

Road to Everyone Forever for Water in San Rafael del Norte

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I. San Rafael del Norte

Context

Jinotega is currently among the departments with high and severe poverty in Nicaragua. Among the main indicators of the Unsatisfied Basic Needs Methodology, used to define the [municipal extreme poverty map](#), are insufficient services (including water and sanitation), indicating a real need to improve water and sanitation within its municipalities.

The municipality of San Rafael del Norte lies at 1,078.68 meters above sea level. According to the National Institute of Development Information (INIDE), 22,147 people inhabit its 232.84 km².

Water For People is an international non-profit organization, based in Denver, Colorado, United States, that aims to develop quality and accessible services for drinking water and sanitation.

Sustainability is a vital part of its mission, which is why they work hand-in-hand with communities, businesses, and local governments. Since 1991, in collaboration with local governments, Water For People helps vulnerable communities to develop their own sustainable drinking water systems, and to improve their hygiene knowledge and behaviors (handwashing, menstrual hygiene, etc.).

As for sanitation, Water For People encourages the improvement or construction of dignified and decent bathrooms with family resources. To this end, Water For People establishes coordination with local governments and other organizations to achieve Everyone milestones for sanitation in municipalities, with the goal of reaching Everyone Forever for drinking water.

The Everyone Forever model involves reaching every community, every school, every clinic, every household. Everyone means everyone! This means at least 95% have high or intermediate water and sanitation service levels, in the municipalities chosen to reach Everyone Forever.

Water For People in Nicaragua

In 2008, Water For People began working in Nicaragua, backed by a track record of success in neighboring Honduras and Guatemala, where programs were established in the 1990s. Due to the large differences in coverage between rural and urban areas, the organization decided to focus its efforts on communities and schools in remote rural areas. For the first two years, Water For People served communities through a partnership with a local NGO in Wiwilí, a municipality in the north central part of the department of Jinotega.

In 2010, Water For People in Nicaragua was established as a registered non-governmental organization (NGO). In 2011, it hired the first Country Director and team members, carried out the analysis to identify geographic regions for expansion (including San Rafael del Norte), and developed local partnerships that would define the program activities for the following years.

This is how in 2012 the organization entered San Rafael del Norte. Six years later they managed to reach their first milestone: Everyone at the community level. Their work has focused on the following components:

- Management of community water systems
- Integrated Water Resources Management
- Sustainable Sanitation
- Capital cost financing - repairs and replacements
- Infrastructure and hygiene education in schools and communities
- Local capacity building and monitoring

II. First Steps Followed

Initial Situation and First Decisions

When the organization decided to work in Jinotega, it selected La Concordia along with San Rafael del Norte as Everyone Forever Municipalities. Both are geologically and topographically distinct areas. La Concordia is a dry zone with basic grain crops, and San Rafael is a high zone with more precipitation, with many surface water sources, coffee production, livestock, and vegetables.

Both municipalities are close, which is good to have a presence in the territory and create relationships with institutions. They are also relatively close to the capital, which is ideal for achieving influence in the sector. All this together with the [political will](#) of both municipal governments, and the relative security of the area, made it an ideal place for the team to enter.

Then it was necessary to know how alarming their water data was.

Key Processes to Enter the Municipality

Municipal Government and Local Actors

In the framework of the Strategic Plan for Water For People Nicaragua and in the Municipal Development Plan, work begins in close collaboration with representatives of local authorities: Municipal Mayor's Office, community leaders, Drinking Water and Sanitation Committees (CAPS), Ministry of Health (MINSa) and Ministry of Education (MINED).

The first projections were made based on the Municipal Water and Sanitation Plan for San Rafael del Norte (2008-2018) under the auspices of the Integrated Project for the Management of Hydrographic Basins (PIMCHAS). Projections were made and improved with headquarters in 2012. Together with the municipal government, Water For People in Nicaragua developed a plan to reach Everyone in late 2017.

