



General Report



PROJECT:0:

"DRINKING WATER SYSTEM IN
CHIQUIM GUAXCUX,

SAN PABLO TAMAHÚ A.V."

FUNDED BY AEMT VEREIN SWITZERLAND



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1. SUMMARY

The proposed solution for access to drinking water called "Seeking Health and Hygiene through water, for Maya Poqomchí families of Chiquim Guaxcux, municipality of San Pablo Tamahú, Alta Verapaz; "WATER FOR HEALTH AND HYGIENE" seeks to generate human development and quality of life for the inhabitants of the Chiquim Guaxcux Community, municipality of San Pablo Tamahú, Alta Verapaz, for which an environment of harmony and teamwork is dictated. Through the execution of the project, a hygienic environment and access to safe, quality and continuous water will be achieved.

The project "Introduction of a gravity-fed drinking water system" was developed in northern Guatemala, where drinking water supply is guaranteed to low-income families in the community of Chiquim Guaxcux, in the municipality of San Pablo Tamahú, Alta Verapaz. The project allows the expansion of the social fabric to empower their skills for the mutual strengthening of the change of attitudes in the management of basic sanitation, water, latrines and everything that affects their context.

Through the Gravity Drinking Water System project, two hundred and seventeen (217) families with insufficient monetary assets were benefited.

2. INTRODUCTION

The project "Introduction of a gravity-fed drinking water system" called "Seeking Health and Hygiene through water, for Maya Poqomchí families in Chiquim Guaxcux, municipality of San Pablo Tamahú, Alta Verapaz; "WATER FOR HEALTH AND HYGIENE" concluded 100% of its physical infrastructure, being the catchment, pipeline, distribution tank, overhead passages, pressure breaker boxes, flow control boxes, type A ditch passages, hypochlorinator box, register control boxes and home jets, it is already 100% operational for the service of the benefited families.

Within the project, through the intervention of technicians and facilitators of the ADICAY Association, training workshops and capacity building have been provided with the intention that the infrastructure projects have a solid foundation in their administration, operation and maintenance. Guidance has been provided on good water management, basic sanitation inside and outside the home, which seeks the integral development of the families that make up the Chiquim Guaxcux community.

The proposed objectives are being fulfilled, for which the work carried out is described in narrative form, as well as photographs of the work that was carried out. At the beginning of the execution, a general assembly was held to discuss coordination and socialization issues of the two components being the construction and infrastructure and the education and development component.

The project briefly describes the actors, objectives, results, as well as the details of the physical progress, construction of civil works, comprehensive training for the management of the system, and housing monitoring.

3. OBJECTIVES

- Collaborate with rural development policies, the reduction of poverty and malnutrition due to the consumption of contaminated water in the municipality of San Pablo Tamahú, Alta Verapaz.
- Install conditions of water supply to rural families in the community Chiquim Guaxcux to prevent the effect of health contagion dengue to use water properly without contamination.
- Strengthen technical capacities in grassroots groups for the administration, operation and maintenance of the drinking water supply and sanitation system.
- Installation of a sanitation train group to prevent environmental contamination in the area of the community of Chiquim Guaxcux, every 2 months.
- Improve capacities and skills in women, girls and the community in general, for the empowerment of activities that allow social, recreational and political involvement, thus achieving equity and equality and the common good with dignified living conditions.
- Integrate activities associated with environmental improvements through the participation of men and women to achieve healthy housing and community scenarios.

4. INFRASTRUCTURE COMPONENT

4.1 General Assembly

At the beginning of the construction of the drinking water system in the community of Chiquim Guaxcux, an assembly was held to socialize the beginning of the construction and introduction of the drinking water system to benefit 217 families, and commitments were established between the beneficiary families and the ADICAY Association.

- a) Provide unskilled labor for the construction of the drinking water system (hauling of materials and construction support).
- b) Provide local materials consisting of: stone, sticks and others.
- c) Provide a warehouse space for the storage of construction materials and piping in general.
- d) Organize groups of people to support each day's field work.
- e) Provide accommodation space for Adicay's masons and personnel during the intervention in the community.
- f) To have two people in charge of controlling the materials entering and leaving the warehouse (warehouse managers).
- g) 100% of families must participate in the training workshops that will be given by ADICAY's technical facilitator.

