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Communication Dept.

Dossier – El Salado: Water for Peace



# El Salado: Water for Peace

The "Social Infrastructure" program is a development cooperation program created in 2011 with the objective of improving and extending coverage and access to drinking water and basic sanitation among socially vulnerable groups in Africa and Latin America.

To date, 18 projects have been carried out in 7 countries in collaboration with 12 Spanish partner NGOs and their local counterparts and public institutions in the regions. Taken together, these projects represent more than EUR 4.5 million in investment, 190,000 direct beneficiaries and 69 Ferrovial volunteers.

In this way, in recent years, the company has contributed to achieving the Sustainable Development Goals, in particular to Goal 6 "Ensure access to water and sanitation for all". In fact, Ferrovial is one of the thirteen private-sector companies that has joined the Advisory Group to promote the new United Nations Sustainable Development Goals (SDGs), which will serve as a common framework for global development action and cooperation in 2015-2030.

The El Salado project was chosen in the 2015 round and implemented in 2016-2017 in partnership with Ayuda en Acción and local NGO Fundación Semana.

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## The choice of project: Background

Historically a humble region, Montes de María is very fertile, and has even been called "the larder of the Caribbean". Its abundant crops were produced by small farmers who are experts in managing the territory's resources. The agricultural population (small landowners and landless peasants) in Montes de María are characterized by their dignity and their conviction of their important role in the region's society.

The El Salado district is located in the municipality of Carmen de Bolívar, 19 kilometers from the town itself. This village has long been known as one of the most prosperous in the region, and one of those with the highest living standards, because of the sizeable revenues produced by growing tobacco and other agricultural products.



Because of its prosperity, El Salado had infrastructure, schools, health centers and community centers. It even had its own police station until the mid-1990s, and the tobacco warehouses, where the product was processed, pressed and packaged, gave

employment to the local women. The tobacco crop provided high incomes for this rural community, a good standard of living, commercial activity and productive jobs.

Starting in the mid-1990s, the situation became less secure as the 35th Front of the Fuerzas Armadas Revolucionarias de Colombia (FARC), whose leader went by the nom de guerre "Martín Caballero", began operating in the region; the community in El Salado began to break down, as several families fled.

The turning point for El Salado came in mid-February 2000: 4 groups of the AUC (Autodefensas Unidas de Colombia) converged on El Salado from different directions, gathered the entire population into the soccer pitch opposite the culture center, and murdered 66 people in front of their families and friends. As a result, the almost 7,000 inhabitants of El Salado fled the violence-ravaged region.

In 2001, the people of El Salado decided to join forces and recover their town; as a result, even though they had no institutional support, around 200 families began to move back in February 2002, cleaning the streets and restoring their homes, planting crops again in the midst of an armed conflict which continued to rage.

#### **Socio-economic situation**

The village of El Salado was chosen for the project because its people were victims of the armed conflict, had been displaced, and were returning to poor living standards (including access to drinking water). The people had fled as a result of two massacres in 2000. The Multidimensional Poverty Index (MPI) for the village is 42%, meaning that the local people are 6.3 percentage points worse off than other rural areas of Colombia, which were measured with the same aggregate index in 2012.

In terms of income, 66% of El Salado households have a business or productive activity, but only 20% are permanent. Among those that operate permanently, the average monthly income is COP 576,000 (i.e. less than the legal minimum wage), while the average income of those with non-permanent sources of income is COP 337,600 (about €135). This clearly evidences the difficulties the population faces in meeting basic needs such as public services, food and access to education.

The factors with the greatest impact on these people's living standards are those that require large investments in physical infrastructure, such as upgrading floors and walls in their homes, and extending and improving the drinking water supply and sewer network. Although there was a drinking water system in place in El Salado, the water was not fit for human consumption, resulting in the danger of disease and making it difficult for the people to climb out of poverty and achieve their potential.

Nevertheless, an examination of the community's living conditions, which are closely associated with the loss of the territory due to displacement, shows that the community structure and social fabric are being rebuilt. This is demonstrated by people's interest in returning to, and staying in, the area, together with the dynamics of social organization established by the community itself. An example of this is the Board of Management of the existing Water Supply and Sewer System, and the boards dealing with other specific issues (health, education, culture, infrastructure and land), which were established to mobilize the population and create a political movement to



Luis Torres. Farmer and Community leader

"Our ancestors left us a wonderful way of life full of prosperity, until the violence that assailed Colombia reached us and split the history of El Salado in two."

