



Management Report 2009

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Cerrejon Water Foundation for La Guajira

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Cerrejon Foundation for Water in La Guajira

Management Report 2009

Introduction:

The Cerrejon Foundations System is made up of four corporate foundations addressing sensitive issues in La Guajira, namely: the Cerrejon Foundation for the Institutional Strengthening of la Guajira; the Cerrejon Progress Foundation of La Guajira; the Cerrejon Aboriginal Foundation and the Cerrejon Foundation for Water in La Guajira. This Foundations System is part of Cerrejon's strategy to promote the sustainable development of the region.

The strategic domestic partners for Cerrejon Foundation for Water in La Guajira, from here on referred to as CFWG, are the other foundations in the system, as well as Cerrejón 's Department of Sustainability and Public Affairs, and the Department of Environmental Management. The governance structure of CFWG is headed by the Board of Directors, in which seat the four top managers from Cerrejon: the President, the Sustainability and Public Affairs VP, the Financial VP, the Legal Department Manager, and two external members, Carmen Arevalo (former Deputy Minister of the Environment) and Enrique Danies (former Governor of La Guajira). The Board is led by the President of Cerrejon, Leon Teicher; The Foundation is led by its Executive Director, Paula Peña Amaya, who took office in September 2009.

The CFWG is part of Cerrejon's corporate social responsibility strategy contributing to the development of Cerrejons' initiatives towards water safety. Upon corporate requests, it provides technical support in order to prevent, mitigate or compensate situations where there may be an impact on the water as a result of the mining operations. Its field of action is related to the lines of work defined by the Foundation and are described later on.

The actions carried out by CFWG go beyond solving the need for water. It also intends as part of its goals to promote the collective construction of solutions which strengthen both the community and local government, so that they take ownership of processes and the responsibility for maintaining sustainable water, sanitation and hygiene initiatives. The Foundation is a facilitator of this process, working through its projects to strengthen the management capacity of available water sources and it has also started training processes for children. All of this has been done in order to maintain the existing water sources, to have the appropriate mechanisms for storage and dissemination of good usage habits and lastly to implement measures aiming at alternative access to basic sanitation and low cost technologies that allow water treatment by the community itself.

While private companies under a corporate social responsibility mechanism can invest resources promoting initiatives geared towards water safety, they are generally insufficient. For this reason, the CFWG requires that the projects it supports have local matching funds either from royalties and/or contributions made by the community, for example in the form of labour.

The Foundation also serves as a facilitator to access information on appropriate technologies and knowledge about new options for water and sanitation solutions. In this case, the role of the Foundation is to share that knowledge with local actors and to encourage the production and dissemination of knowledge related to the quality of available water for the community as well as ways to use it safely for human consumption and (animal and agricultural) production.

The Foundation offers itself as a partner in La Guajira, that since it is part of Cerrejon, becomes a steady and transparent local actor who serves as an efficient implementing partner boosting the co operation interested in this region, and thus contributing to local sustainable development.

2009 was a consolidation and transition year in the Cerrejon Foundation for Water in La Guajira. It went from a stage of diagnosis of the situation of water, sanitation and hygiene in Cerrejón's area of influence by approaching communities in lower, medium and upper Guajira, to a stage where further work was carried out on identifying the framework of action and the lines of work for the Foundation.

The CFWG has set itself the goal of providing solutions for water supply, sanitation and hygiene, targeting -aboriginal and peasant- vulnerable communities, located in rural areas. Our commitment is based, first on the understanding that the regional Water Plan of La Guajira will focus most of its efforts on solutions aimed at urban areas with historic lags in coverage. Secondly, because nearly half the population of the region (48%) is rural and is scattered all over a large arid area where water sources are scarce and thus water solutions through conventional technologies and pipe systems is impractical.

The solutions in which the Foundation works are based on a building process with the community that is accessible to her and that has the means to generate local ownership and sustainable results. Priority was given to communities that are in Cerrejon's area of influence, which covers 239 communities, 218 along the railway (150 km by 2 km wide on each side) and 21 communities located around the mining operation (69,000 hectares).

With the definition of scope, we have redefined our strategic direction.

Our vision:

To be the best partner for the population of La Guajira as well as the best known implementing agency of social projects. Our goal is to carry out these projects in a participatory and sustainable manner, working towards promoting safe drinking water, basic sanitation and helping communities adapt to climate change.

Our mission:

We are a trustworthy, efficient, and transparent executing partner, operating in the water and sanitation sector of La Guajira, promoting the human right to water. Work is done with the most vulnerable communities, located mainly in rural areas. We carry out projects that contribute to the social strengthening, welfare and sustainable development of La Guajira through our lines of work:

1. Water supply solutions.

2. Sanitation and hygiene solutions.
3. Strategies for water sources integrated management.

How we do it?

- We work on social projects in water and sanitation.
- We work with a participatory approach from a dialogue of knowledges perspective.
- We work on sustainable projects tailored to the needs, capabilities and local context.
- We work under a multicriteria approach ensuring comprehensive and articulated processes.
- We implement strategies aimed at monitoring, following up and evaluating our projects.

Lines of work:

The following lines of work develop strategies aimed at achieving Climate change adaptation, Poverty alleviation, Availability of water and sanitation in La Guajira.

Water supply Solutions:

To this line of work belong initiatives carried out mainly in rural communities geared towards improving the amount, quality, availability and accessibility of water resources.

Work is done on projects such as:

1. Improvement and optimization of water supply systems.
2. Storage and water supply mechanisms.
3. Mechanisms for the sustainability of water supply systems.
4. Alternative systems for water treatment and safe drinking water provision.
5. Strategies for the multiple usage of water (human and animal consumption as well as productive uses.)
6. Implementation and optimization of irrigation systems.
7. Programs for saving water and using it efficiently.
8. Training programs for the operation and maintenance of water supply systems and the adequate use of water.

