveyed Helvetas supported water supply schemes are the impacts on working time and productivity of the farmers. People have more time to carry out income generation activities, as they do not have to spend hours carrying water home. Women and children do not have to go up and down hill to carry water; men do not have to spend time installing and maintaining the bamboo pipelines to carry water home as before. Returning from work, they wash as much as they can without worrying about lacking water even in the dry season. The convenience of life has been improved very much as each household is connected to the water supply scheme and their household water tanks are always full of clean water. Additionally, vegetables and food are properly washed before cooking, thus the community health obviously has been improved.

Mrs. Hoang Thi Nham, Head of the Ke Sy village Women's Union said *"Before, each household had to install bamboo pipelines to carry water home from springs. During the dry season, the water was scarce, people had to go about 500-1000m to carry water, and washing was done in the streams. After putting the Helvetas supported water supply scheme into operation, the water quality is good. People are very happy, they do not have to spend time carrying water. There is a general wish that Helvetas continue its support, helping each household to have its own double vault dry latrines"*.

⁶ In Coc Phuong, the water used fees were collected in the first two years of the water scheme operation, and then people decided not to collect the fees. At this time the fund from collected fees is available, have not been used yet.

- 14) *Assessment on 12 step approach for planning and implementation of small rural infrastructure development projects:* The 12 step approach for planning and implementation of small rural infrastructure development projects is the result of 10 years of process working, developing and improving the methodology of Helvetas' support in Cao Bang. It is worth noting that the result (guideline for implementation of 12 step approach) was published by the Agricultural and Rural Development Department (DARD) of Cao Bang, of which Helvetas is a supporter. Because of this, the document is considered the local authority's, it has been officially disseminated across the province, by official government channels to districts, communes and villages. This is the most appropriate way to carry out capacity building; it would appear that not many donors have succeeded in this way, as Helvetas has.

The demand-response approach: the villages conduct meetings and discussions on their needs on infrastructure development projects, making them a priority order, preparing proposals to submit to communes, districts, provinces and donors for technical and financial support to implement their priority. The mountainous villages of Cao Bang have followed the guidelines of the 12 step approach, conducting village meetings, noting the minutes of the meetings, indicating their priorities, following the formats of the guidelines to prepare technical proposals and submit them to the communes, districts, provinces and donors for support to implement their plan and their projects.

Currently, all rural infrastructure projects supported by Helvetas in Cao Bang apply this approach. Due to this demand-responsive approach, all the small rural water supply schemes, supported by Helvetas in Cao Bang, have the lowest average capital investment unit cost per household; have the highest ratio of water user contribution for investment; and, most importantly, create sustainable water supply services for the inhabitants of the villages in very remote areas.

It is hoped that these success stories in the mountainous, ethnic minority villages of Cao Bang province will help to eliminate the concerns of some government officers, decision makers (within the National Target Program for Rural Water Supply and Sanitation – NTPII) and donor agencies on planning and implementation capacity of rural infrastructure development projects at the lowest appropriate level to make decisions on decentralization of project management or not.

Mr. Hoang Xuan Minh, Chairman Of Lang Mon Commune People's Committee stated: *"the 12 step approach introduced by Helvetas is very precise, people have chances to discuss, to express their priorities, to select the technical options, select the water sources, and reach strong agreement. Thus, problems did not occur during the project implementation, including the land acquisition and resettlement, reducing the implementation time. The residents of the villages are the owners of the projects, Helvetas is the supporter. Thus, no commissioning and handing over is needed. Currently, Lang Mon commune is applying the community participation approach to make the annual socio-economic development plan."*

- 15) *The applicability of the 12 steps approach in other programs/projects:* Actually the DARD of Cao Bang has disseminated the 12 step approach on planning and implementation of rural infrastructure development projects through out the province. When asked, all three chairmen of the three communes visited by the Assessment Team highly valued the 12 step approach and informed the Team that they are applying the approach to prepare the annual socio-economic development plans in their communes. However, the level of application of the approach much depends on the capacity of the village's heads and the commune officers.

At the district level, vice chairwoman of Nguyen Binh district has expressed her high opinion of the 12 step approach, she also admitted that the district is also applying the community participation approach to prepare the annual socio-economic development plans for the district.

Mrs. Ma Thi Inh, vice chairwoman of Nguyen Binh district said: *"All development projects supported by Helvetas have been planned and discussed from the village level and then to commune and district levels. Thanks to that approach all of the projects met the demand and wishes of the residents, the people carried out surveys, designs, and implementation. Therefore, for all water supply schemes, the best water sources were selected, this contributes to the sustainability of the"*

schemes. The financing sources and options were published transparently, thus making the mobilization of the water user contribution easy, and quickly, shortening the time for the project. After construction, training on operation and maintenance were also provided, the villages developed the water operation and management regulations themselves, and agreed on the level of monthly water usage fees, thus almost 100% of households pay their bills. Nguyen Binh district has introduced the guideline on 12 step approach on planning and implementing rural infrastructure development projects to all communes. There are a number of communes applying this participatory approach in developing their annual socio-economic development plans, however, the level of application depends much on the capacity of the commune officers”.

At the provincial level, the Assessment Team had meetings with the director of the Water Resource Management Bureau, and the director of the Center for Rural Water Supply and Sanitation (CERWASS) of Cao Bang. Both directors expressed a high opinion of the 12 step approach for planning and implementing the infrastructure development projects published by DARD of Cao Bang. The director of CERWASS expressed his concerns about (i) the time needed to carry out the steps of this approach; and (ii) the capacity of village heads and communes when this approach is applied, especially for planning and implementing the big piped water supply schemes, when the number of water user households exceed 100 or for multi-village, commune water supply schemes.

5. Assessment of household latrines

100% of households of the 4 surveyed villages (Pac Man, Phia Den, Na Leng and Ke Sy) have latrines; 80% of households in resident group 2 and 4 of Nguyen Binh town have their own latrines; in the remaining surveyed villages, the percentage of households that have their own latrines is very low, ranging from 0 to 15% of households. The most common types of latrine are (i) pit latrines with or without covering concrete slabs; (ii) double vault dry latrines; and (iii) latrines with septic tanks.

Table 4: The percentages of households have latrines in surveyed villages

		Pac Man	Phia Den	Coc Phuong	EM boarding school ⁷	Na Leng
		1	2	3	4	5
1	Percentage of HH have latrines	100%	100%	9%	80%	100%
1.1	Pit latrines	60%	97%	0%	50%	49%
1.2	Double vault latrines	10%	3%	9%	10%	50% ⁸
1.3	Latrines with septic tanks	30%	0%	0%	20%	1%

		Ban Chang	Ke Sy	Coc Tam	Lung Pap	Pu Miang
		6	7	8	9	10
1	Percentage of HH have latrines	14%	100%	8,6%	0%	10,5%
1.1	% of Pit latrines	9,3%	97%	4,3%	0%	10,5%
1.2	% of Double vaults latrines	4,7%	3%	4,3%	0%	0%
1.3	% of Latrines with septic tanks	0%	0%	0%	0%	0%

⁷ Water supply scheme for the secondary schools also supply water for households in two residential areas, number 2, 4 of the Nguyen Binh district town. Total of about 350 water using households.

⁸ Out of 28 double vault dry latrines, Helvetas supported 2 latrines, households have constructed 26 double vault latrines and 27 pit latrines with concrete slab covers.

Helvetas has only started its latrine support pilot program recently; with the total number of supported latrines being 207 province wide. Two types of latrines were introduced for piloting, (i) pit latrines, constructed from rocks or bricks with concrete slab covers, and (ii) double vault dry latrines. The Helvetas policy is supporting households to construct the under ground structures (pits, bricks or rock construction and concrete slab covers), the super structures (roof and surroundings), households have to construct this themselves. As a pilot, Helvetas supported two latrines per village; the villages conduct village meetings to select the households to receive Helvetas support, with the policy to focus on the poor.

The Assessment Team surveyed 14 latrines supported by Helvetas in 7 out of 10 villages⁹ (table 5 below). Out of 14 latrines, there are 10 double vault dry latrines and 4 pit latrines with concrete slab covers. All the latrines have been kept clean, with few flies; people use ash to cover each time after using the latrines.

Table 5: The pilot latrines constructed with the support of Helvetas in 7 out of 10 villages surveyed:

		Total number of pilot latrines constructed with supports of Helvetas	Pit latrines with concrete slab covers	Double vault dry latrines
1	Phia Den	2	0	2
2	Coc Phuong	2	0	2
3	Na Leng	2	0	2
4	Ban Chang	2	0	2
5	Ke Sy	2	1	1
6	Coc Tam	2	1	1
7	Pu Miang	2	2	0

Mr. Hoang Van Tung, Head of Na Leng village recommended: “(i) it is needed to have a window for collecting compost, and the vaults need to be constructed above the ground to help collecting the compost from the vaults; (ii) the concrete slabs should have two holes, each hole for each vault to avoid moving the slab after one hole has been filled”.



In general, all the households in the surveyed villages have a demand for construction and use of hygienic latrines. There is one double vault dry latrine supported by Helvetas in Ban Chang village, Thanh Cong commune, Nguyen Binh district, which is being used by 4-5 nearby households. Sometimes, people have to queue up to use the latrine. From the 2 Helvetas pilot supported latrines constructed in Na Leng, Lang Mon commune, the households in the localities have constructed 27 pit latrines themselves with concrete slab covers and 26 double vault dry latrines, meaning that 100% of household in the village have latrines.

However, technically, most of the households wish to have double vault dry latrines, constructed above the ground level, with windows to collect the compost. Regarding the pit latrine which is constructed from bricks or rocks, it needs to have concrete slab covers with two holes for two pits to avoid having to move the slabs after filling up one pit.

⁹ The other three villages have not benefitted from Helvetas' latrine pilot program.

With regards to the latrine construction support policy: to focus on poor households is correct, however, some poor households cannot afford to construct the superstructures of the latrines, after getting support to construct the “underground” structures. Because of this the construction of the latrines can never be completed and cannot be put into operation. The pits become the tanks for storing water and good locations for mosquito breeding.



There is demand for latrine construction and usage in remote villages of Cao Bang province, but it is not clear what type of latrines should be introduced to match the habits and wishes of the ethnic groups. For example, in Pu Miang village, surrounded by difficult to pass mountain roads, people have to walk about 10km to where vehicles can access, but villagers wish to have double vault dry latrines for each household.

Mr. Hoang Van Xuan, head of Pu Miang village said: “hope to have continued technical and financial support from Helvetas to construct one more gravity water scheme for a separate group of five households who have not yet gained access to the current water supply scheme. If Helvetas supports the construction of household latrines, the double vault dry latrines is most appropriate, as the households want to collect the compost for agricultural activities. The vehicle access road to our village and to Pac Nam market is our first priority and it is also the priority of Mai Long commune authorities”.

6 Conclusions and Recommendations

The Helvetas support in rural water supply and sanitation sector in the mountainous villages of Cao Bang during the last ten years has been substantial, helping thousands of households improve their livelihoods and ease of living, by improving access to clean water sources, improving their health and productivity, and improving the household’s economic situation, thus reducing the hard work for women and children to carry water home.

However, the more significant impacts of this support program are:

- (i) improving community relationships; the relationships between households sharing the same water supply schemes where people act more responsibly toward each other, and through the village meetings to discuss and agree on water supply scheme operation and management regulations;
- (ii) helping improve the working relationship between local authority levels, from village to commune, district and provincial levels by listening to opinions, demands, and wishes of the villagers;
- (iii) building up the capacity of the government officers, from village to commune and district by organizing community meetings for planning commune infrastructure development projects as well as planning for annual socio-economic development plans of the localities.