"We organised with a purpose: to return to this land, which was ours. We created a project for a new life in order to re-found El Salado."

"After meeting our own needs, we were able to sell our surplus produce. We also grew tobacco, which was sold in Europe and Japan."

change living conditions.

### Drinking water in El Salado

Before Ferrovial and its partner NGOs intervened, El Salado's community water system operated 3 hours per day, 3 days a week. The community paid a fee of COP 5,000 for the service (approximately €2). As the service was not constant, families stored water in plastic tanks. This resulted in waste because, as the water reached the houses under pressure, people filled the tanks and did not take care to reduce spillage.

Additionally, there was no purification system and the individual households' tanks were contaminated.



The aqueduct did not work permanently because it required electricity, and the electricity bill was very high. The bill was paid with fees collected from the households, but the community was not in a position to increase the hours in which water was available because people could not afford the additional cost.





# Innovation and Sustainability in El Salado

Within the framework of a process to restore the local economy and rebuild El Salado (integral long-term territorial development promoted by Fundación Ayuda en Acción with its local partner), Fundación Ayuda en Acción proposed an investment to upgrade and expand the water supply system; the goal was to provide a constant supply of water, and of better quality, directly to 1,290 people, but also indirectly benefiting another 990.

The project has a technical and a social component. The technical part consists of upgrading some existing structures and building new structures to expand the system. The social component involves training and mobilizing the community in order to take care of this valuable resource.

To this end, decision-making forums were strengthened, such as the Infrastructure Board, the Oversight Committee and the Water and Sewer System Management Board in El Salado. This process seeks to ensure the water system works properly and sustainably over the long term, contributing to alleviate poverty.

## **Project implementation**

After a series of fact-finding visits by Ferrovia RC staff, and a process of work through 8 Joint Committees (Shared Management of the Project), four Ferrovia employees visited the site to contribute their technical expertise in order to expand and enhance the grant application drawn up by Ayuda en Acción and Fundación Semana.

After they had spent two weeks working on the project with the local teams from the NGOs and with local residents and institutions (Water Board and Infrastructure Board), a number of recommendations were made that completed and enhanced the initial proposal for upgrading the water supply system, specifically with regard to the use of solar panels to power the water pump, which greatly reduced the community's electricity bill.

### Redesigning the project

The project was redesigned on the basis of the recommendations put forward by the Ferrovial volunteers.

The new approach involved a solar-powered pump which reduced fixed costs. The pump works during daylight hours, so no batteries are required. This technology provided independence from the electricity grid and, therefore, reduced the system's running costs. This issue is particularly important in El Salado, since one of the reasons why the current system did not work continuously was the high cost of the electricity for pumping. Water is now stored in new water towers. The pipe network was also repaired and upgraded in areas where it had deteriorated or posed evident risk of damage.

Regarding the project's social component, local people were mobilized and trained to look after the water system. To this end, decision-making forums have been strengthened, such as the Infrastructure Board, the Oversight Committee and the Water and Sewer System Management Board of the El Salado district. This process seeks to ensure the water system works properly and sustainably over the long term, contributing to enhancing local residents' health, which will have an impact on their living standards.

### Innovation and Sustainability in the Water System

The El Salado water system is the only one in Colombia's Caribbean region that is driven entirely by solar energy. This is a huge advantage for the community since it eliminates what was the largest single expense of the previous system: electricity for pumping.

Now, user fees can be allocated more to maintaining the system, ensuring its long-term sustainability. Since the power supply is now constant, the system is no longer affected by the regular outages in the electricity grid.



Albert Padilla.  
Plumber, Head of Maintenance

"Access to drinking water wasn't even in our plans. We drank the water just as it came out of the well."

"Nobody had analysed the water and we didn't know that it was harmful, whether because of the state of the water itself or of the infrastructure."

"Because of the cost of electricity, we only ran the pump once every three days. Today, we have a stable water supply that reaches the whole community."



