



Rotary



Club Rotario de
la Ciudad de
Guatemala

Sanitary Landfill

Municipality of Zunil, administrative departament of
Quetzaltenango, Guatemala, Central America





RESUMEN DEL PROYECTO



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la Ciudad de
Guatemala

PROJECT NAME: Sanitary Landfill for the municipality of Zunil

PROJECT LOCATION: Municipality of Zunil, department of Quetzaltenango, Guatemala, Central America

PROJECT TERM: 2021-2042

FOCUS AREAS:

- Sanitation and hygiene,
- Support the environment,
- Fight diseases,
- Growing local economies.

PARTICIPATING CLUB: Club Rotario de la Ciudad de Guatemala

OTHER ENTITIES: Committee of the Environmental Strategic Plan of Zunil

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TOTAL COST OF THE PROJECT OR ESTIMATED COST: USD 535,000.00

AMOUNT REQUESTED: USD 535,000.00



PROJECT LOCATION

The municipality of Zunil covers an area of 92 km², it's located at the geographic coordinates 14°47'01 " latitude and 91°29'04" longitude and at an altitude of 2,076 meters above sea level. It is located at 217 km from Guatemala City.

The population of Zunil in 2018 was of 14,118 inhabitants, of which 45.20% are men and 54.80% are women. 83.08% of the population belongs to the indigenous K'iche ethnic group and the rest of the population is non-indigenous.

The Human Development Index for Zunil is 0.627, health is at 0.861, education is at 0.432, and income is 0.587. The literacy rate is 61.0%.

The infant mortality rate under 12 months is 19 and under 5 years is 28, both per every thousand live births .





PROJECT DESCRIPTION

According to the Municipality of Zunil An average of 27 tons of solid waste's are generated per week; many of these residues end up in the Samalá River.

In 2017 work began on the Zunil Strategic Environmental Plan. One of its lines of work is the proper handling and management of solid and liquid waste. In this area, the population has been made aware through the implementation of the three R's (Reduce, reuse and recycle); recycling days have been implemented in educational centers and recycling festivals have been held annually since then.

To date, Zunil has a landfill that is not legally authorized, where the Municipality discards the waste. This dump has not only become a municipal dump; but a regional one, since neighboring municipalities and travelers dispose of their waste, since this dump is located on the Cito Zarco road, specifically in the Estancia de La Cruz Village; giving itself a bad image of the municipality to all visitors.





PROJECT DESCRIPTION

With the articulation of various public, non-governmental and private entities, more than 38,800 pounds of plastic materials, cardboard, paper and glass, among others, have been recycled over three years. Likewise, the placement of two artisan bio-fences was achieved during the summer season of 2017, with which it has been possible to extract an average of 600 pounds of floating material per week.

In March of 2020, through the Zunil Strategic Environmental Plan and the municipal authorities, a technical committee was created exclusively to address the problem of solid waste disposal.

The Committee established the need for the acquisition of land to establish the municipality's sanitary landfill. To date, an 8,800 m² piece of land has been identified, owned by the National Electrification Institute of Guatemala (INDE), located in the community of Santa María de Jesús. A 20-year usufruct is being negotiated for this land.





FOCUS ZONES

Due to the magnitude of the problem caused by the lack of a sanitary fill in the municipality of Zunil, it has been determined that it is very difficult to center on a single Focus Zone. Therefore, the following is a brief review of the positive impact that this project will cause on the health and hygiene of the population, as well as on the environment and natural resources.

Sanitation and hygiene: The Samalá River is the most polluted in Central America, according to a study carried out in 2011 by the Regional Program for the Reduction of Vulnerability and Environmental Degradation. The monitoring of this river shows that the current state of the Samalá is alarming, and to recover it, some 50 years of treatment and too many thousands of Dollars are needed.

The implementation of the Sanitary Landfill will contribute to achieving the sanitation of all those sites used for the uncontrolled disposal of solid waste, which exceeds 12 clandestine dumps.





FOCUS ZONES

Support the environment: With the elimination of clandestine dumps and with the reduction of waste that ends up in rivers, it will contribute to improve the water quality of superficial water bodies and their aquatic habitats. Local fauna will also benefit from cleaner sources of fresh water.

The elimination of clandestine dumps will allow the reforestation of the lands used for this purpose and of riparian forests.

The contamination of underground water sources, used by the communities of the municipality of Zunil, is caused mainly by the lack of a suitable site for the final disposal of solid waste and wastewater.





FOCUS ZONES

Fight against diseases: The high infant mortality rates in Zunil are mainly associated with respiratory diseases caused by the use of firewood in the kitchens and the burning of waste in clandestine dumps, as a mean of disposal.

Gastrointestinal diseases are also frequent, possibly due to the consumption of water not suitable for human consumption and inadequate sanitation systems.

The infant mortality rate under 12 months is 19 and under 5 years is 28, per thousand live births. The chronic child malnutrition rate is 43.1% and acute malnutrition rate is 1.5%.

One of the most felt problems by the population of Zunil is the proliferation of diseases transmitted by vectors, such as flies, rats, mosquitoes, fleas and ticks, among others).





FOCUS ZONES

Growing local economies: The municipality of Zunil is part of the Guatemalan Culture Route, according to the Guatemalan Institute of Tourism (INGUAT). Zunil receives the visit of hundreds of foreign tourists annually, who are interested in visiting its main attractions, such as the Georginas Fountains, bitter waters and natural volcanic sauna baths.

Along the road you can see up to 12 clandestine dumps that affect the perception of tourists and that have an impact on the growth of this sector.





CONCLUSIONS

1. The Sanitary Landfill Project will impact four of the focus areas.
2. The Sanitary Landfill of the Municipality of Zunil will be the first of its kind outside the capital city of Guatemala.
3. This Project will have a positive direct impact over more than 14,118 inhabitants mainly of the Mayan ethnicity.
4. The implementation of the Sanitary Landfill will help to promote the recuperation of the Salama River in Central America.
5. Diseases are expected to decrease with the construction of the Sanitary Landfill.



REFERENCES

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