For the rural water supply and sanitation sector, the successes of the small drinking water supply projects, supported by Helvetas in Cao Bang, will serve as invaluable lessons also for other rural water supply and sanitation programs supported by other programs and donors (i.e for National Target Program for Rural Water Supply and Sanitation, etc.).¹⁰

¹⁰ Especially regarding following aspects: such as (i) sustainable water supply services; (ii) very high ownership by the villagers; (iii) low average capital investment cost per household; (iv) high contribution of the households for capital investment; (v) training and usage of local labor;

The 12 step approach for planning and implementation of rural infrastructure development projects published by DARD of Cao Bang together with Helvetas provides detailed guidelines on the demand responsive approach; the decision is made at the lowest appropriate levels. This proved that the key principles of National Rural Water Supply and Sanitation Strategy approved by the Prime Minister in 2000 have been successfully implemented in Cao Bang, a mountainous and one of the poorest provinces during the last ten years. This should provide a good case study for the sector and country to take examples from.

Recommendations:

- a) Cao Bang province and Helvetas should consider focusing the Helvetas support on a few districts (1-3), depending on the availability of the resources. To build up these districts would provide a significant example of rural water supply and sanitation being successfully implemented and meeting the Rural Water Supply and Sanitation Strategy. This would demonstrate the difference between localities with and without Helvetas support. This would help increase the Helvetas image in Cao Bang making it more visible to other localities of the country and other sector support agencies.
- b) 106 drinking water supply schemes and 207 latrines have been supported for construction and put into operation during the last ten years. However, the operators and managers of the water schemes constructed in 1998, 1999 and the operators, managers of water supply schemes constructed in 2006, 2007 have not had the chance to meet, to discuss and to share their experiences with each other. It is therefore suggested that Helvetas and local authorities should facilitate this;
- c) The Helvetas lessons on decentralization of planning and implementation management for small drinking water supply schemes in Cao Bang mountainous village are invaluable for other programs and projects. Helvetas should be more proactive in disseminating its lessons learnt such as at the Partnership Forum for Rural Water Supply and Environment Sanitation headed by Ministry of Agriculture and Rural Development (MARD), or National Targets Program on Rural Water Supply and Sanitation, phase II (NTPII). For example, the guidelines on the 12 step approach planning and implementation of rural infrastructure development projects, published by Cao Bang DARD with Helvetas support is well suited to NTPII projects or at least for the provinces that have similar mountainous conditions as Cao Bang.
- d) The Helvetas pilot program on latrine construction for mountainous villages of Cao Bang has shown a number of positive results and lessons. The demand for latrines, even in mountainous villages, is very high. Helvetas should expand the program as soon as possible, helping to improve the environmental sanitation situation in ethnic minority villages of Cao Bang, to avoid losing momentum and the trust of people in the pilot villages.
- e) In the same localities, there are a number of programs and projects on rural water supply and sanitation. However, each has its own subsidy policies, causing a lot of problems for local authorities who are receiving the support. The Assessment Team suggests that the donors should agree with each other on supporting policies and the approach to avoid problems being created between different localities receiving different levels of support. The Team also suggests that Cao Bang province authorities should negotiate with donor agencies to ensure that the key principles of the National Rural Water Supply and Environment Sanitation, and the positive lessons and experiences learnt are consistently implemented in the province.

7 Annexes

Annex 1: List of water supply schemes and household latrines supported by Helvetas during 1997-2007 in Cao Bang

District	Commune	Village	Completed
Nguyen Binh	TT Nguyen Binh	Pac Man	1998
		Secondary Boarding schools	2001
		Coc Tam	2007
	Minh Thanh	Ban Ho	1998
		Na Roong (well)	1999
		Co Ba	2000
		Na Luoc	2001
		Na Khoang	2001
	Thanh Cong	Pu Vai- Phia Den down	1999
		Khau Gang	2000
		Na Reo	2000
		Coc Phuong	2000
		Ban Chang	2003
		Nam Dan	2003
		Ban Dong	2003
		Phieng Phat	2003
		Lung Quang	2004
		Nam Toong	2004
		Khau Vai	2004
		Heath clinic - Thom Mo	2004
		Na Vai	2005
		Ban Phieng	2005
		Nha Mang	2005
		Na Ten	2005
		Tat Slam	2006
		Na Ang	2006
		Na Reo (Upgrading)	2006
		Phia Den up	2006
	The Duc	Pac Bo	2000
		Ban Nung 1	2004
		Ban Nung 2	2004
		Lung Noi	2007
	Bac Hop	CPC - Dong Reo	2001
		Ban Inh	2003
		Ta Sa 1	2003
		Ban Nua	2004
		Ban Chang	2004
		Ta Sa 2- Ta Pang	2006
	Minh Tam	CPC - Pac Phai	2001
		Multi Villages 4A-3A-3B	2003
		Goi Ga	2004
		Phieng Sa	2004
	Lang Mon	CPC - Na Leng tren	2003
		Na Po	2003
		Na Leng duoi	2004
		Lung Hinh	2004
		Na Piao	2005

District	Commune	Village	Completed
		Na Noi 1	2005
		Na Noi 2	2005
		Ke Si	2006
		Keo On	2006
	Hoa Tham	Cam Tem	2003
		Na Ngan	2003
		Na Chan	2003
		Thang Cong trong	2003
		CPC - Thang Cong ngoai	2004
		Đông Bao 1	2004
		Na Đầu	2004
		Quang Đông	2004
		Đông Bon	2004
		Khuoi Tra	2006
		Đông Bao 2	2006
		Khuoi Phay	2006
		Phieng Chao	2006
	Quang Thanh	Na Hay	2004
		Oai Khao	2004
		Na Leng	2004
		Thom Ca	2004
	Thai Hoc	Lung In- Lung Pan	2006
		Lung Vai- Bo Ca	2006
		Lung Chang	2006
	Hung Đào	Hoang San	2007
		Na Cha/ Thom Lot	2007
	Mai Long	Lung Pap	2007
		Pu Maing	2007
Bao Lac	TT Bao Lac	District Health center	1997
		Na Chua	1999
	Bao Toan	CPC - Truong hoc	2001
Bao Lam	Ly Bon	Na Pong market	2000
	Vinh Quang	Tang Giang	2000
		Na Ca	2000
		CPC	2000
		Ban Cai	2000
		Khuoi Ro	2001
		Tong Reo	2001
		Ban Mieu	2003
		Pac Doa	2003
		Ac E	2007
		Phieng Ru-Nam Ang	2007
	Bao Lam town	District health center	2001
	Quang Lam	Tong Chao	2007
		Khau Piao-Na Luong	2007
	Thai Hoc	Na Sai	2007
		Khuoi Tam-Na Sai	2007

District	Commune	Village	Completed
		Bo Bay- Ban Ran	2007
Ha Quang	Xuan Hoa	Lung Tu	1998
	Quy Quan	Lung Moi	2007
	Phu Ngoc	Lung Giang	2007
	Van An	Lung Đa	2007
Thong Nong	Luong Can	Lang Can	2007
		Na Sai	2007
	Ngoc Dong	Lung Nhung	2007
	Yen Son	Khao Thuong	2007
Hoa An	Hoa An town	Truong Trung học KTKT	1998
	Be Trieu	Khau Hoa	2001
Tra Linh	Quoc Toan	Lung Sap	2002

Total: 106 schemes till December 2007

List of household latrines supported by Helvetas during (2006-2007)

District	Commune	Number of toilets	Completed
Nguyen Binh	Bac Hop	16	2006
	Minh Tam	20	2006
	Lang Mon	18	2006
	Thanh Cong	33	2007
	Hoa Tham	19	2007
	Thai Hoc	21	2007
	Nguyen Binh town (Coc Tam)	2	2007
	Hung Dao	9	2007
	Mai Long	30	2007
Bao Lam	Vinh Quang	9	2007
	Thai Hoc	13	2007
	Quang Lam	13	2007
			2007
Ha Quang	Quy Quan (Lung Moi)	2	2007
	Phu Ngoc (Lung Giang)	2	2007

Total: 207 latrines till June 2007

Annex 2: Findings from surveys and assessments of water supply schemes and household latrines in Lang Mon commune

November 4, 2008

I. Meeting with Lang Mon CPC:

(Lang Mon commune is located at about 20 Km west of Cao Bang city)

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Representative of CPC:

Mr. Hoang Xuan Minh, Chairman of Lang Mon CPC
Mr. Hoang Xuan Nguyen, Vice chairman

The findings:

- Population: 1648 people, 378 households
- Ethnic groups Tay, Nung (70%), Yao, Kinh, Mong (30%)
- 9 villages: 80% of villages have piped water supply; 20% of households located away from the village have to supply water by themselves (bamboo pipeline, plastic pipes or carrying water);
- Supported water supply projects in the commune:
 - Ke Gia village, Italian funding, district PC was project owner, support 100% of project costs, inhabitants did not have to contribute;
 - Na Piao village, DPC fund total of 500 million VND; supply water for 60% households, remaining 40% have to supply water by themselves;
 - 134 program supported water supply schemes for 3 villages, residents had to contribute labor;
 - Helvetas supported water supply schemes in 8 villages. Local population participated in the survey, design and construction; Helvetas provided technical and financial support upto 70% of the project costs. Very high ownership. Good water supply services, meeting the demand and wishes of the local people.
- There are about 50% of households which have pits latrines, 15% of households have septic tanks. People still have the habit of defecation in the forest;
- There are 18 latrines supported by Helvetas pilot program (2 latrines per village), out of which 14 double vault dry latrines, 4 pit latrines with concrete slabs.
- All infrastructure projects supported by Helvetas applied the 12 step approach for planning, implementation and operation and maintenance help:
 - To have strong agreement among local residents, people highly supported the projects
 - No complaints during the project implementation
 - Land acquisition and resettlement could be carried out easily
 - Easy to mobilize the people's contributions

Mr. Hoang Xuan Minh, Chairman of Lang Mon Commune People' Committee stated: *"the 12 step approach introduced by Helvetas is very precise, people have a chance to discuss, to express their priorities, to select the technical options, select the water source, and reach a strong agreement. Thus, the problems did not occur during the project implementation, including the land acquisition and resettlement, reducing the implementation time. The residents of the villages are the owners of the projects, Helvetas is the supporter. Thus, no commissioning and handing over is needed. Currently, Lang Mon commune is applying the community participation approach to make the annual social-economic development plan."*

II. Visit and assess water supply scheme and latrines of Na Leng village

Location: Na Leng village, Lang Mon commune, Nguyen Binh district, Cao Bang. (Na Leng village is located at a distance of about 20 Km to Cao Bang city; cars can access to the village)

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Meeting with:

Mr. Hoang Van Tung, Head of the village
Mr. Hoang Xuan Minh, Chairman of Lang Mon CPC



The findings

1 General information:

Population 219 people, 55 households; 89 men, 130 women

Population spreads into 3 communities

Ethnic groups: Tay, Nung

Economic activities: Agriculture, forestry, cattle farming.

The health status:

Before having water supply scheme: fevers, sore eyes

After putting the water supply scheme into operation: fevers, sore eyes

2. The physical status of the water supply scheme

Made operational in 2002. The current physical status: operating well

The water supply scheme was constructed using: 64.8 millions VND, out of which:

Helvetas contributed 45 millions VND, equal 70 % project cost

People contributed 19.8 millions VND, equal 30 % project cost

The average unit cost per household: 1.27 millions/household

Disbursement method

Helvetas source: Project management unit at commune level

People contribution: by labor

Time needed for planning (meetings, discussions, agreement on selected option) and construction: 3 months.