# Social and Governance aspects of Water

## Water quality

Previously, the water supply in El Salado was not treated in any way. On analysis, it was found not to be fit for human consumption. Consequently, a chlorination system was installed to disinfect the water. After the system was installed, residual chlorine concentrations were measured at various points in the network and found to range from 0.5 to 1.5 mg per liter. This is sufficient to eliminate pathogens from the water system and, consequently, the water is now fit for human consumption.

## Social aspect: Organizational and community strengthening

This project arose out of the community and was financed entirely with private capital and local contributions. The funds came from Ferrovial, Ayuda en Acción, Fundación Semana and the community of El Salado itself. This is important since the solution as implemented was in line with the community's specific needs; it did not come from a third party that was unaware of the community's situation.

Additionally, after intense community work, a Water Board was formed to enable the community to self-manage its water supply. The community is now entirely in charge of the infrastructure that was implemented. Through this process, the Water Board joined the Caribbean Network of Community Water Systems and is supporting the Network's efforts to achieve a law that regulates community water systems.



Angélica Torres.

Educator, Treasurer of the Water Board

"Children were affected the most and we would take them to the doctor looking for other factors when it was the water that made them ill."

"Investing in water generated not only health, but also employment."

"The 32 members of the Water Board work to improve the quality of service for families."

"We reinvest the water fees in improving the facilities and organizing ourselves better."



### Governance aspects

- Establishment of the Board

The water system is governed by a legally-established Board that has undertaken the challenge of managing all aspects of the system. Board members have been trained in a range of skills to enable them to operate the system.

- Debt collection and fee changes

The Water Board has increased the frequency with which water fees are collected, resulting in a significant reduction in late payment.

Operation and maintenance training

The Water Board members have received a full range of training to enable them to operate the system.

- Government subsidy

With the support of the project team, the Water Board has applied for a government subsidy for the system, which will come into effect next year.

### Territorial aspect

- Working with RACC, the Caribbean Network of Community Water Systems

The Water Board participates in the activities of the RACC. In recent months, its main contribution has been to participate in workshops on the proposed law to govern community water systems.

- Aguas de Bolívar

Agua de Bolívar has supported the process of strengthening the El Salado Water Board. This state-owned company is very interested in learning from the experience with a solar-powered water supply, particularly one that is operated by the community.



Elida Cabrera.  
Teacher and Vice-Chair of the Water Board

"In the Water Board, we can provide information to any of the residents about the status of the water system."

"We raise awareness in the community about the advantages and features of the new system in comparison with the old system."

"I invite all members of the community to come by and learn more about this project. It is one of the best that El Salado has ever had."





# The miracle of El Salado

In 2000, 66 people were brutally murdered by paramilitary forces in El Salado, Colombia. The 7,000 local inhabitants fled the area, leaving it abandoned and overgrown. In 2002, under the leadership of women and young people, ten families moved back and began to rebuild. Ayuda en Acción, Fundación Semana and Ferrovial contribute to the successful completion of the project.

**300** homes are supplied by the new water system.

**1.290** persons benefit.

**500** meters of pipes installed.

**11.000** cubic meters of drinking water supplied each year.

100 liters per home, by 300 homes (365 days a year). That is the same amount of water as would fill four Olympic swimming pools.

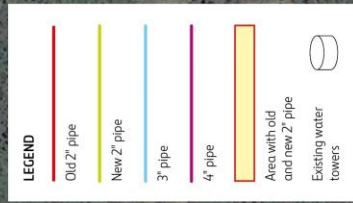


Monthly savings of **600,000** Colombian pesos, equivalent to 7,000,000 per year (€2,043). Ten times the minimum monthly wage in Colombia is €209,32 (737,717 Colombian pesos).

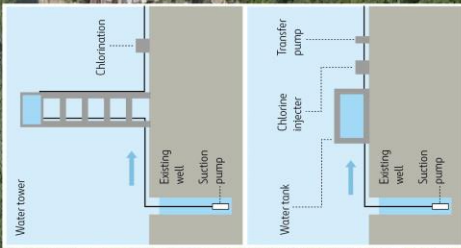
**90** cubic meters of storage capacity.