- h) Enable the process facilitator to make home visits to detect behavioral changes in basic sanitation management and other aspects of family improvement.
- i) Upon receiving the project, beneficiaries must pay a monthly fee of Q5 for the operation and maintenance of the system.
- j) Manage a preventive and corrective maintenance plan for the correct administration of the system in the future.



- **ACTIVITIES CARRIED OUT**

4.2 Receipt and delivery of materials

Prior to the delivery of materials, quotations and purchases of materials were made, for which deliveries were made at different times, including hardware materials such as sand, cement, iron, nails, among others. Subsequently, materials such as PVC and HG pipes, accessories in different diameters according to the project execution plan and wood were purchased and delivered.

For the start of work on the implementation of the drinking water project in the community of Chiquim Guaxcux, materials were delivered to the community as shown in the photograph, always with the support of the beneficiaries.



4.3 Transfer of materials

With the support of the beneficiaries, the materials were moved to different points, where important civil works were built for the operation of the system, such as a Swiss type catchment, a flow collector, an aerial passage, and the installation of conduction piping and a distribution tank (which was enlarged due to future needs).



To make the project a reality, the beneficiaries contributed local materials, as we mentioned earlier that the commitment is to give materials that are available in the community.



4.4 Installation of conduction piping.

To start with the works, 3 x 160 psi conduction pipes were installed, according to the design, and also according to the terrain profile.

In the process of the installation of the pipelines, there were difficulties with the passage of the pipeline in the realization of the trenching for the cultivation of coffee plantations pacayas trees and stones in the lines, this activity was achieved with the support of the beneficiaries.



Air passage.

An overhead passage of 36 linear meters was built in the conduction line, in which galvanized iron pipes (HG) with a diameter of 3" were used with tie rods and steel cable hangers.

To achieve this work, the beneficiaries gathered the materials required for the work, such as: stones, sand, wood, stainless steel cable, HG pipes and other accessories.

The beneficiaries struggled with the work of the flyover construction until they had a positive result and did not measure their time in the construction process.



Cleaning Box

A cleaning valve box was installed in the pipeline, which will function as a sediment drain that accumulates in the curved area, with the effort of the beneficiaries, this work was carried out with the transportation of stones, sand and cement.



Air Valve.

The air valve was built to prevent air from accumulating in the pipeline. The photographs show the construction process of each work carried out at each point of the pipeline according to the plan.



100m³ Distribution Tank

Water storage or distribution tank, a work of art designed to regulate and store the volume of water needed to supply water to the population, due to hourly variations in consumption or demand, considering the capacity of the source.

The work has been built of stone masonry, due to location conditions, type of soil, quality of infrastructure. Covered with concrete slab reinforced with iron, providing two observation windows with metal sanitary covers, for inspection and repair purposes.

With facilities for ventilation, overflow and cleaning.

During the work process at the distribution tank site, more than a month of work was required due to the depth of what was excavated at the site, it took some time to gather the local material of 80 cubic meters of stones.



Installation of distribution piping





Installation of copant passage piping

In this part of the project the pipeline was passed from underneath a copante to benefit the people who are on the other side of the national highway, in this part of the project we looked for a way to supply the neediest families on the other side of the road. And for lack of right of way with the families who did not accept to work on the project. It was difficult to pass the pipeline, but it was achieved with the objective of serving the beneficiaries.



The 8 pressure breaker boxes were built on the distribution lines as indicated in the plan design, respecting the points and stations so that the works can fulfill their function.

Civil works execution process with the community of Chiquim Guaxcux, during the execution of the works, the groups of beneficiaries were organized to achieve the results of the mentioned works, likewise the stones, sands, woods, cements and irons were transported.

The members of the community had difficulties in the sustainability of their families' food supply, because they no longer looked for work since they dedicated themselves to work on their projects.



The schedules were established for the hauling of materials, mostly in the early mornings to take advantage of the time since in the afternoons they use for some work, to look for something to support their families, for this reason there are not enough photographs of the hauling of materials at the work sites.