During 2009, this line of work carried out projects directed towards recovery and maintenance of small reservoirs (jagüeyes), maintenance of windmills used for groundwater extraction, solutions for storage of water collected from various sources and having different uses.

Sanitation and hygiene Solutions.

This line of work includes the development of projects to:

1. Properly manage solid and liquid waste, prioritizing rural educational centres.
2. Support the implementation of sanitation systems in rural areas.
3. Training programs to strengthen hygiene and sanitation practices promoting self-care and health.
4. Promoting household practices to prevent and control health problems related to water management.
5. Implementation of systems for treatment and use of domestic wastewater.
6. Participatory selection and implementation of appropriate technologies for human waste disposal.

CINARA and the Cerrejon Foundation for Water in La Guajira conducted during 2008 and 2009 a study titled *“Participatory planning in water, sanitation, hygiene and school sanitation in aboriginal communities in Cerrejon’s influence area”*. Based on the study results, the decision made was that actions for sanitation and hygiene had to start in educational centres. This decision was based on the high vulnerability of the student population as well as the incremental benefits of introducing safer practices of sanitation and hygiene in the school environment. Several experiences have shown that in order to strengthen hygiene in the community, children and young adults are excellent multipliers, especially when learning is tied to ongoing educational processes. As for sanitation solutions, work is being done on a methodology of collective construction where the community actively participates in the designs with the purpose of creating ownership ensuring its use.

Integrated Management of water sources

We understand the Integrated Water Sources Management as a “process that promotes the coordinated development and management of water, land and related resources, in order to maximize the resulting economic and social welfare, in an equitable manner, without jeopardizing the sustainability of vital ecosystems”

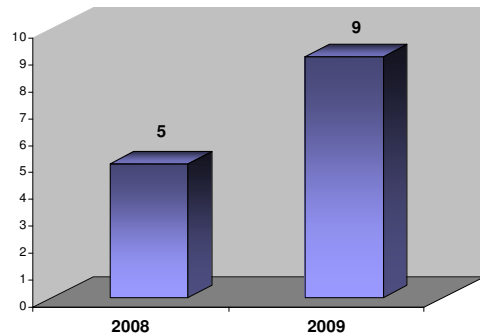
This line carries out projects contributing to:

1. The recovery and sustainable management of water sources and their associated ecosystems.
2. Reconcile productive activities and human livelihoods with their supporting ecosystems.
3. Implementation of participatory strategies for watershed management, taking into account the physical, biotic, economic, socio-cultural and political dimensions.
4. Protection of sources of water supply systems in rural zones.

5. Training for the integrated management of water resources.

In 2009, this line stayed focused on the protection and recovery of the Paladines creek watershed, a tributary of the Rancheria River, which is the main water source of La Guajira.

Figure 1 – Number of active projects



Progress and achievements of 2009

During 2009, The Cerrejon Foundation for Water in La Guajira developed nine projects within its three lines of work. The achievements and progress of these projects are presented below.

1. *Water supply solutions*

Within this line, the Foundation carried out the construction, rehabilitation, optimization and monitoring of water solutions for the rural population living in 51 different communities. It benefited 7277 people, investing \$88.8 million from its own funds, leveraged with resources amounting \$241.3 million and generating \$15.3 million in income from services rendered. Activities in this line were focused on widening water supply options for people living in Cerrejon's influence area especially those near the railway and the communities surrounding Puerto Bolivar.

The achievements and progress made by the projects associated with this program are presented below.

1.1. *Windmills*

Objective: Rehabilitation of windmills located along the railway and implementation of a strategy for sustainable water supply systems based on the operation of the aforementioned windmills.



Background

Within its water supply systems line of work, the CFWG has engaged in the rehabilitation of windmills along Cerrejon 150 km long railway, continuing the actions carried out by PAICI until December 2007. From 2008 on, CFWG actions focused mainly on the rehabilitation of windmills used for water supply, as well as on information gathering about beneficiary communities, and the assessment of water supply infrastructures attached to the windmills.

In 2009 the alliance between the Unproductive Assets Program of the High Commission for Social Action, the International Cooperation and the CFWG was strengthened. The objective was to design and implement a sustainability mechanism for water supply systems based on the operation of windmills. The Foundation designed an Intervention Plan directed at 58 communities located along the railway for the 2008-2011, which was presented to Social Action. As a result of the steps taken by CFWG, the allocation of 198 million pesos between 2008 and 2009 by the Advisory High Commission to the President was achieved.

Results 2009:

The alliance between Social Action and CFWG in 2009 completed the rehabilitation of 12 windmills, which meant obtaining resources in the amount of \$81.4 million this year. As a result, 28 windmills could be fixed between the months of December 2008 and January 2009 providing a permanent water solution to 1.800 people. For its part, CFWG invested \$14 million pesos of its own resources contracting an inspector to monitor the work being carried out on the rehabilitation of the windmills.

The CFWG for its part is committed to provide the preventative maintenance of windmills from 2009 through-2011 as well as to design the training for their maintenance and better water usage. These commitments were carried out this year.



In addition to the aforementioned projects, the CFWG and Cerrejon's Planning and Technology Department created a computer program to improve the management, tracking and monitoring of windmill based water supply systems. The SISMOV software package enabled the Foundation to register and bring up to date information concerning: wells, quality of water, characteristics and state of windmills, reservoirs and water holes, as well as the location and characteristics of communities where these systems are found. In 2009, the follow up of 58 windmills was carried out and 33 repair requests were registered for 23 windmills located along the railway, which were directed to the contractor Aguas y Energia Ltda under the warranty offered by them.