Materials, pipes and fittings purchased by the commune PMU in Cao Bang city.

Did water user representative participate:

Project preparation? Yes.

Construction supervision? The scheme constructed by the villagers.

Has training been provided before putting the water supply scheme into operation? Yes. Helvetas conducted training for local masons and operator group.

Type of water supply scheme:

Gravity water supply, 2.8 km pipeline with HDPE D40, D32, D20

Households connected to their houses by HDPE 20 pipes from 4 shared tanks

Water treatment: sedimentation and sand filtration, no chemical, no disinfection

Arrangements for operation and management after completion of construction: 7 management groups are rotating to look after the water supply scheme. Do not receive monthly allowance.

Do the local authorities have any measure for water resource protection?

Forestry planting at the water source basin: Water is taken from a rock spring in the middle of the protected forest, cattle cannot access the water intake.

Number of households accessed to water at the time of putting the water scheme into operation 51 out of total 55 households, equivalent to 94.5%.

Number of households currently with access to the water supply service: 51 out of the total 55 households, equivalent to 94.5 %:

Type of water service provided: shared water tanks, constructed by the project

House connections – households made connections themselves.

Do households have to pay for water service? Yes. 2,000VND/household/month at the commencement of the water supply service; then reduced to 1,000VND/household/month; 100% of water user households pay for the water service monthly.

Monthly revenue from water service fees is 51,000VND/month

The monthly expenditures for O&M of the water supply scheme are very little, mainly for village meetings.

How the un-accessed households get water: from springs, water flows by gravity through bamboo pipelines or plastic pipelines to households.

Quality of the service:



Service time:

Rainy season: 24/24

Dry season: 24/24

Water quality:

Rainy season: good

Dry season: good

Number of cases of water supply being interrupted since putting into operation: none

3. Latrines

Total number of households (HH) which have latrines: 55 out of the total 55 household. Out of which:

Pit latrines	26HH
Double vault dry latrines	27HH
Latrine with septic tanks	2HH



Number of HH in the village got supported by Helvetas to construct their latrine: 2 hh

Number of HH in the village got supported by other programs: 0 hh

Number of HH in the village constructed latrine themselves: 53 hh

Distance from houses to latrines < 10 m

Distance from latrines to households water tanks > 20 m

The percentage village of inhabitants using latrines: about 100%

The physical status of latrines: clean in general. However, one of the two latrines supported by Helvetas pilot program has not been used, due to (i) the double vaults have been constructed underground without windows for collecting compost; (ii) there is no concrete slab to cover the vaults; (iii) household did not construct the super-structure, the vaults were full of rain water.

Comparing with the standard design published by CERWASS and Helvetas in 2007, the constructed vaults have not followed it.

4. Visit and assess the water supply scheme

The head work (intake and treatment facilities): could not be accessed due to heavy rain.

Network: Operating well

Shared water tanks: in good physical condition, with concrete slab covers.

House connection: in good physical condition.

5 Visit and assess the latrines: see par. 3.5

6 Interview inhabitants and commune/district cadres

Mr. Hoang Van Tung, head of the village commented:

“Double Vault latrines:

- *It is suggested to make a window for collecting the compost and the vaults should be constructed above the ground to help collecting compost;*
- *There is a need to make two separate holes for the concrete cover slabs, each vault would have its own hole for defecation, to avoid moving the cover slabs after one vault is full.*

The gravity water supply scheme:

- *The shared water tanks are not needed, water should be connected to each household and if possible to install water meters for each household;*
- *It is suggested to increase water fees to make funds available for repair and replacement in the future”.*

Mrs. Hoang Thi Tuoi, head of the commune health clinic discussed about the diseases in Lang Mon commune: *“we do not have statistics on water born diseases before and after putting the water supply scheme into operation. The most common faced diseases are seasonal fevers”.*

III. Visiting water supply scheme of Ke Sy village

Novembre 5, 2008

Location: Ke Sy village, Lang Mon commune, Nguyen Binh district, Cao Bằng. (Ke Sy village locates in about 20 Km from Cao Bang city; there is rural road and cars can access the village)

The Assessment team:

Mr. Thanh, consultant

Mr. Thanh, DARD

Mr. Hoat, private sector representative

Mr. Linh, Helvetas

Meeting with:

Mr. Hoang Nguyen Giam, Head of the village

Mr. Hoang Xuan Minh, Chairman of Lang Mon CPC

Mrs. Luc thi Nham, Head of Ke Sy village women Union

Mrs. Hoang Thi Tuoi, Head of Lang Môn Commune Health clinic



The findings:

1 General information:

Population 140 people, there are 36 households; 63 men, 77 women

Population is distributed in 3 communities:

Community 1: 14 HH, Helvetas supported with water supply scheme

Community 2: 18 HH, Helvetas supported with water supply scheme

Community 3: 4 HH of Yao ethnic minority, water supply scheme constructed by 134 program funds

Ethnic Minority: Tay, Nung, Yao

Economic activities: Agriculture, forestry, cattle farming.

Health status:

Before having water supply schemes and latrines: Seasonal fevers;

After putting water supply schemes and latrines into operation: Seasonal fevers

2 Physical status of water supply schemes

The water supply scheme was put into operation in 2006 two gravity water supply schemes supported by Helvetas. The current physical status: good;

In 2007, one gravity water supply scheme was installed for four households of Yao ethnic minority, constructed by 134 program funding. The current status: there are a lot of operational problems, frequently after each heavy rain, the head works become blocked.

Total cost of two water supply schemes supported by Helvetas: 63.25mill VND, out of which:

Helvetas' contribution 39.7mill VND, equivalent 63 %

Inhabitant' contribution 23.55mill VND, equivalent 37 %

Average Unit cost per household: 2.34mill VND/HH

Disbursement method:

Helvetas source of funds: Commune Project Management Unit

Inhabitant contribution: Labour

There is one other water supply scheme constructed by 134 program source of funds:

Contribution of 134 program: 100mill VND,

People contribution: labor (transportation of construction materials and equipment)

Disbursement method:

134 program source of funds: district project management unit

People contribution: labor

Time for preparation (meetings, discussions, agree about water supply option) and construction – Helvetas supported water supply schemes: 2 months

Materials and equipment purchased in Cao Bang city by commune Project Management Unit

Did the water users participate during the project

Preparation? Yes

Construction supervision? The water schemes have been constructed by villagers

Has training been provided before handing over the water supply schemes? Yes. Helvetas provided training for local masons and operation unit

Type of water supply scheme:

Gravity, pipe HDPE D40, D32, D20, total of 3020 m

Households connected to their houses by HDPE 20 from 4+3 shared water tanks

Treatment: sedimentation, filtration, no chemical, no disinfection

O&M arrangements, after construction: 2 operation groups look after the water supply schemes. People do not get monthly allowance.

Does the authority have any measure to protect the water source?

Forestation in the water resource area: water is taken from protected forestry, from rock spring, cattle cannot enter the water intake area.

Number of households with access to the water supply scheme at the beginning of its operation: 27 out of 32 households, equivalent to 84.4% HH.

Number of households with access to the water supply scheme at present 27 HH, equivalent to 84.4% HH

The ways of water supply:

Shared water tanks – constructed by the project 4+3 tanks

House connections: made by households themselves

Do water users have to pay the service fees monthly?

Yes. 1000 VND/HH at the beginning;

100% HH pay monthly fees

Total monthly revenue: 27,000 VND/month

Monthly O&M expenditures: 0.

How do those without access to the water schemes get water? 5 households get water from nearby springs; they installed plastic pipes to bring water.

Quality of the service:

Time supply:

Rain season: 24/24

Dry season: 24/24

Water quality

Rain season: good

Dry season: good

Number of cases of water interruption from the time putting the water schemes into operation: 0

3. Latrines

Total number of households with latrine: 36 HH out of 36 HH. Out of which:

Pit latrines: 34 HH

Pit latrine with concrete slab cover: 1 HH (supported by Helvetas)

Double vault dry latrine: 1 HH (supported by Helvetas)



Number of households with Helvetas support for latrine construction: 2 HH

By other programs: 0 HH

Constructed by themselves 34 HH

Distance from house to latrine > 10 m

Distance from latrine to water tanks > 20 m

Percentage of inhabitants using latrines: about 100%

Status of latrines: good, clean.

4. Visiting and assessment of the water supply schemes

The head works: Could not visit due to heavy rain.

The treatment facilities: Could not visit due to heavy rain.

Network: functioning well

Shared water tanks: good condition, covered by concrete slabs.

House connections: good

5 Visiting and assessment of latrines: good condition and rather clean

6 Interview people, commune and district cadres

Mrs. Hoang Thi Nham, Head of the Ke Sy village women union said *“Before, each household had to install bamboo pipelines to carry water home from springs. During the dry season, the water was scarce, people had to go about 500-1000m to carry water, and washings was done in the streams. Some people had kidney stones. After putting the Helvetas supported water supply scheme into operation, the water quality is good, and we can boil without calcium sedimentation. People are very happy, they do not have to spend time carrying water. We hope that Helvetas continues its support, helping each household have its own double vault dry latrines”*.

Comparing the Helvetas approach with other programs, Mr. Hoang Nguyen Gian, head of Ke Sy said: *“The Helvetas approach is rather good, costs less, and the water supply is sustainable. The water supply schemes supported by 134 program: cost very high, the constructed water tank is too big (20 m3), very much beyond the demand of four households; the technical option for water intake is not appropriate causing many problems – blocking and water supply has been interrupted many times; people have to spend a lot of effort to solve the blocking problem”*.

Annex 3: Findings from surveys and assessments of water supply schemes and household latrines in Nguyen Binh district town

November 6, 2008

I. Meeting with District People's Committee of Nguyen Binh.

(Nguyen Binh district town is located about 45 km to the West of Cao Bang city, there is an inter-provincial road crossing the town).

Meeting place: Office of the District People's Committee

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Meeting with:

Mrs. Ma Thi Inh, vice chairwoman DPC
Mr. Nguyen Van Duyet, head of DPC office



The findings:

- There are 18 communes and 2 towns in the district,
- Population 39,000 people: Yao 52,8%; Mong 6%; Tay, Nung and Kinh 41,2%
- 42% households are poor (according to the new criteria); however, it is not equally distributed between the rock mountainous and soil hilly areas;
- The district is getting support from the following programs:
 - i. 135 program (rural roads, schools, irrigation schemes);
 - ii. 134 program (housing for the poor, agricultural lands, drinking water supply);
 - iii. School improvement program;
 - iv. EU support (drinking water supply and irrigation);
 - v. Dutch (drinking water supply and irrigation in Mai Long commune);
 - vi. Italian support (drinking water supply for Nguyen Binh district town, Ke Gia commune, Quang Thanh commune);
 - vii. JBIC supports (rural roads);
 - viii. ADB loans (drinking water supply for Nguyen Binh district town);
 - ix. Helvetas (irrigation, drinking water supply, latrines in many communes);
 - x. National Targets Program on Rural Water Supply and Sanitation.

Mrs. Ma Thi Inh, vice chairwoman of Nguyen Binh district said: *"All development projects supported by Helvetas have been planned, discussed from the village level and then to commune and district levels. Thanks to that approach all of the projects met the demands and wishes of the residents, the people carried out surveys, designs, and implementation. Therefore, for all water supply schemes, the best water sources were selected, this contributes to the sustainability of the schemes.*

The financing sources and options were published transparently, thus making the mobilization of the water user contribution easy, and quick, shortening the time for the project. After construction, training on operation and maintenance were also provided, the villages developed themselves the water operation

and management regulations, agreed on the level of monthly water user fees, thus almost 100% of households pay their bills.