## Piping structure in El Salado

To improve the availability and access to drinking water, the El Salado water system was upgraded and expanded, improving the quality and operation of the entire system.



New water tower



Solar panels



Running the electric pump is very costly. Introducing a solar-powered pump reduces fixed costs and the pollutant emissions from diesel generators. The 56 solar panels produce 1,880 kWh per year, that is the same amount of power consumed by two light bulbs in the same period.

## The human side

In addition to upgrading the water supply system and improving water quality, the project aims to encourage the participation of women and children during project implementation in order to ensure the long-term sustainability of the water network system. To achieve this, Ferrovial has implemented a **water governance** system, including an organisation with bylaws.



Before and after the episode of violence, women contributed to the household income by working in tobacco production. They also played a fundamental role in rebuilding community spaces and in creating new businesses, all in a traditionally male-dominated context.



The plan to rebuild El Salado is divided into seven strategic areas:

- Infrastructure.
- Economic development.
- Education and communication.
- Community development.
- Healthcare development.
- Security.
- Health.

This will have a major impact on the population in surrounding areas.

**Number of beneficiaries: 2.280**

**Direct: 1.290**

**Indirect: 990**

## THE PROJECT IN FIGURES

- 300 homes are supplied by the new water system.
- 1,290 persons benefit.
- 90 cubic meters of water storage capacity.
- 43,000 cubic meters of clean drinking water supplied each year  
*100 liters/home/day x 300 homes x 365 days 15 Olympic swimming pools.*
- 500 meters of pipes installed.
- 14.3 kWh per year produced by 51 solar panels.  
*The energy consumed by two light bulbs running for a year (the power used by one 100W light bulb running for two years would fill four Olympic swimming pools).*  
*Savings of COP 600,000/month = COP 7,200,000/year = €2,043/year= 10 times the Colombian minimum wage (COP 737,717/€209.32)*
- A new connection to the Villa Beatriz district (where there are 100 houses)  
*The water system has been extended to an area where the government has just built 100 houses. As a result, the entire community now has access to the water supply.*
- Solar pumping.
- 162.000€ investment





## Social infrastructure in Colombia

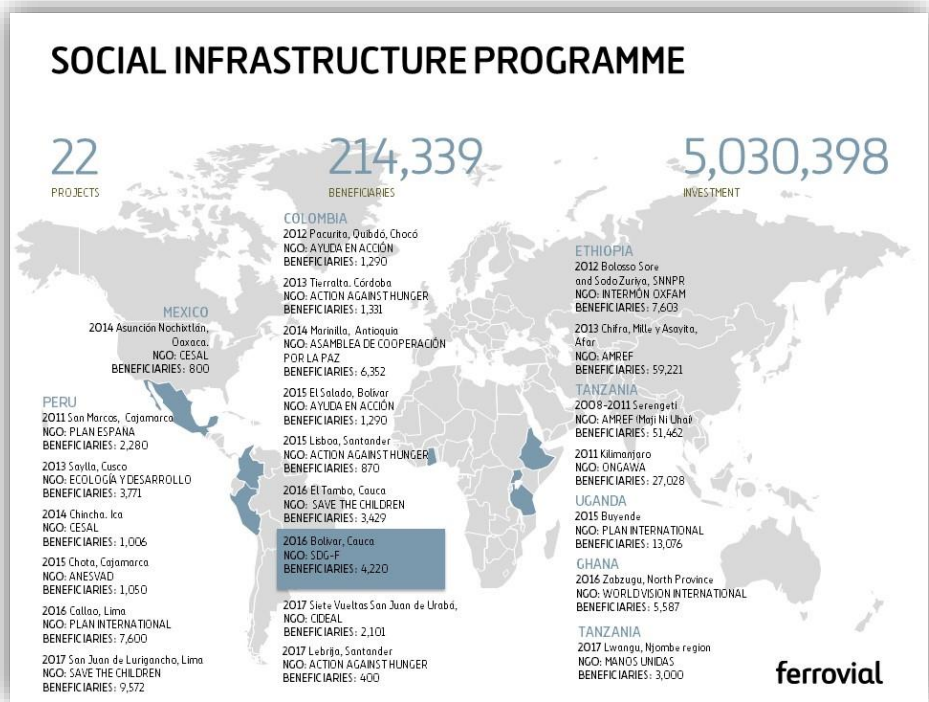
Ferrovial's "Social Infrastructure" program is a development cooperation program created in 2011 with the objective of improving and extending coverage and access to drinking water and basic sanitation among socially vulnerable groups in Africa and Latin America, and ensuring their sustainability through end-to-end management of the water resource.