The SISMOV information system also made possible the identification of several windmills that do not have any infrastructure for water storage or water holes. To address this need, the Foundation obtained resources with the Regional Autonomous Corporation of La Guajira – Corpoguajira, who made a contract to build five water tanks and water holes in the communities where repaired windmills are located. An investment of \$64 million was made. It is expected that the water tanks will be handed over to the beneficiaries in the first trimester of 2010.



In the sustainability aspect, the CFWG pushed forward the characterization and monitoring of water supply systems based on the operation of windmills, which had been repaired during this period. As a result, 27 communities, belonging to Albania, Maicao, Manaure and Uribia municipalities were studied in reference to the state of the systems, uses and quality of water. In this regard, sampling was conducted at 21 wells, finding values well above the norm for drinking water especially in the parameters of alkalinity, conductivity, chlorides and sulphates. These tests allow for the Foundation to consider recommendations regarding the uses of water and demonstrate the need to work on alternatives for improving water quality.

As lessons learned from this process it can be highlighted the importance of:

- Perform a careful evaluation of each system before contracting any repair or maintenance.
- Count with a detailed work supervision and inspection to monitor the quality of spare parts used and the fate of the failed parts.
- Incorporate preventative maintenance actions to windmills and wells as part of the sustainability strategy.
- Integrate educational activities in water management, sanitation and hygiene to the physical intervention in supply systems.

Direct Beneficiaries:

2. Rehabilitation of 12 windmills: 1800 people.
3. Construction of five water tanks for the storage of underground water extracted by windmills: 750 people.
4. Follow up and monitoring of windmill based systems: 6900 people.

Social Investments in 2009 (million pesos)

- Cerrejon Water Foundation \$18.0
- Social Action \$81.4
- Corpoguajira \$64.0

1.2. Reservoirs

Rain and surface water reservoirs are the most common storage systems in La Guajira rural areas. Depending on size, they can be classified into reservoirs (large), jagueyes (medium to small) and casimbas (small) although the latter name is also used for small subsurface springs.

The activities conducted by the Foundation during 2009 were aimed mainly at working on large reservoirs and jagueyes.



1.2.1 Sustainability of Reservoirs in Upper Guajira

Objective: design and implement a sustainability mechanism for the four reservoirs located in the municipality of Uribia in Upper Guajira.

Background

Under the Departmental Water Plan of La Guajira - DWP and the Program for the “Support for the social development of Colombia’s borders” of the Vice-president of the Republic, the CFWG was invited to participate in the development of a sustainability proposal for accompanying the construction of eleven reservoirs as well as a rural micro water works in the Upper Guajira region, municipality of Uribia. During 2008, the Foundation worked with the Vice-presidency of the Republic, the Environment, Housing and Territorial Development Ministry’s Vice-Ministry of Water, the Government of La Guajira, the municipality of Uribia and the World Bank, to define the sustainability strategy.

2009 Results

In the first half of 2009, CFWG and Cerrejon Aboriginal Guajira Foundation circulated among the institutions working in the project the results of Ukaitalamana (Bahía Honda) sociocultural characterization study. This is one of the eleven projected locations for the construction of a 9.15 hectare reservoir with a capacity for 245.086 m³ that will directly benefit a population of roughly 350 people and 6,400 animals. The results of the socio-cultural characterization allowed the FCWG to adjust and present the technical and financial proposal for the design and implementation of the sustainability mechanism.

Once the sustainability proposal was submitted to the CFWG Board of directors, in the second half of 2009, it was adjusted restricting the design and implementation of the sustainability mechanism to four reservoirs located in Bahía Honda (Ukaitalamana), Bahía Portete (Gran Vía and Kaleruwoua), as well as in the railway (Kaiwa) zones delving into its components and increasing the investment resources from FCAG.

It is expected that as a result of this proposal, in 2010 an agreement worth \$629,070 million pesos will be signed with the government of La Guajira, which will be carried out by the Foundation.

The sustainability strategy design for the four water supply systems in four Wayuu communities of the Colombian Upper Guajira, include the following components:

- ✓ Identify the socio cultural dynamic of each of the areas influenced by the reservoirs as well as the uses and customs of these communities with regard to water management.

- ✓ Design and implement appropriate mechanisms for capacity building and beneficiaries' involvement in the sustainable management of water supply systems.
- ✓ Designing management mechanisms for water supply systems that take into account the specific cultural aspects and the social organization systems of the wayuu communities themselves.
- ✓ Structuring long term financial mechanisms and cash flow to ensure the continuous operation of water supply systems.
- ✓ Establish mechanisms of inter- institutional relations to accompany and monitor the performance of the established operation procedures and the compliance with financial agreements.
- ✓ Share with local stakeholders, on a regular basis, the results of implementing the sustainability strategy for the four reservoirs.
- ✓ Through training processes in the region build installed capacity capable of implementing sustainability strategies for reservoirs in La Guajira.

Direct Beneficiaries

- Socio cultural characterization study of the Ukaitalamana (Bahia Honda) reservoir: 652 people.
- Sustainability strategy for four reservoirs: 2,655 people.

Social Investment (millions of pesos)

- Cerrejon Water Foundation \$40.0

1.2.2. Improvement of jagüeyes

Objective: Rehabilitation and promotion of sustainable use of the jagueyes water storage systems in the communities of Cerrejon area of influence.