Construction and installation of domestic jets.

During the process of the installation of household jets, the beneficiaries were involved in all the work to achieve the objectives of having results for each one of the 217 families.

The photographs show activities carried out by the population as a whole.



FINAL TABLE. CHIQUIM GUAXCUX TAMAHÙ
PROJECT

No. ord.	line of work	unit	quantity	realized	missing	% Dear	% realized	% missing
1	Capture Stauble Design (Swiss)	unit	1	1	0	6	6	0
2	Settling box Stauble Design (Swiss)	units	1	1	0	5	5	0
3	Pipelines pipelines 3"160 PSI PVC.	units	98	98	0	3	3	0
4	Cleaning valve	units	1	1	0	2	2	0
5	Air valves	units	2	2	0	2	2	0
6	Distribution Tank of 100 meters 3.	units	1	1	0	15	15	0
7	Piping distribution lines PVC 1 ½ "160 PSI.	units	462	462	0	1	1	0
8	PVC distribution line pipe 1 ¼" 160 PSI.	units	44	44	0	1	1	0
9	Pipe distribution line of PVC 1" 160 PSI.	units	159	159	0	2	2	0
10	PVC distribution line pipe ½ 160 PSI.	units	41	41	0	1	1	0
11	PVC distribution line pipe 2 ½ 160 PSI.	units	65	65	0	1	1	0
12	2" 160 PSI PVC distribution line.	units	500	500	0	3	3	0
13	PVC distribution line 3/4" 160 PSI.	units	209	209	0	2	2	0
14	36 linear meters overpass	unit	1	1	0	5	5	0
15	Buttress	unit	1	1	0	3	3	0
16	Overpass of 30 linear meters	unit	1	1	0	1	1	0
17	Ditch crossing type B	units	1	1	0	7	7	0
18	Passage of ¾" copant piping	units	1	1	0	6	6	0
19	Pressure breaker boxes	units	9	9	0	7	7	0
20	Flow control	units	9	9	0	2	2	0
21	30 linear meters of concrete overlay	units	30	30	0	5	5	0
22	House connections	units	217	217	0	20	20	0
						100		0

5. Completed works

1. Constructed Stauble design (Swiss)
1. Constructed Stauble design settling box (Swiss)
98. Installed 3"160 PSI PVC conduction lines.
1. Constructed Cleaning valve
2. Constructed Air valve
1. Built Distribution Tank of 100 meters 3.
462. Installed PVC distribution lines pipes 1 ½ "160 PSI.
44. Installed 1 ¼" 160 PSI PVC distribution line pipes. 159 installed PVC distribution line pipes 1" 160 PSI.
41. Installed PVC distribution line pipes ½ 160 PSI.
65. Installed PVC distribution line pipes 2 ½ 160 PSI.
500. Installed 2" 160 PSI PVC distribution piping line.
Installed PVC distribution line ¾" 160 PSI.
1. 36 linear meters of overpasses built.
1. Constructed Counter ditches
1. Constructed 30 linear meters overhead walkway
1. Constructed Ditch crossing type B
2. Installed ¾" pipe copant pitch
9. Built-in Pressure Breaker Box
9. Built in Flow Control Box
- Constructed Concrete overlay 30 linear meters
217. Installed Home connection

ORATION AND TEST OF DRINKING WATER SYSTEM IN THE COMMUNITY OF CHIQUIM GUAXCUX.

During the test of the potable water system in the community, it was successfully tested, with no deficiencies during the water test, in the civil works, which means that the topography and design was of quality.

This is the result of the work carried out during the time of the activity with the beneficiaries.

Time for meditation, on the distribution tank, in thanksgiving to God and for the successful testing of the drinking water system!!!!



Test images of the drinking water system.

During the test of the drinking water system, it was successful for the community, since the families showed joy and happiness at the moment of receiving the vital liquid in their homes.



Life and project stories

My feelings, as president of Cocode. I am Jesús Ichich from the community of Chiquim Guaxcux.