Nguyen Binh district has introduced the guideline on 12 steps approach on planning and implementation rural infrastructure development projects to all communes. There are a number of communes applying this participatory approach in developing their annual socio-economic development plans, however, the level of application depends much on the capacity of the commune officers ”.

There are many programs and projects supported by different external support agencies, each program and project has its own policy on mobilization of people’s contribution with different levels and different approaches on project preparation and implementation causing a lot of friction between different villages and communes, causing difficulty for the local authorities during project/program preparation and implementation.

The pilot type of double vault dry latrines introduced by Helvetas is appropriate in the soil hilly areas; it is not suitable in the rocky mountainous areas.

We hope that Helvetas will focus its supports to build up districts, communes, or villages and become a champion and case study for other programs or projects to come and learn the approach, and arrangements for implementation and post implementation”.

II. Meeting with People’ Committee of Nguyen Binh town

Location: office of Nguyen Binh District Town People’ Committee

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Meeting with:

Mr. Hoang Kien Cuong, chairman of town PC
Mr. Ha Huu Hoan, Town Party Secretary



The findings:

- Population 3800 people plus 230 pupils of secondary boarding school
- 9 villages and 5 urban communities
- Ethnic groups: Tay, Nung, Yao, Kinh
- The health status:
 - Before putting water supply schemes into operation: Seasonal fevers
 - After putting water supply schemes into operation: Seasonal fevers
- The town has the following water supply schemes:
 - i. Water supply scheme constructed by the provincial CERWASS in 1997-1998, supplies water to 3 urban communities and district offices located in the towns. The War Veteran’s Union is managing the water scheme, collecting 3,000 VND/person/month for the cost of operation and maintenance;
 - ii. Water supply scheme supported by Helvetas, supplies water to the secondary boarding school and urban communities number 2 and 4, district offices located in the town. This water supply scheme is also managed by the War Veteran’s Union, currently collecting 2,000 VND/person/month. It is proposed to double the fees up to 4,000 VND/person/month;
 - iii. Water supply project for Nguyen Binh district town, funded by ADB; District is the project owner, and has not yet been put into operation due to facing some difficulties on water resources;
 - iv. Water supply project for Nguyen Binh district with funds from Italian government; District is project owner, under construction;

- v. Water supply scheme for Na Keo village, funded by 134 programs. District Town People Committee is the project owner;
- vi. Water supply scheme for 2 Pac Man villages, supported by Helvetas, putting into operation since 1998;
- vii. Water supply scheme for Coc Tam village, supported by Helvetas, putting into operation since 2006.

There are no water supply schemes for Khoi Bo (47 hh), Ban Luoc (50 hh), Na Pon (37 hh) , and Thom Xan (22 hh) villages with the total of 160 out of 954 household in the town.

Mr. Ha Huu Hoan, town party secretary makes his observations on efficiency of Helvetas supported projects: *“All the program or projects have involved people who are the beneficiaries of the program/projects in discussions and planning. The construction is implemented quickly and easily and efficiently. In contrast, all the programs/projects that do not involve people in discussion and planning face a lot of problems during implementation and do not achieve high efficiency. The water supply project for the Nguyen Binh district town, supported by ADB is an example of this”.*

III. Visiting water supply scheme for secondary boarding schools and urban communities number 2, and 4 of Nguyen Binh district town:

The Assessment team:

Mr. Thanh, consultant
 Mr. Thanh, DARD
 Mr. Hoat, private sector representative
 Mr. Linh, Helvetas

Meeting with:

Mrs. Ban Thi Phay, vice rector
 Mrs. Doan Thi Lanh, chairwoman of school trade union
 Mrs. Ly Thi Minh Hoa, Head of the school clinic
 Mr. Ha Thanh Tiep, Vice chairman of Nguyen Binh District Town People Committee

The physical status of the water supply scheme:

The water supply scheme is supplying water for:

Number of pupils in the boarding school: 230 plus 10 teacher households;
 Secondary and high school;
 Primary school;
 District town hospital;
 Urban communities number 2 and 4 (more than 100 households);
 District police office;
 District Town People's Committee office.



The water supply scheme was put into operation in 2001.

Current physical status: well operational (there are few days in dry season, water is lacking, due to sharing water source for agriculture activities).

The total costs of the water supply scheme were: 279.703mill VND, out of which:

Helvetas contribution: 227.405mill VND, equivalent to 81 %
 People contribution 52.298mill VND, equivalent to 19 %
 Average unit cost per head : 1.1 millions VND

Disbursement method

Helvetas source of funds: through District town project management unit
 People contribution: Labor

Time needed for project preparation (meetings, discussions, agreement on water supply option) and construction 6 months

The materials and equipment purchased by the project management unit in Cao Bang city

Did water user representatives participate in the Project preparation process? Yes

Construction supervision? The construction of the water supply scheme was managed by the district town project management unit.

Was training provided before handing over the water supply scheme? Yes. Helvetas provided training for the group of operators; Helvetas covered the costs for two operators to attend one month water supply operation training course in Vinh Yen, Vinh Phuc.

Type of water supply scheme:

Gravity system, HDPE pipelines

Households connected directly to the network without shared water tanks by HDPE 20.

The treatment process: sedimentation, filtration, no chemical, no disinfection

O&M arrangement after completion of construction: People's Committee of the district town assigned O&M responsibilities to the local War Veteran's Union. Before, there were three persons responsible for the water scheme O&M, now reduced to two persons only to increase the allowance of the operators. At the moment the allowance is 800,000 VND/person/month.

Does the authority have any measure to protect the water source?

Forestation surrounding the water springs; water is taken from a rock spring, cattle cannot access the intake.

Number of household's access to water supply scheme at the beginning of putting the scheme into operation: 350 HH and the offices, schools located in the urban communities 2 and 4.

Number of households currently with access to the water scheme: 350 HH.

The ways of water supply:

Secondary boarding school has water reservoir, where pupils come to use water;

Households made connections to their houses, the cost for connection, households paid themselves; there are no water meters for each connection.

Do the water users have to pay for the services monthly?

Yes. 2,000 VND/person/month at the beginning, just putting the scheme into operation. At this time, there is a proposal to increase the water fees up to 4,000 VND/person/month; however the proposal has not yet been approved. The pupils of the secondary boarding school do not have to pay for water fees. 100 % households pay monthly water fees.

The monthly revenue from water service fees: 3mill VND/month

The monthly expenditures:

60% revenue to be paid to operators,

5% revenue to be paid for stationary;

10% revenue to be paid to local War Veteran's Union

25% revenue to be paid to the district People's Committees to make up maintenance funds.

How the households without access obtain water for themselves:

From nearby springs; they installed bamboo pipelines, now changed to plastic pipelines

Quality of the service:

The service time:

Rainy season: 24/24

Dry season: 12/24 due to share water source for agricultural activities

Water quality:

Rain season: the turbidity is a bit high
 Dry season: Good
 Number of cases of water supply interruption since putting the water scheme into operation: the turbidity of the water is high, the headwork blocks after each heavy shower

Latrines

Percentage of households with latrines: 80%. Out of which:

Pit latrine	50% HH
Double vaults dry latrine	10 % HH
Latrines with septic tanks	20 % HH

Percentage of inhabitants using latrines for defecation: about 80%
 The status of latrines: generally clean.

Assessment of water supply scheme

The headwork: Good
 Treatment: OK
 Distribution network: operating well
 House connections: good

Interview inhabitants, commune and district cadres

Mrs. Ly thị Minh Hoa, head of the secondary boarding school said: "Before the project, pupils and teachers of the secondary boarding school had to install the bamboo pipelines to get water to the school. Since putting the water scheme supported by Helvetas into operation, the water supply service in school has much improved the life and health of the pupils and teachers have been improved very much. The common diseases of the pupils is seasonal fevers, there are no case of water born diseases".

IV. Visiting water supply scheme and latrines in Coc Tam village

November 7, 2008

Location: Coc Tam village, Nguyen Binh district town, Nguyen Binh district, Cao Bang province

(Coc Tam village is at about 5 km from Nguyen Binh district town, the cars can access to about 4 km, the remaining distance has to be passed on foot)

The Assessment team:

Mr. Thanh, consultant
 Mr. Thanh, DARD
 Mr. Hoat, private sector representative
 Mr. Linh, Helvetas

Meeting with:

Mr. Ly Van Binh, Village head
 Mr. Ly Kiem Nan, Water operator
 Mr. Ly Kiem On, Inhabitant
 Mr. Tiep, vice chairman of district town People's Committee



The findings

1 General information:

Population: 125 people; 65 men, 60 women; 23 households
 Population is distributed across two communities

Community 1: 19 HH, Helvetas supported water supply scheme supply water for 18/19 hh

Community 2: 4 HH, there is no piped water supply

Ethnic group: Yao

Economic activities: Agriculture, forestry, cattle farming.

The health status:

Before putting the water scheme into operation: seasonal fevers

After putting the water scheme into operation: seasonal fevers

2. Physical status of the water supply scheme:

The water supply scheme was put into operation in 2007

The current physical status: operating well;

Total cost of the water supply scheme: 35.329mill VND, out of which:

Helvetas contribution 24.829mill VND, equivalent to 70 %

Local contribution: 10.5mill VND, equivalent to 30%

Average unit cost per household: 1.962mill VND/HH



Disbursement method:

Helvetas source of funds: through district town project management unit

Local contribution: Labor

Time needed for preparation (meetings, discussion, and agreement on selected option) and construction: 2 months

The materials and equipment purchased by district town project management unit in Cao Bang city

What did the water user representative participate in?

Project preparation? Yes

Construction supervision? The water scheme was constructed by the villagers

Was training provided before putting the water scheme into operation? Yes. Helvetas provided training for the local masons and operator group.

Type of water supply scheme:

Gravity system, with water intake, pipelines installed from HDPE D32, D20 connect directly to each household's tanks. Each household water tank has a floating valve to prevent overflow. There is no shared water.

Treatment facility: sedimentation, filtration, no chemical, no disinfection

Arrangements for O&M after construction completion: The village appointed the head of the village police to operate the water supply scheme. He gets 18,000 VND/month as allowance, which was collected from households monthly (each household pay 1,000VND/month).

Do the local authorities have any measure to protect the water source?

Water source is located in the middle of the protected forest, cattle cannot access the source .

Number of households accessing the water supply service at the beginning of the scheme's operation: 18 out of 23 households, equivalent to 78 %. The same number of households access to the service at the time of assessment (18 HH out of the total 23 HH).

The way service is being provided:

Households made connections directly from the network to their water tanks; there are floating valves to prevent overflow

Do the water users have to pay for the service?

Yes. 1,000 VND/household/month; 100% of households pay the fees

The total revenue from the water users: 18,000 VND/month

Monthly expenditures for water scheme operation and maintenance: 18,000 VND/month for the water operator.

How do the non-connected households get water?

4 separate households in one community obtain water from springs during the rainy season; during the dry season, they have to collect it from down hill, about 500m from their homes;

1 household in the same community, where the water supply scheme has been constructed has its own water source.

Quality of the service:



Service time:

Dry season: 24/24

Rainy season: 24/24

Water quality:

Dry season: good

Rainy season: good

Number of cases of water interruption since the time of putting the water scheme into operation: none

3. Latrines

There are only 2 out of the total 23 households that have latrines. Out of which 1 has a pit latrine (supported by Helvetas); and 1 a double vault dry latrine, again supported by Helvetas.