Background

The participatory planning exercise carried out with the Cinara Institute in 2008, showed the importance of jagüeyes (ponds) as a system of water collection and water supply for human consumption in rural aboriginal communities. For this reason, jagüeyes intervention became a priority within the Foundation.

Later the same year, the CFWG and the University of La Guajira signed an agreement to develop a sanitation and environmental study of jagüeyes (ponds) on four aboriginal reservations in the municipalities of Barrancas and Hatonuevo. The study aims to suggest new alternatives for improving the water from those ponds used in the households and to propose best practices for construction and maintenance of the jagüeyes, as well as reduction of water pollution sources for the water stored there.

2009 Results

In accordance with the recommendations of the study conducted with the University of La Guajira and a request made by the Social Engagement Division of the Social Responsibility Department, the Foundation launched its line of intervention for improving jagüeyes (ponds).

The Malla Sur community in Media Luna was chosen as the place where the Foundation would carry out work on the comprehensive improvement of the Ulu>iwarap as a model and demonstration project.

The following actions carried out in 2009 in this project stand out:

- Engineering work for the rehabilitation and deepening of the jagüey with the support of Cerrejón Engineering and Projects Department.
- Closing and interior cleaning of the jagüey. This was achieved through the active participation of the Malla Sur community.
- Identification of actions needed to turn the jagüey (pond) into a model for the Medium and Upper Guajira region: slope protection, tree planting, implementation of live fences, gates, troughs for animals, billboard that is both informative and instructional.

As a lesson learned, the maintenance and rehabilitation of jagüeyes should be carried out jointly with the beneficiary community, given that they are the main water collection system among the Wayuu communities,. This should be done from the very beginning at the design to ensure the uptake of the largest possible amount of water till the enclosure and preservation. This methodology will ensure community ownership and commitment to its upkeep. It is equally important to plan the rehabilitation and maintenance activities of the jagüeyes keeping in mind the climate calendar and without jeopardizing the availability of water in the operating jagüeyes.

Direct beneficiaries

- Rehabilitation of Ulu>iwarap jagüey (pond) in Malla Sur: 150 people

2009 Social Investment (million pesos)

- Cerrejon – Social Engagement \$83.0

- Malla Sur community \$4.0

Revenue from the provision of services: \$8.3 million



1.3 Rural water treatment plant

Objective: Optimize the water treatment plant to provide drinking water to the Hirtu-Kattoloumana community, located in the municipality of Manaure.

Background

As a result of a field trip to Upper Guajira that the CFWG made in October, the opportunity to support a project of water purification was identified, where a low investment could revive an infrastructure so that the community would gain access to drinking water from groundwater sources.

The Foundation joined forces with the Wayuu community of Hirtu-Kattoloumana to optimize a water treatment plant using slow sand filtration in multiple stages (SSFM) technology. The plant was built by a member of the community. It was his graduating project to obtain his degree as a Environmental Engineer from the University of La Guajira. As a result of this experience he was engaged to work for CFWG to provide technical support in this and other projects.

2009 Results

In December, work to remodel and optimize the SSFM plant began following the recommendations of the CFWG, the University of La Guajira and the Cinara Institute. Once operational, the plant will be able to deliver between 2000 and 4000 litres of drinking water daily from February 2010.



The Foundation considers the SSFM plant as a pilot for low-cost and easy maintenance water purification projects which are highly replicable in other rural communities with superficial sources of water in la Guajira .



Direct beneficiaries

Hirtu-Kattoloumana community: 150 people.

2009 Social Investment (millions of pesos)

- Cerrejon Foundation for Water \$4.3
- Community (in kind) \$0,9

1.4 Roche – Patilla – Chancleta users Association –

Objective: Provision of technical auditing services to the formation of the users association of water and sewage services for the resettlements of Roche, Patilla, and Chancleta.

Background

Since the second half of 2009, the Lands and Resettlement Division of the Cerrejon Social Responsibility Department conducted the process of hiring a consulting firm to coordinate the establishment of an operator/provider of water and sewage services in the resettlements of Roche, Patilla and Chancleta. The CFWG was invited participate in the project reviewing the technical proposals submitted by the proponents achieving savings of about \$50 million pesos through better negotiations with the bidder.

2009 Results

Once the engineer Jaime Hernan Gomez , currently in charge of organizing the operator, is hired, the CFWG is invited back to provide his services as technical controller. As a result of joint work between the Cerrejon team, the consultants and the CFWG in 2009, optimization opportunities for the designs were identified, which meant for cerrejon savings in the construction of the aqueduct by a value of nearly \$50 thousand dollars.

Direct beneficiaries

- Roche, Patilla and Chancleta communities: 725 people

REvenue for the CFWG (millions of pesos)

- Provision of professional services \$15.3

2. Sanitation and hygiene solutions

The incorporation of healthy behaviours that reduce the risk of diseases spreading and of polluting water sources is a process of cultural adaptation and behavioural change. While it brings benefits to the entire population, kids, boys and girls, are especially vulnerable to diseases related to poor water quality and to inadequate sanitation. Thus, they deserve priority attention. At the same time, children are the most enthusiastic and are the most willing to adopt healthy lifestyles both in the classroom and in their family environment. For this reason, CFWG inaugurated this line of work intervening in schools. The Integrated Rural Etnoeducational Centre IREC Kamüsüchiwou of Media Luna was made the pilot site.



2.1 School sanitation

Objective: To implement a strategy for school sanitation and education on hygiene in the Kamusuchiwo school, located in Puerto Bolivar – Media Luna Sector.