The projects undertaken to date in Colombia are listed below, with the local partner:

2016. Save the Children. Improvement of drinking water and sanitation infrastructures in schools and communities in the municipalities of El Tambo and Bolívar, and promotion of hygiene practices for the population. Development and implementation of initiatives to provide drinking water, sanitation, training in hygiene practices and strengthening and promotion of healthy habits for 6,557 people in 5 schools and in communities in Bolívar and Tambo (Department of Cauca), using the lessons and best practices garnered from other projects.

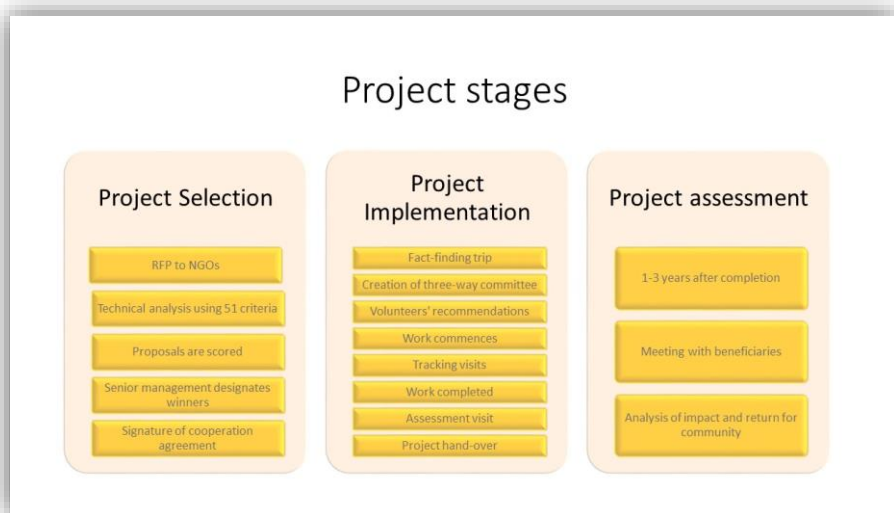
2015. Ayuda en Acción. Drinking water for decent living standards. Improve the availability of, and access to, quality drinking water in the town of El Salado, Bolívar, as a contribution to providing decent living standards for the town's 1,208 inhabitants. The existing water system was upgraded and expanded, including construction of a water treatment plant.





2015. Action Against Hunger. Improve access to, and quality of, drinking water for women, men, boys and girls who are vulnerable due to the consequences of the armed conflict and to limited access to government resources, in the community of Lisboa. A project to improve access to water for approximately 870 people with limited access to safe water that is fit for human consumption in the community of Lisboa, municipality of Lebrija, department of Santander.

2014. Asamblea de Cooperación por la Paz. Strengthening the San Bosco water supply system by building a treatment plant in the municipality of Marinilla. Water treatment system for the Gaviria-San Bosco water supply network in the Municipality of Marinilla, Antioquia. A drinking water treatment plant was built to supply 6,352 people who were previously drinking untreated water, with the resulting risks.



2013. Action Against Hunger. Enhance access to water and sanitation infrastructure in villages affected by the armed conflict in the department of Cordoba. The project improved access to water and sanitation infrastructures for 1,331 people in the communities of La Escora, Corinto, Quebrada Honda and La Guajirita, which had previously not had access to safe drinking water. Local residents had been taking water from streams, which dry up in summer, and wells, without any form of protection.

2012. Ayuda en Acción. Upgrading and installation of water treatment facilities in the Pacurita district water supply system. This project improved living standards for the

226 inhabitants of Pacurita by expanding and upgrading the water supply and sewer systems. This included upgrading the existing water intake point, building a storage tank and a drinking water treatment plant, and installing new distribution networks and household connections.



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