The percentage of inhabitants using latrines for defecation: about 10% (3 near by households use double vault dry latrines supported by Helvetas).

4. Visit and assess the water supply scheme

The head work: good.

Treatment facilities: good.

Network: functioning well

Water shared: There are 3 households located up hill facing some difficulties to get water flow to their homes, due to the big difference of elevation between households, and some floating valves of the down hill households are broken and households have not yet repaired them.

5. Interview the inhabitants and commune/district cadres

Mr. Ly Kiem On, an inhabitant of Coc Tam commune, Nguyen Binh town said: *"Thank you to Helvetas for its support to construct the water supply scheme, now our residents do not need to go home early from work to carry water home. Returning from work we wash ourselves as much as we can without concern about lacking water."*

We hope that Helvetas will continue its support to construct another water supply scheme for the separate community of our village, to help the other households accessing water supplies as we have done since 2007."

V. Visit and assess the water supply scheme and latrines in Pac Man village

November 7, 2008

Location: Pac Man village, Nguyen Binh district town, Nguyễn Bình district, Cao Bang

(Pac Man village is located 3km from Nguyen Binh district town, there is road for cars and lorries and access to the village)

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Meeting with:

Mr. Nong Ngoc Ten, Head of Pac Man village (Ngoai)
Mr. Hà Van Tiet, Head of Pac Man (trong)
Mr. Ha Trung Thang, Party Secretary of Pac Man village
Mr. Tiep, vice chairman of Nguyen Binh district town people committee



Findings

1 General information

Population of Pac Man (ngoai): 302 people, 78 households. Pac Man (trong): 100 people, 21 households

Ethnic group: Tay

Economic activities: Agriculture, forestry, cattle farming.

The health status:

Before putting the water supply scheme into operation: seasonal fevers;

After putting the water supply scheme into operation: seasonal fevers;

The oldest person in the village is 85 years old

2 Physical status of the water supply scheme

The water supply scheme was put into operation in 1998, supported by Helvetas.

The current physical status: the head works have been recently covered by soil and rocks from a road construction project. At this time, the road construction project has “compensated” to the water users by installation of about 500m HDPE D75mm pipeline upstream of the head works. However, this pipeline has by-passed the existing sedimentation and filtration tanks, thus the turbidity of the water supply is rather high after each rain; also pipeline blockages are happening more often during the rainy season.

The total cost of the water scheme was: 79.711mill VND (1997 prices), out of which:

Helvetas contribution: 59.547mill VND, equivalent to 75 %

People contribution: 20.164mill VND, equivalent to 25 %

Average unit cost per household: 797,000 VND/household

Disbursement method

Helvetas source of funds: through a district project management unit

People contribution: Labor

Time needed for preparation (meetings, discussions and agreement on selected option) and construction: 6 months

Materials and equipment purchased by the district project management in Cao Bang city.

Did the water user's representative participate in the processes?

Project preparation? Yes

Construction supervision? The scheme has been constructed by the villagers

Was training provided before putting the water scheme into operation? No

Type of the water supply scheme:

Gravity system; HDPE D75 pipes. 4 public taps; the households located close to the public taps install plastic pipelines to connect water to their homes from time to time;

The treatment: As mentioned above, at the time of assessment carried water was by-passing the sedimentation and filtration tanks, no chemical, no disinfection involved.

Arrangements for operation and maintenance after construction completion:

Pac Man (ngoai): head of the village and Party secretary are responsible for operation and management the water scheme;

Pac Man (trong) the War Veteran's Union was appointed to manage the water supply scheme.

Do the local authorities have any measure to protect the water source:

Water is taken from protected forest. However, due to construction of an access road to landfill, soil and rocks from the road construction project have been dumped up hill of the water source, causing the head works to be fully covered by water from the scheme by soil and rock during the rainy season; the head works could not function at the time the assessment was carried out. The road construction project compensated the village by installing 500m HDPE D75mm pipeline upstream of the existing water intake, however this by-passed the sedimentation and filtration tanks. Since then, people are served by untreated water. Even though the water source is very good quality, the turbidity is high during rains and some times the pipeline gets blocked.

Number of households with access to water service at the beginning of putting the scheme into operation: 100% of households; the same percentage of households with access to water service at the time of assessment.

The ways that water service is provided: 4 public taps, some households use plastic pipes to connect water to their homes from time to time. The households located far from the taps carry water to their homes.

Do water users have to pay for the service?

Yes. 1,000 VND/household/month in Pac Man ngoai community;

2,000 VND/household/month in Pac Man trong community.

100% of households pay monthly water usage fees.

Revenue from water fees:

78,000 VND/month (Pac Man ngoai community)

42,000 VND/month (Pac Man trong community)

The revenues are spent on repairing/changing public taps as necessary. The water operators do not get an allowance.

Quality of the service:



Service time:

Rainy season: 24/24

Dry season: 24/24

Water quality:

Since the sedimentation and filtration tanks have been covered by soil and rocks, the turbidity of the water is high after heavy showers

Dry season: good

Number of cases of water service interruption: After heavy showers, the water operators have to flush the pipeline.

3. Latrines

Total numbers of households with latrines: 100% of households; Out of which:

Pit latrine	60% HH
Double vaults dry latrine	10% HH
Latrines with septic tanks	30% HH

The percentage of inhabitants with latrines for defecation: about 100%.

4. Visit and assess the water supply scheme

The head works: existing covered by soils and rocks; the new intake does not have sedimentation and filtration tanks, the intake was wrongly designed, meaning the pipeline was often blocked, especially after heavy rains.

Treatment facilities: at the time of assessment water is by-passing the sedimentation and filtration tanks.

Distribution network: functioning well

5. Interview the inhabitants and commune/district cadres

Mr. Ha Trung Thang, Party secretary of the village: *“hope we can get further technical and financial support from Helvetas to solve the problem of water by-passing the treatment facilities as at this time we would like to construct new head works, including the intake, sedimentation and filtration and installation of new pipeline to bring water to the water regulation tank as technically required”.*

Annex 4: Findings from surveys and assessments of water supply schemes and household latrines in Thanh Cong commune

November 8, 2008

I. Meeting with Commune People's Committee of Thanh Cong

(Thanh Cong is located 120 km from Cao Bang city to the south west)

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Meeting with:

Mr. Ban Tuan Giap, Chairman of Thanh Cong
commune People's Committee



The findings:

- Population: 2667 people, 513 households
- Ethnic groups: Tay (189 persons), Nung (793 persons), Yao (1685 persons)
- 15 villages: 100% of villages have water supply schemes, all supported by Helvetas, since 1998 up to now. However, in every village, there are separate communities that do not have access to piped water supply, thus not 100% percent of the commune population has access to piped water. There are 2 villages that have water supplied by schemes supported by the EU (Na Ban and Tat Slam villages). But, after construction, there was no water and the CPC approached Helvetas for further support. Those households who do not have access to piped water supply have to install bamboo pipelines or plastic pipelines to get water home. Some families have to carry it home during the dry season.
- Helvetas supported the construction of 33 household latrines in 13 villages of the commune:
 - 2/3 of the supported latrines are in use;
 - 1/3 of the supported latrines have not yet been used due to households not constructing the super-structures as agreed with Helvetas;
- 30% of households in the commune have pit latrines; 10% of households have latrines with septic tanks, constructed by households themselves.
- The 12 step approach for planning and implementation of rural infrastructure development projects introduced by Helvetas have advantage for all projects:
 - To meet the wishes of the population, thus they are very effective
 - People have the chance to discuss, carry out surveys, design and construct projects themselves
 - Easy to collect the people's contribution for construction of the facilities.

Comparing the Helvetas supported program with others, Mr. Ban Tuan Giap, chairman of Thanh Cong commune people committee said: *"our commune is applying the 12 step approach to prepare the annual socio-economic development plans and are achieving good results. Our commune can share these experiences with other communes within district or province, or even to other provinces"*.

Mr. Ban Huu Ngoc, Head of the commune clinic said, *"In Thanh Co commune, there are no cases of water born diseases, however after putting the Helvetas supported water supply schemes into operation, the living conditions and in particular the convenience of life for people in the commune have been improved significantly, the farmers returning from work do not have to worry about water, they do not have to return early to carry water home, thus the working time and productivity has been increased. The type of double vault latrine used is appropriate"*.

II. Visiting and assessment of water supply scheme and latrines of Coc Phuong village

Location: Coc Phuong village, Thanh Cong commune, Nguyen Binh district, Cao Bang province (Coc Phuong is located close to Thanh Cong commune center)

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Meeting with:

Mr. Ly Que Hong, head of the village
Mr. Ban Tuan Giap, Chairman of Thanh Cong CPC



The findings:

1. General information:

Population: 126 people; 60 men, 66 women; 22 households

Population is distributed in one community

Ethnic group: Yao do

Economic activities: Agriculture, forestry, cattle farming.

Health status:

Before putting the water supply into operation: seasonal fevers

After putting the water scheme into operation: seasonal fevers.

NB: The oldest person in the village is 80 years old.

2. Physical status of the water supply scheme:

The water supply scheme was put into operation in 2000.

The current status: functioning well, sometimes the supply is interrupted due to the pipeline becoming blocked.

The water supply scheme was constructed with 34.4mill VND. VBD, out of which:

Helvetas' contribution: 23.664mill VND, equivalent to 69%

People contribution: 10.736mill VND, equivalent to 31%

Average cost per household: 1.186mill VND/household

Disbursement method:

Helvetas source of funds: through a district project management unit;

People contribution: labor

Time required for preparation (meetings, discussions, agreement on selected option) and construction: 6 months

Materials and equipment purchased by district project management unit.

Did the water user's representative participate in:

Project preparation? Yes

Construction supervision? The scheme was constructed by the villagers

Was training provided before putting the water scheme into operation?

Yes, Helvetas provided training for local masons as well as group of operators.

Type of water supply scheme:

Gravity system; HDPE D32 pipes and 20 mm. There are some parts of the water supply network where galvanized pipes have been installed. There are 3 shared water tanks;
The treatment: No sedimentation, no filtration either, no chemical, no disinfection involved.

Arrangements for operation and maintenance after construction completion:

The O&M was arranged before completion: The head of the village is responsible to manage the water supply scheme. The operator does not get allowance for water supply operation. When the new head of the village is selected, the water operation responsibilities will change to the newly elected person.

Do the local authorities have any measures for water source protection?

The water is taken from protected forestry, with natural rock fencing, cattle cannot access the intake.

Number of households with access to the water supply scheme at the beginning of operation: 17 out of the total 22 households, equivalent to 77.2%:

- 1 household does not have a water tank, they installed bamboo pipelines to get water home;
- 1 household with access to Ban Dong water supply scheme;
- 3 households with access to water supply scheme for commune people committee and health clinic.

Number of households currently with access to the water supply scheme: 17 out of the total 22 households, equivalent to 77.2%

The way water service is being provided:

Shared water tanks;

Households use plastic pipes to connect to the tanks to bring water home from time to time. During dry season, many households are competing to get water at the same time, causing quarrels with each other.

Do water users have to pay for the service?

Yes. 1,000 VND/household/month at the beginning of putting the water scheme into operation; after two years, people decided not to collect the water fees, as competition to get water at the same time from the shared water tanks.

The revenue collected from the first two years of operation remains as only a little funds to pay for the people who carry out pipeline flushing.

Quality of service:

Time service provided:

Rainy season: 24/24

Dry season: 24/24. Water is enough for every households but not enough in peak hours.