Background

This work on sanitation and hygiene began in 2009 as a result of the participatory planning exercise developed by both the Cinara Institute of the University of Valle and the CFWG. In this exercise, the community of Media Luna prioritized the intervention in the school Kamüsüchiwou in the areas of sanitation and hygiene. The Social Engagement Division also took part in this. The diagnosis made by the CFWG revealed that the school has sanitary facilities that are not being used by the school community, they are damaged, they are insufficient and inadequate to the local context and the limited availability of water.

2009 Results

The CFWG agreed with the Cinara Institute, to implement a strategy for school sanitation and hygiene in Kamüsüchiwou. To this end, during 2009, visits were made to schools in Cartagena and Riohacha where sanitation projects were taking place. Progress was made in the design of a proposal tailored to local conditions of Upper Guajira.

The project will begin its operations in the first quarter of 2010 and it is expected to achieve the adoption of: hygiene practices and healthy habits, sanitation training and participatory design of health

facilities of the school. This will be done together with students, teachers and parents to ensure their use according to the needs.

Direct beneficiaries

- School: 770 boys and girls, 30 teachers.

2009 Social Investment (millions of pesos)

- Cerrejon Foundation for water \$1,5

2.2 Solar Water Disinfection SODIS

Objective: Experiment conducted on solar water disinfection as a strategy to reduce diseases in the school Kamusuchiwo>u, Media Luna Sector – Puerto Bolivar.

Background:

SODIS is a Solar Water Disinfection method which can be applied at the household level in the communities consuming microbiologically contaminated raw water. The SODIS method uses solar energy UV-A and infrared rays in order to destroy the micro organisms that cause waterborne diseases, which contributes towards the improvement of the health status of the communities (SODIS Foundation, 2005).



This practice began to spread around the world in 1984 and in 1991 the Swiss Federal Institute for Environmental Science and Technology EAWAG/SANDEC proceeded to check each one of the SODIS processes. Ever since then, the institution, in partnership with the Centre for Water and Environmental Sanitation (CWES) of the San Simon Mayor University in Cochabamba (Bolivia), has been implementing a pilot demonstration of the SODIS technology in several countries in Africa, Asia and America. It has achieved excellent results both in its implementation and in its acceptance by the communities. Since 2000, with help from the SODIS Foundation, its implementation has spread in seven Latin American countries: Bolivia, Ecuador, Peru, Honduras, Nicaragua, El Salvador and Guatemala.

In Colombia, the SODIS method has had little acceptance even though in areas such as La Guajira there are optimal conditions for its implementation and there is a lack of means to access safe water.



2009 Results

In November, with the support of a volunteer doctor, began the presentation of the SODIS method and of the scope of the experiment to 28 teachers from IREC Kamusuchiwo>u. At a later date, it was also presented to over a 100 teachers from rural schools attached to the Center. The first sessions left a very positive balance and the participants emphasized the simplicity of the method and the immediate results.

During the last quarter of 2009, the Foundation began the design of an experimental proposal for the application of the SODIS solar disinfection method as well as further training in sanitation and hygiene for educational institutions. This will seek to incorporate water and sanitation issues into the curriculum and thus enrich, with this content, classrooms projects, school environmental project titled PRAE and the institutional education project PEI.

Likewise, the Foundation made progress in working with teaching staff and student community, establishing with the school authorities and teachers the start of experimental training workshops with 9th graders.

Direct Beneficiaries

- Educational Community: 100 teachers

2009 Social Investment (millions of pesos)

- Cerrejon Foundation for Water \$1,0

3. Integrated Management of water sources – Paladines Creek Microwatershed

Incorporating the concept of integrated management that contains the activities of protection, conservation, restoration, and sustainable use and management, the Cerrejon Foundation for Water in La Guajira focuses its efforts in a pilot basin in the town of Hatonuevo.

The results obtained by this project in this basin will identify strategies for a better adaptation of the communities of the region to climate change, actions to be replicated in other water systems and significant contributions to the management plan and environmental management of the Rancheria River, the main water artery of the department.

Objective: Implement an action plan for the recovery, environmental land management and sustainable management of the Paladines Creek Microwatershed.



Background:

The Paladines Creek Microwatershed has undergone several views and initiatives that were taking shape in 2008. This was seen with the creation of the CFWG and the coordination of the project at a later time. The 2009-2012 action plan, resulting from an exploratory study designed an intervention strategy supported on four components: 1) implementation of sustainable rural production, 2) Development of Ecosystems connectivity, 3) Participatory Environmental Management, 4) Urban Planning Support.

2009 results

After a long process of Action Plan consultation and validation, the Foundation began in September the implementation of phase 1 for the first year, under the current agreement with the municipality of Hatonuevo. Hence the services of the Guina Environmental Corporation were engaged and the support of Cerrejon Environmental Management Department and the office of the Mining Expansion manager was obtained in order to hire a hydrology graduate.

During the first three months of the project, 8 work fronts were established in as many sectors of the watershed covering 70 families, corresponding to 7.4% of total families in the area and approximately 22.5% of total area of the basin. In the ecosystem connectivity component, began the characterization of plant species and fauna as well as the field validation of production systems.

Direct beneficiaries

- Action plan Participants: 70 families.