In previous years we have suffered a lot for water, if not, we got up at dawn to bring water, we did not get the vital liquid for the family's domestic chores, with the new project, first I thank God and the gentlemen of Switzerland, because now there is a big difference, we now have drinking water 24 hours a day and with the big difference, we now consume water that is chlorinated, we know that it is pure water for our families and that good health is guaranteed for the families of Chiquim Guaxcux.

I feel very happy and content for the project with large works, such as the distribution tank. We never dreamed that we were going to have a good quality project, since we only heard that Adicay was building good projects in neighboring communities, for this reason, we made the attempt to request the project in this institution and it was a success!!! the response in our community, thank God, for everyone. Adicay and AEMT. SWITZERLAND. Thank you very much.



The beneficiary family, Mrs. **Irma Patricia Juc Caal**, says that the project is incomparable to the project they had before, because they always lose a lot of time waiting for water, instead of moving forward to wash clothes, only air brought the pipe, for this reason I say that the new project is excellent in its ability to supply our population, here in Chiquim Guaxcux, now I have enough time to attend to my children.

During the execution of the project, our husbands did not limit their strength to pull the materials for our project, even though we had great commitments to take care of our families, such as feeding and studying our children, for us nothing is impossible in life, everything is possible because of the need for water. Now we are very grateful and happy, because we are drinking clean water. Thank you all very much.

EDUCATIONAL COMPONENT

TRAINING:

08 interventions have been carried out in the community. The educational part was carried out in quite comfortable places with sufficient ventilation, since it was considered prudent to carry out the interventions in a communal manner.

It is worth mentioning that the intervention, which lasted no more than one hour, was carried out in a warm atmosphere, with a lot of participation, mutual respect and serious commitments to improve Basic Sanitation in general. The topics developed were the following:



Based on the objectives and activities proposed in the project, a sensitization process was initiated. It is our conviction that awareness and training, in addition to practice, are sufficient means to achieve and improve our proposed activities.

MODULE 1

TOPICS

PARTICIPATION

1. Community Organization
2. Citizen Participation
3. Domestic Violence
4. Local Risk Management

MODULE 2

WATER

1. Hydrological Cycle, Nature, Man and Water.
2. Contamination
3. Water Disinfection.

MODULE 3

SANITATION

1. Personal Hygiene
2. Housing Hygiene
3. Wastewater Treatment
4. Use, Construction and Maintenance of latrines.

MODULE 3

ENVIRONMENT

1. Natural Resources Management
2. Watershed Management

PARTICIPATION

According to attendance, the average participation in the trainings was - Both Women and Men-, as well as the total number of families that participated during the training process-:

WOMEN	MEN	TOTAL		TOTAL, FAMILIES
51 %	49 %	100		217

HOME VISITS

Daily visits were made on different dates to gather the following data:

- 1) Sector 3: Total: 120 visits.
- 2) Sector 4: 152 visits

Total 272 visits to date, which were carried out with the accompaniment of community leaders and members of the COVAS water and sanitation monitoring commission.

In order to monitor and evaluate the state of the dwellings in relation to hygiene, order and cleanliness, the use of ballots was used to report on the

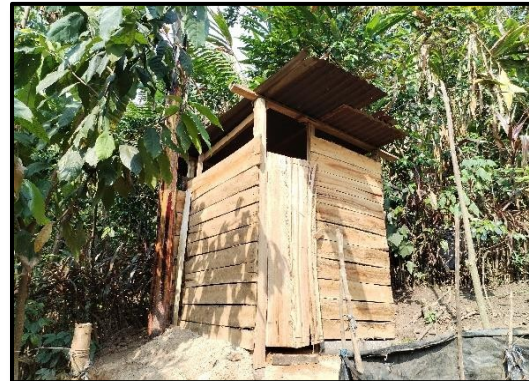
In addition, the progress of the reconstruction, use and maintenance of latrines, solid waste treatment, sewage and the issue of bodily health was also evaluated.