Water quality

Rain season: good

Dry season: good

Number of cases of water service interruption since putting the scheme into operation: sometimes the pipeline was blocked as there is no sedimentation or filtration tanks at the head works.

3. Latrines

In total, 2 out of 22 households have latrines. These 2 were supported by Helvetas as its pilot program. Both latrines are double vault dry latrines. However, Helvetas support was focused on the poor households and they could not construct the super-structures for the latrines, thus none of them were put into use.

There are no other programs supporting the construction of latrines other than the Helvetas pilot program. Thus, 0% of village inhabitants use latrine for defecation.

4. Visit and assess the water supply scheme and latrines

The head works: There is no sedimentation or filtration tanks, often causing the pipeline to become blocked.

Water treatment facilities: No.

Distribution network: pipeline often blocked after heavy rain; Galvanized pipes crossing streams are corroded, causing leakages;

Shared water tanks: all 3 shared water tanks have concrete slab covers.

5 Interview inhabitants and commune/district cadres

Mr. Ly Que Hong, Head of the village stated: *“This water scheme is one of the first water supply scheme supported by Helvetas, thus both Helvetas and the people did not have much experience on carrying out surveys, design and construction nor distribution of water to each household. Now the economic situation has improved, households wish to have house connections to each household. We hope Helvetas will continue to support us by carrying out rehabilitation of this 10 year old water supply scheme and adding treatment facilities (sedimentation and filtration, and replacing the corroded galvanized pipes and making house connections). The Helvetas pilot latrine program focused on poor households and they could not construct the super-structures and could not put them into use. It is therefore recommended that Helvetas would review its supporting policies on helping households to construct their latrines so that the good lessons could be replicated throughout the village”.*

III. Visiting water supply scheme and latrine in Ban Chang village

November 9, 2008

Location: Ban Chang village, Thanh Cong commune, Nguyen Binh district, Cao Bang province
(Ban Chang village is located about 3 km from Thanh Cong commune center, there is a vehicle access road to the village)

The Assessment team:

Mr. Thanh, consultant

Mr. Thanh, DARD

Mr. Hoat, private sector representative

Mr. Linh, Helvetas

Meeting with:

Mr. Ban Huu Dai, head of the village

Mr. Ban Huu Tich, Party secretary of the village



The findings:

1 General information:

Population: 230 people; 110 men, 120 women, 43 households;

Divided into 3 communities

Ethnic groups: Yao Tien

Economic activities: Agriculture, forestry and cattle farming

The health status:

Before putting the water supply scheme into operation: seasonal fevers;

After putting the water supply scheme into operation: seasonal fevers. NB: Oldest person in the village is 90 years old.

2. Physical status of the water supply scheme

The water supply scheme was put into operation in 2002, two gravity systems with 22 shared water tanks, supported by Helvetas. The current status: good functioning;

The total costs of 2 water supply schemes supported by Helvetas were: 35mill VND, out of which:

Helvetas contribution 25mill VND, equivalent to 71%

People contribution 10mill VND, equivalent to 29%
Average unit cost per household: 972,000 VND/household

Disbursement method:

Helvetas source of funds: through commune project management unit People contribution: Labor
Time required for preparation (meetings, discussions, agreement on the selected option) and construction: 6 months, not continuously.

Materials and equipment purchased in Cao Bang city by the commune project management unit.

Did the water user representatives participate in the process of:

Project preparation? Yes

Construction supervision? The scheme was constructed by the villagers

Was training provided before putting the water scheme into operation?

Yes, Helvetas provided training for local masons and the group of operators

The type of water supply:

Gravity systems, HDPE D32 pipelines from the head works to 22 shared water tanks

Households carry water from the shared water tanks homes for cooking; washings and bathing are performed at the shared water tanks. People do not use plastic pipes to connect to their home (households are located next to each other in rows).

Treatment facilities: Sedimentations tanks are located at the water source, there are no filtration tanks, no chemical, and no disinfection.

Arrangements for operation and maintenance after construction completion: The village appointed a group of three persons to be in charge of the water schemes operation. There is no allowance for the people, who are in charge of water operation.

Do local authorities have any measure for water source protection?:

The water source is located in the middle of the protected forest with natural rock fencing, cattle cannot access the intake.

Number of households with access to the water supply scheme at the beginning operation: 36 out of the total of 43 households, equivalent to 83%. Number of households currently with access to the water supply scheme: The same 36HH, equivalent to 83%.

The ways the water service is being provided:

Shared water tanks – 22 tanks

Do the water users have to pay fees for the service provided?

Yes. 1,000 VND/person/year since the beginning of its operation;
100% households pay for the service

The total revenue from water user fees: 200,000 VND/year

The operation expenditure: none.

How do the non-connected households obtain water?

7 separate households have their own water sources from nearby springs, they installed plastic pipelines to connect the water home.

Quality of the service:

The service provided time:

Rainy season: 24/24

Dry season: 24/24 (there are about two months during the dry season where water is slightly less, but not significant)

Water quality

Rainy season: good

Dry season: good

Number of cases of water service interruption: none



3. Latrines

Total of 6 out of 43 households have latrines. Out of which:

Pit latrines 4 HH

Double vault dry latrines 2 HH (Helvetas supported),

6 households located close by use two Helvetas supported latrines)

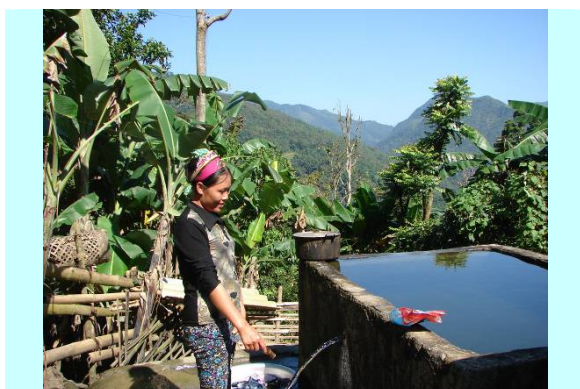
The distance from latrines to houses > 10 m

The distance from latrines to shared water tanks > 20 m

The percentage of inhabitants using latrines for defecation >10%

The status of latrines: clean.

4. Visit and assess the water supply scheme



Head works: sedimentation tanks with 2 m³, functioning well.

Treatment facilities: there is no filtration.

Distribution networks: functioning well, water is distributed to 22 shared water tanks, pipelines do become blocked occasionally;

Shared water tanks: 22 tanks, some have covers, some do not.

4 Visit 2 Helvetas supported latrines: clean and functioning,

5 Interview inhabitants of commune and district

Mr. Ban Huu Dai, head of the village recommended: *"It is proposed that Helvetas should consider providing technical and financial support to help 7 non-connected households with one gravity scheme. The double vault dry latrine is the right type of latrine and should be promoted here in Ban Chang. It is proposed that Helvetas would replicate its good results of piloting this type of latrine throughout our village."*

"Our village had pressure to host a training course on 12 step approach for planning and implementation of rural infrastructure development projects. At this time, this approach is being applied for preparation of the annual socio-economic development plan for our village to submit to the commune people's committee".

IV. Visiting water supply scheme and latrines in Phia Den village

November 9, 2008

Location: Phia Den village, Thanh Cong commune, Nguyen Binh district, Cao Bang province
(Phia Den is located at a distance of about 15 km from Thanh Cong commune center, on the inter-provincial road to Na Phac, Bac Kan)

The Assessment team:

Mr. Thanh, consultant
Mr. Thanh, DARD
Mr. Hoat, private sector representative
Mr. Linh, Helvetas

Meeting with:

Mr. Ma Ngoc Dong, an inhabitant of the village

The findings

1 General Information:

Population: 350 people; 170 men, 180 women, 75 households;
Population is distributed across 3 communities (Doi Thong, Pu Vai, Phia Den);
Ethnic groups: Tay and Nung (90%), Yao (10%)
Economic activities: Agriculture, forestry, cattle farming, small businesses.
Health status:
Before putting the water scheme into operation: seasonal fevers;
After putting the water scheme into operation: seasonal fevers.

2. Physical status of the water supply scheme

The gravity water supply scheme was put into operation in 1999. The current status: functioning well;

The total cost for construction of the water scheme: 72.445mill VND, out of which:

Helvetas contribution: 40.74mill. VND, equivalent to 56%
People contribution: 31.705mill VND, equivalent to 44%
Average cost per household: 1.207mill VND/household

Disbursement method:

Helvetas source of funds: through the district project management unit (PMU) (district People's Committee was the project owner)
People's contribution: Labor

Time required to prepare (meetings, discussions, agreement on selected option) and construction: 6 months non-continuously.

Materials and equipment purchased by the district PMU

Did the water user representatives participate in the process of:

Project preparation? Yes
Construction supervision? The scheme was constructed by the villagers

Was training provided before putting the water scheme into operation?

Yes. Helvetas provided trainings to local masons and group of operators.

Type of water supply scheme:

A gravity system, HDPE D32 pipelines from head works to shared water tanks; households connected from shared water tanks to their homes by plastic pipes.

Water treatment facilities: There is no sedimentation, no filtration tanks. Water is taken from rock springs, no chemical nor disinfection.

Arrangement for operation and maintenance after construction completion: The head of the village is responsible for water supply scheme operation. No allowance for water operators. When problems occurs, the head of the village appoints some people to fix it and they get paid for fixing the problems case-by-case.

Do the local authorities have any measure for protection of water source?

Yes, forestation is one measure. The water source is located in the middle of protected forest, with natural rock fencing, cattle cannot access.

Number of households with access to the water supply scheme at the beginning of its operation: 69 out of 69 households, equivalent to 100%.

Number of households using water at the time of assessment? 69 households, equivalent to 100%.

The way water service is being provided: Households connect to their houses from the shared water tanks.

Do water users have to pay for the service?

Yes. 1,000 VND/household/month from the beginning of its operation;
100% households pay the fees monthly;

The total monthly revenue from water users: 69,000 VND/month

The O&M expenditures are very little, mainly to pay for the people fixing the water problems, or flushing the networks.

Quality of the service:

The service time:

Rainy season: 24/24

Dry season: 24/24

Water quality

Rainy season: good

Dry season: good

Occasionally, the system has got blocked.



Water distribution tank

3. Latrines

69 households out of the total of 69 households have latrines, out of which:

Pit latrines 67 HH

Double vault dry latrines 2 HH (supported by Helvetas),

Number of Households supported by Helvetas to construct latrines: 2 HH

Number of households supported by other program to construct latrines: 0 HH Number of households who constructed latrines themselves: 67 HH

Distance from latrine to houses > 10 m

Distance from latrine to water tanks > 20 m

There are about 100% of inhabitants using latrines for defecation

The status of latrines: clean.

4. Visit and assess the water supply scheme

The head works: good condition.

Treatment facilities: No treatment facilities, but water quality is good

Distribution network: functioning well with only occasional blockage;

House connections: good functioning.

5. Visit and assess the two Helvetas supported latrines: clean

6. Interview the inhabitants and commune/district cadres

Mr. Ma Ngoc Dong, inhabitant of Phia Den village commented: *“the water supply scheme in Phia Den supported by Helvetas has been discussed thoroughly with inhabitants and responded to the inhabitants needs and wishes. It is quite different with UNICEF supported projects to construct some water tanks for rain water storage, people do not use them as the existing water spring has been used for years, water quality is very good and available all year around, thus rain water tanks are not needed”*.