2009 social investment (million of pesos)

- Hatonuevo City Hall – agreement 25/07 \$104.0

4. Summary of direct beneficiaries and social investment

Table 1 – Beneficiary population of the Water Foundation projects

Number of people

Solutions	2008	2009
Windmills	1,600	6,900
Water treatment plants		150
User association audit		125
Jagüeyes	2,068	102
School sanitation	-	-
Cerrejon farm neighboring communities	-	-
Reservoirs	-	-
Paladines Creek Micro watershed	50	
Total	3,718	7,277

Table 2 – Coverage achieved in the baseline survey

Number of people

Activities	2009
Participatory planning in ASH	5,420
Environmental and sanitary study of Jagueyes	2,068
Water Systems Feasibility for Barrancas Aborigiinal Reserves	1,798
Total	9,286

Table 3 – Social investment in Foundation projects

Million of pesos

Social Investment	2008	2009
Cerrejón donations	153	178
Other sources, direct administration	0	105
Other sources, leveraged resources	205	248
Total Social Investment	358	531

Figure 2 – 2008 and 2009 beneficiaries

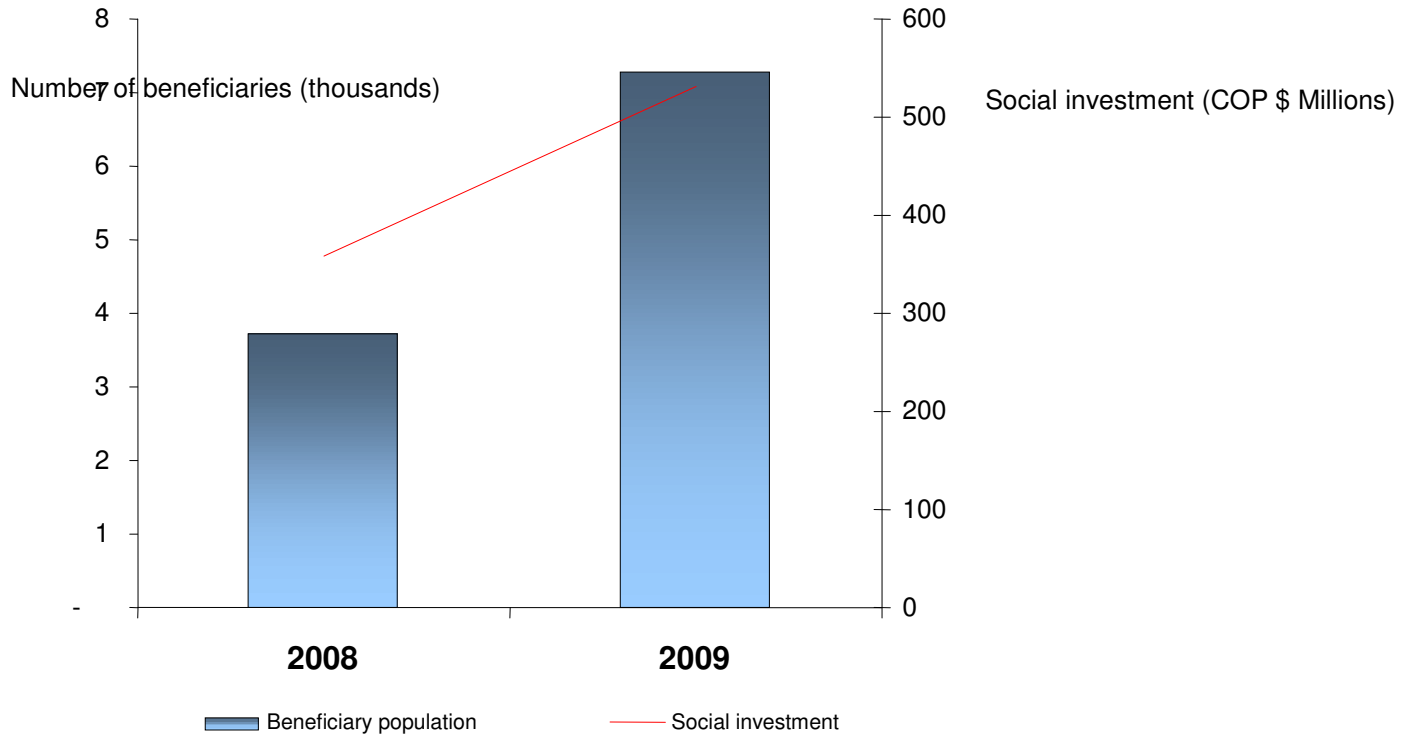
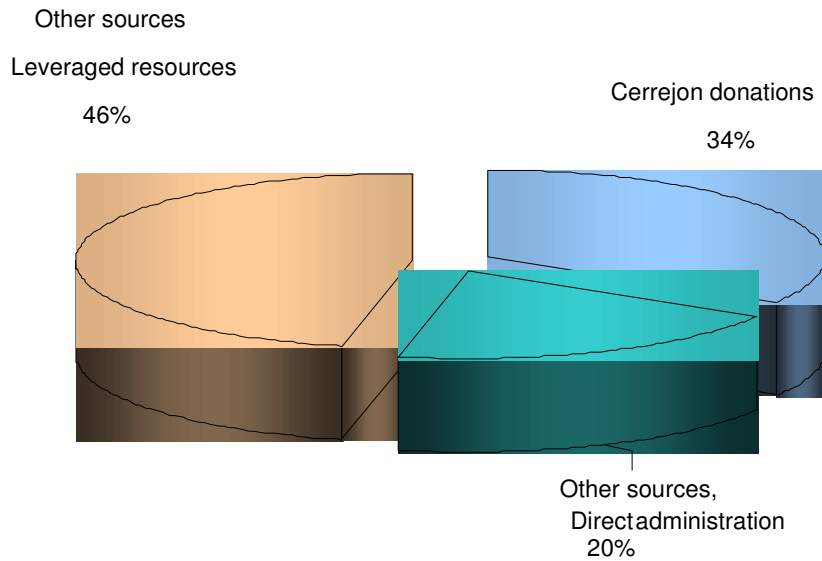


Figure 3 – Social Investment sources



5. transversal Activities to the lines of work

In addition to water solutions, sanitation and hygiene as well as comprehensive management of water sources projects, the Cerrejon Foundation for Water in La Guajira initiated a series of actions supporting the three lines of work previously mentioned. Among these, stand out: the development of baseline studies and definition of strategies in communities and areas of intervention selected by the Foundation. Also the design of training tools in water, sanitation and hygiene, the participation in local, national and international events and lastly the consolidation of cooperation and shared joint work alliances.