Results

Before

After



GRASSROOTS GROUPS, FORMED AND TRAINED



GOALS ACHIEVED

- a) The beneficiaries of the drinking water project in Chiquim Guaxcux contributed greatly to the implementation of the system, which will operate with an allocation of 90 liters per inhabitant per day to the 217 families for household service.
- b) Grassroots groups have been selected and trained, which participated in the training process in the community: Drinking Water Commission, Plumbers Group and COVAS, so they have the technical capacity and competence to direct, manage, operate and maintain the drinking water system.
- c) The residents of Chiquim Guaxcux, trusted in the execution of the drinking water system that will provide quality, quantity and continuity to 217 families for domestic service.
- d) In order to guarantee the sustainability of the Gravity Water System, an administrative advisory process is being carried out with the Administration's Supervisory Board. This Board will be made up of community leaders and its purpose is to oversee compliance with the payment of service fees and the safekeeping of funds in the bank.
- e) Women, girls and families are promoters of their own development since they have the knowledge and skills to manage the environment and basic sanitation to improve their quality of life. On specific topics of Water and Basic Sanitation.
- f) The 272 monitoring visits were carried out to evaluate, monitor and improve the housing in terms of basic sanitation.

- g) There are improvements in personal hygiene among children and the community in general; there is more time and opportunities to perform personal hygiene (bathing) and other activities on a daily basis.
- h) During the intervention in the community, solid waste contamination in the environment and specifically in families has been considerably reduced. Household garbage cans and holes have been installed for sorting organic and inorganic waste.
- i) The reconstruction of the latrines. Now there are adequate and exclusive places for the disposal of excreta. 90% of families have improved and reconstructed traditional latrines and 19 families that did not have latrines have now built their new latrines.

RESULTS OBTAINED

- 99% of the beneficiary families reduced water-borne diseases by improving the management and consumption of drinking water and basic sanitation.
- Successfully resolved the search for the diversion of the pipeline passage, where there was no passage with the families who did not accept the project.
- People have been educated and trained, as grassroots groups, to ensure the longest useful life of the drinking water system, at the service of the community.
- Development of 13 training workshops for beneficiary families on participation, organization, importance of water in human life and basic sanitation.

- Several home visits were made to verify the degree of progress in changing attitudes and conditions regarding basic sanitation, using a measurement report for verification and confirmation.
- The residents of the community: Chiquim Guaxcux contributed their time and dedication in the process, for the construction and execution of the drinking water system.
- Implementation and installation of trash cans at important points for meeting places. In order to reduce contamination.
- We organized the groups for the sanitation train, and every 2 months we will carry out a classified garbage treatment, in order to reduce pollution in the community.

CONCLUSIONS

- The proposed objectives become visible and concrete, thanks to the involvement, openness and empowerment of the water project by the beneficiaries, and the effective execution of the construction of the system.
- During the intervention period, we have been able to detect relevant changes that seek to reduce the rate of waterborne diseases, especially in children under five years of age.
- The technical specifications proposed at the beginning of the design are the key to the construction of the quality water system and guarantee the useful life of the project, which benefits 217 families.

- Climatic and geographic conditions have been a factor in the delay of construction, but it strengthens these factors to improve the experience for future projects.
- The support provided by the community members in the form of day labor has been the key to the success of the gravity-fed drinking water system in the community of Chiquim Guaxcux.
- The Water System Test was satisfactorily successful, since there were no unforeseen problems, and the civil works and the Project in general are considered to be guaranteed.

ANNEXES:

Results of the Drinking Water System and training process



WITH JOY, RECEIVE THEIR HOME CONNECTIONS.



Extra work performed.

During the execution of the project, there were social problems with the rights of way of pipes with people who did not trust and did not want to work on the drinking water system project, due to this, a part of the distribution line was changed, and in this new line it was necessary to build two pressure breaker boxes with a 2" valve. This was not in the original design.



In the other line, an overpass of 36 linear meters with a pipe diameter of 1" was built in the same way, this work was built due to lack of right of way for pipes in the line.



Ditch crossing type B.



Annexes

More Photos







INSTALLATION OF WATER JETS AND DELIVERY OF WATER BOXES TO FAMILIES



PARTICIPATION IN TRAINING PROCESSES





TESTING OF THE DRINKING WATER SYSTEM





RESPONSIBLE: ASSOCIATION FOR THE INTEGRAL COMMON
DEVELOPMENT AK'YU'AM "ADICAY".