Annex 5: Findings from surveys and assessments of water supply schemes and household latrines in Mai Long commune

November 11, 2008

I. Meeting with Mai Long Commune People's Committee

Location: Mai Long commune People's Committee office

(Mai Long commune is located at a distance of 120 km to south west of Cao Bang city and about 70 km from Nguyen Binh town; there is a rural road, which cars and Lorries can access to the commune center. This is the most remote commune of Nguyen Binh district).

Assessment team:

Mr. Thanh, consultant
Mr. Hoat, Representative of private sector
Mr. Linh, Helvetas staff

Meeting with:

Mrs. Trieu Thi Nau, chairwoman of Mai Long CPC
Mr. Nguyen Van Hien, Land administration officer of the commune



The findings:

- Population: 3,058 people; 532 households
- 14 villages;
- Ethnic groups: Tay (10%), Nung (20%), Yao (52%); Mong (18%);
- Economic activities: Agriculture, cattle farming, forestry
- The commune benefited from following infrastructure projects:
 - i) 1996, support of Eco (Dutch), irrigation and water supply project for three villages (Bo Can, Ban Chang, Na Lam). In 2007, this infrastructure was rehabilitated by NTPH (providing cement for rehabilitation);
 - ii) 1997-1998, UNICEF supported the construction of a water tank for the commune center;
 - iii) 2002-2003, the commune received EU support for improvement of channels, implemented in two villages (Bo Can and Ban Chang). The EU provided 100% of project costs;
 - iv) The German Red Cross supported the construction of 18 water reservoirs for rain water storage in Lung Thich village, the volume of each reservoir is 8 m³. Cao Bang Red Cross was the project owner;
 - v) The 134 program supports the construction of some water supply schemes in some villages. According to 134 program policies, people have to contribute 10% of the project costs
 - vi) 2007, Helvetas supported the construction of some small water supply schemes in 2 villages Lung Pap and Pu Miang;

Talking about efficiency of supported program/projects, Mrs. Nau, chairwoman of the CPC said: *"According to the Helvetas approach, the commune can be the project owner, people in villages are encouraged to discuss, carry out surveys, select the best water resources, select the location of shared water tanks, and therefore meet the people's demands and wishes. Since 2006, Mai Long commune has applied the 12 step approach for planning and implementation of rural infrastructure development projects introduced by Cao Bang DARD and Helvetas to prepare the annual socio-economic development plan for our commune, in which the priority infrastructure development projects were also made a priority".*

II. Visiting water supply scheme and latrines in Lung Pap village

November 11, 2008

Location: Lung Pap village, Mai Long commune, Nguyen Binh district, Cao Bang province
(Lung Pap village is located at a distance of about 10 km from Mai Long commune center, there is an earth road to the village and vehicles can only access the village in dry weather)

Assessment Team:

Mr. Thanh, consultant
Mr. Hoat, private sector
Mr. Linh, Helvetas staff

Meeting with:

Mr. Ly Giao Kinh, head of the village
Mrs. Trieu Thi Nau, chairwoman of CPC
Mr. Nguyen Van Hien, Land administration office of the commune



The findings

1 General information:

Population: 173 people; 28 households;
Population is distributed across 4 communities
Ethnic minority: Yao
Economic activities: Agriculture, forestry, cattle farming
The health status:
Before putting the water scheme into operation: seasonal fevers;
After putting the water scheme into operation: seasonal fevers.

2. Physical status of the water supply scheme

In January 2008, four gravity water supply schemes, supported by Helvetas, were put into operation. Each water supply scheme has two water tanks, one is located at the head works, the other is located in the residential area. So, in total, 8 water tanks have been constructed:

- One scheme supplies water for a primary school and 2 households;
- One scheme supplies water for 7 households;
- One scheme supplies water for 3 households;
- One scheme supplies water for 7 households.

As the households are widely distributed there was a need to construct several smaller water supply schemes.

The physical status of the water supply schemes: Good (one water tank in the residential area has a broken tap)

The total cost of all four water supply schemes: 52.056mill VND, out of which:

- Helvetas contribution: 36.066mill VND, equivalent to 69%
- People contribution 15.99mill VND, equivalent to 31%
- Average unit cost per household: 2.44mill VND/household



Disbursement method:

Helvetas source of funds: through commune project management unit
People contribution: Labor

Time required for preparation (meetings, discussions, and agreement on selected option) and construction: 3 months (not continuously)

Materials and equipment purchased by the commune project management unit in Nguyen Binh district town

Did the water user representatives participate in:

Project preparation? Yes

Construction supervision? The water supply schemes were constructed by the villagers

Was training provided before putting the water supply schemes into operation?

Yes. Helvetas provided training for local masons and the group of operators. Helvetas also assigned a technical supervisor to support construction of the water schemes.

Type of water supply schemes:

Gravity schemes, in total there are 610m of HDPE D32 and D20 pipelines to connect the water from the head works tanks to the residential water shared tanks. Some better off households constructed water tanks themselves in their homes and use plastic pipes to connect water from shared tanks to their tanks.

Treatment facilities: Sedimentation, no chemical or disinfection involved

Arrangements for O&M after completion of construction:

The communities appoint a person to look after the water schemes. They do not receive monthly allowance.

Do the local authorities have any measure to protect water source?

The water sources are located in the middle of the protected forest; there is natural rock fencing and cattle cannot access the water intakes.

Number of households with access to water supply schemes at the beginning of its operation: 19 out of the total 28 households in the village, equivalent to 68%.

Number of households currently with access to the water supply schemes 19 households, equivalent to 68%.

The way water service is being provided: households go to the shared water tanks to collect water for cooking; some households use plastic pipes to bring water home from the shared water tanks.

Do people have to pay for the service monthly? No

Monthly revenue: 0

Monthly expenditure for operation water schemes: 0

How the non-connected households get water: 9 households use plastic pipes to take water from streams to their homes.

Quality of the service:



The providing service time:

Dry season: 24/24

Rainy season: 24/24

Water quality

Dry season: good

Rainy season: good

Number of cases of water interruption since putting the scheme into operation: none

3. Latrines

Number of households with latrines: 0 out of the total 28 households.

4 Visit and assess the water supply schemes

The head works: good

Treatment facilities: good

Distribution network: functioning well

5. Interview inhabitants, commune and district cadres

Mr. Ly Dao Kinh, head of the village: *“Helvetas has supported water supply schemes, people can use water day and night without concern about running out, returning from work people do not have to go for water any more”.*

III. Visit water supply and latrines in Pu Miang village

Afternoon November 11, 2008

Location: Pu Miang village, Mai Long commune, Nguyen Binh district, Cao Bang province
(Pu Miang is the most remote village of the Mai Long commune and Nguyen Binh district. It is located in the middle of the mountains; about 15 km from Mai Long commune center. To reach there, people have to walk about 10 km from the nearest location accessible by car).

Assessment Team:

Mr. Thanh, consultant

Mr. Hoat, private sector representative

Mr. Linh, Helvetas staff

Meeting with:

Mr. Hoang Van Xuan, head of the village

Mrs. Trieu Thi Nau, Chairwoman of Mai Long CPC

Mr. Nguyen Van Hien, Land administration officer

The findings:

1 General information:

Population: 95 people; 44 men and 51 women; 19 households.

Population is distributed across 2 settlements

Ethnic group: Nung

Economic activities: Agriculture, forestry, cattle farming.

The health status:

Before putting water scheme into operation: seasonal fevers;

After putting water scheme into operation: seasonal fevers.

2. Physical condition of the water supply scheme

In January 2008 a gravity water supply scheme was put into operation. This scheme was supported by Helvetas.

The physical condition of the water scheme: good

Total cost for construction of the water supply scheme: 38.112mill VND, out of which:

Helvetas contribution: 34.112mill VND, equivalent 90%

People contribution: 4.0mill VND, equivalent 10%

Average unit cost per household: 2.006mill VND/household

Disbursement method:

Helvetas source of funds: through Commune Project Management Unit
People's contribution: Labor

Time required for preparation (meetings, discussions, agreement on selected option) and construction: 2 months

Materials and equipment purchased by the commune project management unit in Pac Nam town (Ba Be district, Bac Kan province).

Did the water users' representatives participate in the process of:
project preparation? Yes
construction supervision? Yes, the works have been completed by Lung Pap trained masons, Helvetas also appointed a technical person to supervise and provide technical assistance.

Was training provided before putting the water scheme into operation?
Yes, Helvetas provided training for group of operators.

Type of water supply scheme:
Gravity system, HDPE D32 pipelines to connect water from source to the shared water tanks; Some households use plastic pipes to connect water from the shared water tanks to their homes; the others take water from the shared water tanks

Treatment: Sedimentation and filtration, no chemical or disinfection.

Arrangements for O&M after construction completed:
The head of the village and village police are responsible for management of water supply scheme.
The do not get allowance.

Do local authorities have any measure to protect water source?
Water is taken from protected forest. The intake has natural rock fencing and cattle cannot access the area.

Number of households with access to the water supply scheme at the beginning of its operation: 13 out of the total 19 households

Number of household's with access to the water supply service at the time of assessment: 13 out 19 households (those without connection are 5 households in a separate community and 1 household in the same community, but that did not contribute to the construction of the water scheme).

The way service is being provided: Some households connect to the scheme with plastic pipes, the others go to the shared water tanks to collect water.

Do the water users have to pay monthly fees? No

Quality of the service:



Service time:

Rainy season: 24/24

Dry season: 24/24

Water quality

Rainy season: good,

Dry season: good

The number of times water was interrupted since putting into operation: none

3. Latrines

There are 2 out of 19 households with latrines. Both of them are pit latrines with concrete slab covers. Both latrines constructed with Helvetas support.

4 Visit and assess the water supply scheme

The head works: good.

Treatment facilities: good.

Distribution network: functioning well

5. Interview inhabitants and commune/district cadres

Mr. Hoang Van Xuan, head of the village said: *“We hope to have Helvetas continue supporting the construction of another water supply scheme for the separate community, so that all 5 households there will be able to access safe water. If Helvetas support the construction of latrines, the double vault dry latrine is the most appropriate type as people want to use the compost as fertilizer. The road project to connect our village to Pac Nam market is the biggest of the inhabitants here as well as the commune authorities”.*

Annex 6: List of meetings and people met

<i>Time</i>	<i>Meetings</i>	<i>People met</i>	<i>Telephone</i>
3 November 2008 (Monday)			
Morning	Meeting with Helvetas analyzing the list of schemes and toilets	Tran Van Tri - Director Hevetas -CB Nguyen Cong Thanh – consultant To Dinh Thanh - DARD – CB Nong Manh Linh – Helvetas – CB staff	0989.742.889 0976.107.266 0975.089.099 0988.071.768
13h30-15h00	Meeting with pCERWASS - CB	Be Nhat Thanh – Director	0903.283.517
15h00-17h00	Meeting with Water Resource Bureau	Nguyen Ngoc Truyen – Director	0913.252.817
4 November 2008 (Tuesday)			
7.30-8h00	Cao Bang – Lang Mon	Traveling from Cao Bang to Lang Mon commune (Thanh, Thanh, Linh)	
8h00-9h00	Meeting with CPC of Lang Mon	Hoang Xuan Minh - Chairman Hoang Xuan Nguyen – Vice Chairman Hoang Van Hoat – Private sector Representative	0985.522.298 026.2.215.026
9h00-17h00	Meeting with head of Na Leng village Survey and assessment of water scheme and toilets in Na Leng.	Hoang Van Tung – Head of Village Assessment Team (Mr.: Thanh, Thanh, Hoat, Linh)	01687.791.005
17h00-17h30	Return to Cao Bang	Assessment Team	
November 5, 2008 (Wednesday)			
7h30-8h00	Traveling from Cao Bang – Ke Sy, Lang Mon commune	Assessment Team	
8h00-15h00	Meeting with people in Ke Sy village Survey and assessment of water scheme and toilets in Ke Sy village	Mr. Hoang Nguyen Giam – Head of village Luc Thi Nham – Women’s Union Assessment Team	
15h00-17h00	Meeting with Health Clinic of Lang Mon commune Discuss findings with CPC	Hoang Thi Tuoi – Head of the health clinic Do Thuy Phuong – staff of the health clinic Hoang Xuan Minh - Chairman	026.243.053
17h00-17h35	Return to Cao Bang	Assessment Team (Thanh, Thanh, Linh)	
November 6, 2008 (Thursday)			
6h30-8h00	Traveling from Cao Bang – Nguyen Binh	Assessment Team (Thanh, Thanh, Hoat, Linh)	
8h00-10h30	Meeting with DPC of Nguyen Binh	Mrs. Ma Thi Inh – Vice Chair Women	0986.968.518
10h30-11h30	Meeting with Nguyen Binh Town PC	Hà Hữu Hoan – Party Secretary Hoang Kien Cuong – Chairman of town PC Ha Huu Lan – Vice Chairman	0983.872.251 0982.169.668
11h30-13h00		Lunch in Nguyen Binh town	