Next the main results achieved in 2009 are presented here below.

5.1 Studies

Participatory planning for Water, Sanitation, Hygiene and Environmental Sanitation

In March 2009, the CINARA institute of University of Valle presented the results from the participatory planning exercise in water, sanitation, and hygiene and school sanitation. In this exercise, pre-diagnoses were carried out in 20 sectors and 47 communities in upper, medium and lower Guajira. These diagnoses led to the formulation of an intervention strategy in the aforementioned areas for each of these sectors and communities. Additionally, through this work, the CWFG was able to have a computer application that manages and allows the update of information collected in the pre-diagnoses. It also allows replicating the same methodology in other sectors of Cerrejon's direct area of influence.

The results of the participatory planning exercise constituted an important input for the department and municipalities when it came down to effectively allocate resources for the water supply and sanitation sector in rural areas. Indeed, at the end of the year, the municipalities of Albania, Hatonuevo, Barrancas, the Governor of La Guajira and the Departmental Assembly of La Guajira took the results of this exercise to start projects in aboriginal reserves located in Cerrejons area of influence and allocated additional resources for water and sanitation solutions coverage in rural communities.



2009 Social investment (millions of pesos)

- Water foundation \$56.0

Table 4 – Actions carried out in 2009 since the exercise on participatory planning in water, sanitation, and hygiene and school sanitation.

Organization	Community	Action
Municipality of Albania	A.R. 4 de noviembre	Water system Optimization
Municipality of Hatonuevo	A.R. El Cerro	Water system Optimization. Water treatment system Implementation.
Municipality of Barrancas	A.R. Trupio Gacho	Groundwater exploration Project formulation.
La Guajira government	Various	Priorization of investments in water and sanitation under royalty resources – aboriginal communities. Studies and designs of the intake, treatment plant and mainline of regional water supply for the municipalities of Albania, Barrancas, Distraccion, Fonseca, Hatonuevo, Maicao, Manaure and Ubiria, Department of La Guajira.
Departmental assembly of la Guajira	Various	\$26 billion Increase in the budgetary addition to the APSB resources for the rural sector

Sanitary and environmental study of the jagueyes in aboriginal reserves located in the AID Cerrejon – South

As a result from the agreement signed with the University of La Guajira- Institute of environmental studies and Water Management, in 2009, the characterization of 25 jagueyes was finished covering the dry season and identifying the main contamination causes. Information was collected also on the sanitary and hygiene conditions in homes and during water collection, as well as the various domestic and productive uses.

Among the key survey results presented in July, stand out the development of guidelines to improve the specifications for construction of jagueyes, identifying their maintenance actions and the water stored there, and the adoption also of better management practices, care, storage, treatment and usage of water in homes.

The Cerrejon Water Foundation agreed to implement the recommendations of the study in the Ulu>iwarap jagueye, a community located in Malla Sur, as well as in other jagüeyes where we will be working starting in 2010. Likewise, with the surplus from the agreement, there will be a publication of instructions for implementing best practices of construction, maintenance, and use of these water storage systems.

Among the main conclusions of the study, are worth mentioning (see box)

Key data, environmental and health study of jagueyes

- ✓ *Total storage capacity of the 25 jagueyes is 37389 m3.*
- ✓ *More than half the area jagueyes remain dry during the summer.*
- ✓ *In general, the values of the physical and chemical parameters increase during the dry season. It is important to note the presence of high turbidity, color and high concentrations of iron, phosphates and nitrites.*
- ✓ *There is a greater presence of pathogenic microorganisms in jagueyes during the rainy season.*
- ✓ *The IRCA values indicate that the water in the jagueyes are a high risk to human health.*
- ✓ *The vast majority of the people living in the reserves do not carry out any treatment to water they consume.*
- ✓ *The quality of the water used is perceived as good by most people living in Trupio Gacho, San Francisco and El Cerro.*
- ✓ *4% of the people living in Trupio Gacho consume water directly from the jagueye and 55% bathe with that same water on average twice a day.*
- ✓ *37% of the people living in Trupio Gacho and 43% of Provincial inhabitants defecate near the jagueyes.*
- ✓ *Between 60% and 90% of people do not perform any sort of maintenance to jagueyes.*

As part of the project, a water Lab was donated to the Environmental Studies and Water Management Institute of University of La Guajira., so that it could carry out water quality sampling and studies. The total sum of the donation reached 23.7 million pesos. This way, the CWFG seeks to strengthen the educational entity in order to encourage research in this field.

2009 Social investment (millions of pesos)

- Cerrejon Water Foundation \$26,0
- University of La Guajira (in kind) \$15.0

Study of technical and financial alternatives for water supply in the aboriginal reserves of Trupio Gacho, San Francisco and Provincial, municipality of Barrancas.

Using the lessons learned from the failed regional water project for the aboriginal reserves of the municipality of Barrancas within Cerrejon area of influence, the CWFG started working with the firm Ingeniería Económica Consultores to evaluate the technical and economic alternatives for the provision of water services in these locations. To this end, the consulting firm assessed the status and operability

of the regional water infrastructure, as well as the identification and independent evaluation of alternatives for each reserve.



The conclusions of the study show that the best alternative from a technical and economic point of view would be the rehabilitation of the regional aqueduct with some design modifications. However, this alternative presents a great resistance both from the people living in the reserves, and from the municipal administration of Barrancas. For the San Francisco and Provincial reserves, there are possibilities of constructing water supply systems, using the Rancheria River as a source. In the case of the Trupio Gancho reserve, the alternatives are limited to groundwater exploration and taking advantage of some water sources offering small quantities. The alternative of incorporating these communities into the urban system through a bypass line between Barrancas and Hatonuevo was discarded for the immediate future but it could be a viable alternative in the future.

At the end of 2009, the municipality of Barrancas was in a consultation process with the aboriginal reserves concerning building independent solutions for water supply, taking elements presented in the results of the study sponsored by the CWFG.

2009 Social investment (millions of pesos)

- Cerrejon Water Foundation \$35,0

5.2 Training actions

Environmental education for the beneficiary communities of windmills

As part of the windmill program sustainability actions, the CWFG defined an environmental education program that complements the water supply systems maintenance and rehabilitation actions.

For the design of the proposed training, field data were collected interviewing 27 households in 6 previously selected communities. With this, 5 themes were identified to develop the environmental education program: 1) knowledge of the environment, 2) assessing water resources, 3) knowledge on basic sanitation, 4) safeguarding the health and lastly 5) knowledge of support institutions



5.3 Organization and participation in events

Water Roundtables

Participating in the alliance led by the International Republican Institute, the Cerrejon Foundation for Water in La Guajira actively supported and participated in the implementation of Water roundtables, meeting spaces for the community and La Guajira institutions to initiate actions to strengthen citizens on the issue of water and sanitation.



During 2009, four roundtables were carried out. In these, various regional and national institutions participated. The CWFG took part as a speaker at two of them.

- Attendees at the Foundations presentation: 80 people.

52º Acodal Congress



The ACODAL Association of Sanitary and Environmental Engineering held in September its traditional guild event under the banner *vulnerability in water management, sanitation and environment*. The CWFG was chosen to present the paper *“community participation in La Guajira rural area: participatory planning in water, sanitation and hygiene”*.

The paper summarizes the exercise which resulted in a water, sanitation and hygiene baseline for La Guajira rural communities and the Water Foundation intervention strategy definition. The presentation was ranked as one of the best in the event.

- Attendees at the show: 60 people representing around 35 institutions.

III Decentralized Cooperation Meeting.



The CWFG was invited by the High Commission for Social Action and International Cooperation to participate in the round of negotiations between representatives of the Departmental Committees for International Cooperation and representatives of decentralized cooperation operating in Colombia, mainly from Latin America and Europe. In these negotiations, stands out the Autonomous Community of Madrid being approached with a proposal for a jagueyes project to be presented to them in March 2010.

Colombian Caribbean Multidonor Roundtable

In November, the Cerrejon Foundations System was invited by the Governor of La Guajira to participate in the Caribbean Region Multidonors Meeting. This meeting took place in Riohacha. In the event, rounds of negotiations were established with about 11 international donors. The event was notable for the careful preparation of the delegation of the department of La Guajira, which was the result of work led by the CWFG, which allowed to initiate and to strengthen the cooperation dialogues with agencies of the United Nations (World Food Programme and PNUD), USAID and the Spanish Cooperation Agency (AECI).

WATER 2009 International Seminar



Organized every two years by the Cinara Institute, the International Hydrological Programme of the UNESCO and the International Water and Sanitation Centre of the Netherlands, WATER 2009 has established itself as the most important academic event in Central and South America related to water and sanitation issues.

The document presented by the CFWG Foundation, “Water use in dry lands: a case study of aboriginal Wayuu communities in Colombia’s Upper Guajira”, was selected by the scientific committee to be presented at the seminar section on water use efficiency. The presentation sparked the interest of attendees from La Guajira and opened opportunities for the Foundation to work with other institutions and academic centres in the areas of water management and climate change.

The document presented by the Foundation was selected for publication in the proceedings of the seminar.

- Attendees to the presentation: 90 people.

5.4 Alliances

In 2009, the relationship between the Foundation and the local, regional and national law enforcement institutions was consolidated. Likewise, the CWFG began the relationship building phase with International organizations and multilateral donors to carry out cooperation activities and obtaining resources for water, sanitation and hygiene projects in La Guajira.



Formalization of the alliance Cerrejón CFWG – WFP
World Food Programme

The following table summarizes the progress and the results obtained in the creation and consolidation of interagency partnerships.



World Bank and Cinara Institute Officials visit to La Sirena rural aqueduct

Table 5 – Relationship between the Foundation and institutions in 2009

Stakeholder	Project	Type of alliance
Presidential High Commission for Social Action and International Cooperation 5. Unproductive assets program 6. General Directorate for International Cooperation	Windmills Food and nutritional security	Financial support Financial support Obtaining international cooperation resources
World Food Programme	Food and nutritional security Water supply systems Water and sanitation Training	Financial support
World Bank	Design of sustainability mechanisms for reservoirs.	Collateral for financial support Technical support
International Republican Institute	Water Roundtables	Technical input for project design and implementation.
Autonomous Community of Madrid	Water supply solutions	Financial support
Vice ministry of water and sanitation Vice presidency of the Republic	Reservoirs	Technical input and resource management.
CINARA institute of University del Valle	Water supply solutions Sanitation and hygiene	Contractor Joint effort to obtain resources
Autonomous Regional Corporation of La Guajira - Corpoguajira	Windmills Water storage systems	Technical and financial support
Government of La Guajira	Design of sustainability mechanisms for reservoirs. Departmental Water Plan.	Public policy design
Municipality of Hatonuevo City Hall	Paladines Creek project	Financial support

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