<i>Time</i>	<i>Meetings</i>	<i>People met</i>	<i>Telephone</i>
13h00-17h30	Surveys and assessment for water supply scheme for secondary boarding school and resident areas Interview the school health clinic	Mrs. Ban Thi Phay – Vice Director Mrs. Đoàn Thi Lanh - Teacher Ha Thanh Tiep – Vice Chairman of town PC Mrs. Ly Minh Hoa – Head of the clinic	
November 7, 2008 (Friday)			
Morning	Survey and assessment of water supply and toilets in Coc Tam village Interview the people in Coc Tam village	Mr. Ly Van Binh – Head of village Lý Văn Nân – Village Police Mr. Ly Kiem On, inhabitant of the village and representatives of 17/24 households	026.3.607.048
Afternoon	Survey and assessment of water supply schemes and toilets in Pac Man village Interview the people	Mr. Ha Ngoc Thang- party secretary Mr. Nong Ngoc Ten – Head of the village Mr. Ha Huu Hoan, inhabitant of Pac Man village	
November 8, 2008 (Saturday)			
Morning	Synthesize the findings and team meeting	Assessment Team	
12h30-15h00	Traveling from Nguyen Binh town to Thanh Cong commune	Assessment Team	
15h00-16h30	Meeting with CPC	Mr. Ban Tuan Giap – Chairman of the CPC	026.2.251.434
	Survey and assessment for water supply scheme and household toilets in Coc Phuong village	Mr. Ly Quay Hong- Head of the village	
November 9, 2008 (Sunday)			
8h00-17h00	Survey and assessment for water supply scheme and household toilets in Bản Chang village Interview inhabitant of the village Meeting commune health clinic Survey and assessment for water supply scheme and household toilets in Phia Đén village Interview inhabitants of the village	Mr. Ban Huu Dai- Head of the village Mr. Ban Tuan Giap – Chairman of the CPC Mr. Ban Huu Tich, inhabitant of Ban Chang village Mr. Ban Huu Ngoc – Head of commune health clinic Mr. Ma Ngoc Dong, inhabitant of Phia Den village	
November 10, 2008 (Monday 2)			
8h00-15h00	Synthesize the findings and Team meeting in Nguyễn Bình town	Assessment Team	
November 11, 2008 (Tuesday)			
7h30-8h30	Traveling from Nguyen Binh town to Mai Long village	Assessment Team	

<i>Time</i>	<i>Meetings</i>	<i>People met</i>	<i>Telephone</i>
Morning	Meeting with Mai Long CPC Meeting with Health Clinic of Mai Long Commune	Mrs. Trieu Thi Nau – Chairwoman of Mail Long CPC Mrs. Đang Kim Hai – head of the commune health clinic	
	Survey and assessment for water supply scheme in Lung Pap village	Mr. Ly Gioo Kinh – Head of the viillage	
Afternoon	Survey and assessment for water supply scheme and household toilets in Pu Miang	Mr. Hoang Van Xuan – Head of the village	
	Interview inhabitants of the village	Mr. Nguyen Van Hien, land administration staff of commune	
November 12, 2008 (Wednesday)			
Morning	Team meeting and synthesize the findings in Nguyễn Bình town	Assessment Team	
15h-16h00	Traveling to Cao Bang	Assessment Team	
November 13, 2008			
	Debriefing meeting with Hevetas Cao Bang	Hevetas Cao Bang team	

Annex 7: Terms of References for assessment team

Background

From 1997 to 2008, in the frame of different rural development projects in Cao Bang province, Helvetas Vietnam supported the planning and the construction of a number of drinking water supply schemes and of latrines. The aim of this support was to improve the livelihood of poor farmers of ethnic minority groups and at the same time to strengthen capacities and ownership of district / commune cadres in public services towards their population. Furthermore, working relationships between villagers and local authorities would hopefully be improved by joint participation in the planning, implementation, monitoring and evaluation process. In total, Helvetas Vietnam has supported the construction of 106 small scale drinking water schemes and 207 pilot toilets in 29 communes / district towns of 7 districts in Cao Bang Province (see list in the attachment). This support was designed to meet priorities set by the inhabitants of the villages using participatory method. These different approaches changed and were developed during the different years of project implementation. At the beginning the projects participatory rural appraisals (PRA) methods were used. Then the project developed the so called *12 Step Methodology*.

At present Helvetas continues its support in Cao Bang through the Community Based Governance-Extension-Market project (CB-GEM), which started in 2006 and is due to run to 2010. The objective is to enhance, till the end of December 2010, the capability of 24 communes with an important portion of ethnic mountainous people, to respond to their demands and assist the population in the fields of public services, extension and market knowledge, while attracting local and government budgets and other funding sources effectively, using simple, low cost, and replicable methods.

Achievements so far

Until now, achievements made by this project have contributed to improve the capacities of government partners of different levels, especially the commune level, through provision of technical and methodological training courses and by their active involvement in participatory planning, implementation and monitoring activities, including financial management. At the same time the CB-GEM project, via its Commune Development Fund (CDF), has supported local poor people in the remote highland areas to realize priorities defined during the local planning process aimed at improving their livelihoods (small scale infrastructure and extension activities), among these priorities drinking water and sanitation was a project focus

Purpose of assessment

In order to assess the impact on the direct and indirect beneficiaries of Helvetas support in the field of drinking water and sanitation and to draw lessons-learned for future interventions, the CB-GEM project conducts assessment over a longer period (1997-2007) and larger areas compared to the smaller study (see attached impact assessment report) which was already conducted in 2005 by a local team.

Objectives and key questions

The outcomes of the assessment are:

- 1) Assess the current physical and operational status of the drinking water supply schemes and the latrines supported so far.
- 2) Assess the current quality of these infrastructures related to their specific purposes, indicative water quality (visual and taste), the quality of the toilets in the case of latrines, make recommendations if further quality analysis of the water should be done regarding sampling, type of analysis and laboratory that should perform the tests.
- 3) Assess the impact of these infrastructure on the livelihoods of direct and indirect beneficiaries. What is the impact of the infrastructure projects on coverage? What is the impact of the infrastructure on access of the rural poor to safe water and latrines? Does the use of safe drinking water and latrines have an impact on the health status of the beneficiaries (only indicative figures based on interviews and direct observation by the consultants)? Could poor rural households save money by using safe drinking water and latrines?
- 4) Make a gender disaggregated assessment especially related to drinking water schemes and sanitation. What was the impact on women? What was the impact on men? What was the impact on the entire household? Did the more favorable conditions have an incidence on girls and boys of the family?

Which ones? For all these aspects, only indicative figures will be recorded based on interviews and observation by the consultant during the field visits.

- 5) Assess whether the current organizational structure is appropriate to operate and maintain the infrastructure on a long term perspective. Is this organizational structure recognized by the local authorities? Make specific recommendations on how this organizational structure could be improved in order to become more sustainable and institutionalized.
- 6) Maintenance and Repair: does the organization operating the small drinking water system generate funds? Will these funds cover the recurrent costs of maintenance? How will the organization finance major repairs? Assess the possibilities for the organization and the introduction of water fees.
- 7) Assess whether and how the financed projects are collaborating with the private sector and analyze the procurement process for services and supply of materials and equipment. Make recommendation for improvement.
- 8) Water source protection: assess the possibilities for the introduction of a water source protection system.
- 9) Review the 12 step methodology – especially its institutionalization aspect at provincial, district and communal level - and make proposals for improvement.
- 10) Give recommendations to related partners (eg. Center for Rural Drinking Water & Sanitation (CERWAS), PPC, DPC, CPC, and water user groups) and the CB-GEM project on the improvement of the rural water supply and sanitation system in the Province and give advice on possible designs of future interventions.
- 11) Analyze the relationship between this support of Helvetas Vietnam (through the different projects) and the Government policies and programs in the Province.

Responsibilities and team composition

The consultancy team is composed of:

- 1 leading national consultant
- 1 staff member from CERWAS
- 1 staff member from the province/district/private sector
- 1 staff member from Helvetas Vietnam

The leading consultant is responsible to write up the final report in Vietnamese and English. The staff of CERWAS will assist the consultant in elaborating questionnaires, establishing contacts with partners and organizing field trips, collecting, analyzing and commenting on information and data for the report. The consultancy team shall be supported by the CB-GEM project manager (Mr. Tran Van Tri) and a contracted local consultant for technical support and monitoring of small scale infrastructure (Mr. Hoang Van Hoat).

Timing and place

Tentative timing: November- December 2008

Place: selected communes in Cao Bang Province

Methodology

The final report will be mainly based on qualitative data and information gathered from:

- (i) Assessment check list based on observations from field visits and discussions with villagers undertaken by the commune government officer responsible for construction
- (ii) Report based on observations and interviews from field visits to selected villages done by the Helvetas contracted local consultant for technical support and monitoring of small scale infrastructure
- (iii) Observations and interviews from field visits to selected villages undertaken by the consultant

Tentative schedule

Timing	Activities	# of working days	Responsibility
	List all villages / communes with DW schemes and toilets supported by Helvetas and a check list to collect information		Helvetas team Place: Cao Bang
	Prepare and send letters to all supported communes / places		Helvetas team Place: Cao Bang
	Site visits		Commune cadastral officer Place: Cao Bang
	Collecting check lists from communes		Helvetas team Place: Cao Bang
Nov	Desk study	2	Place: HN
Nov	Travelling days from HN to Cao Bang and back	2	Place: HN- Cao Bang
Nov	Working with Helvetas team to ratify the ToR / sign the contract, analyze information from collected checklists and plan field trips	1	Helvetas team/ consultants Place: Cao Bang
Nov	Field trips to 10 selected schemes in at least 5 communes / places	10	Consultants Place: selected communes
Nov	Debriefing working session between consultants & Helvetas team after field trips	1	Helvetas team/ consultants Place: Cao Bang
Dec	Debriefing in HN, writing reports in English & Vietnamese, finalizing reports based on comments of Helvetas	7	Consultant Place: HN/CB
	Total	23	

Reporting & the required outputs

No later than 15 days after the field trip to Cao Bang, the consultant shall submit a consultancy report in English and Vietnamese (by electronic file & hard copy) to Helvetas Cao Bang for approval. The report should be clear, based on the findings of the mission and check lists from communes/ places and contain between X and Y pages.