The objective of establishing a collaborative relationship with the municipality is to develop actions to achieve universal access to drinking water, and its sustainable management for the ongoing provision of services.

A Partnership Agreement was signed on November 30, 2011 for five years. With this, a working relationship was formalized between the parties, mainly around responsibilities and work deadlines. From that moment on, it was established that for investment purposes the Municipal Mayor's Office would always give a financial contribution of a 50% for each project. The participation of community members was also established as a principle that would bring sustainability to the interventions.

The concrete actions to which the municipality of San Rafael del Norte committed were:

- Allocate in the annual municipal budget at least 7.5% of the total budget for investments or activities related to the supply of drinking water services.
- Through the Municipal Water and Sanitation Unit (UMAS) and other related units, provide technical assistance¹ to the municipality's CAPS to provide better water and sanitation services in rural areas.

¹ They can be but are not limited to activities of works supervision, training and advice on organizational and administrative issues, support and legal advice, training on hygiene education issues or good practices within the community and the home, among others.

Water For People committed to:

- Assign budget items that support investments and institutional strengthening to achieve universal access to drinking water services and their sustainable management for ongoing water and sanitation service provision in the municipality.
- Advise the UMAS and other related units, provide technical assistance to the municipality's CAPS to provide better water and sanitation services in rural and peri-urban areas.

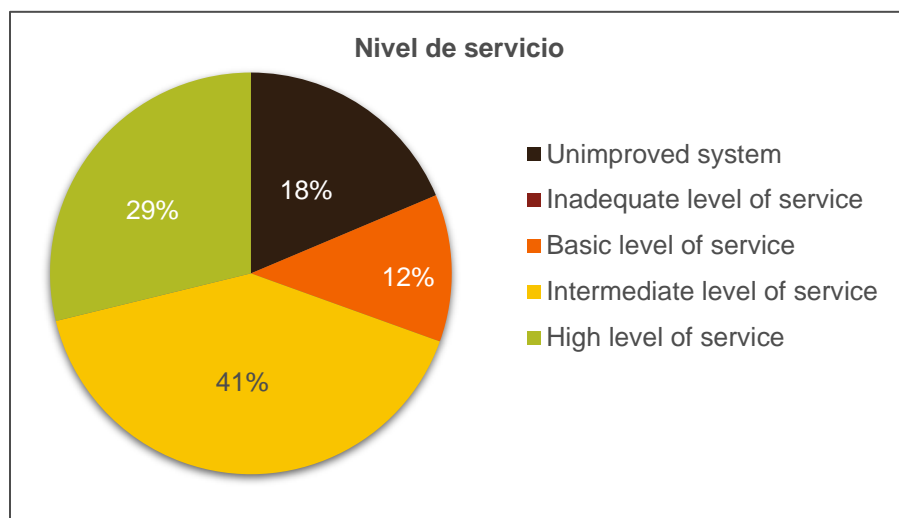
Data

Through community participation, mayor's office technicians, volunteers from the Water Corps and Water For People resources, surveys were conducted in the urban area and rural communities of San Rafael del Norte². The process lasted two weeks³ in which 16 interviewers carried out surveys to measure levels of service in water and sanitation at the household level⁴, public institutions, and water points.

The long hours of information gathering yielded the following results:

- At the community level, 70% had intermediate and high levels of services.
- 12% had basic service levels.
- Nineteen percent did not have an improved water system.
- It was becoming clear what the priorities would be.

Image 1: 2011 Level of Service Monitoring Data



San Rafael del Norte Level of Service	Number of Water Points	Frequency
Unimproved system	11	19%
Inadequate level of service	0	0%
Basic level of service	7	12%
Intermediate level of service	24	41%
High level of service	17	29%
Total Water Points	59	100%
	Intermediate or High Level of Service	70%

² 53 communities at the time

³ From July 4-15, 2011

⁴ As a sample, between 3 and 15 surveys were carried out per community

III. Intervention: Programmatic Approach

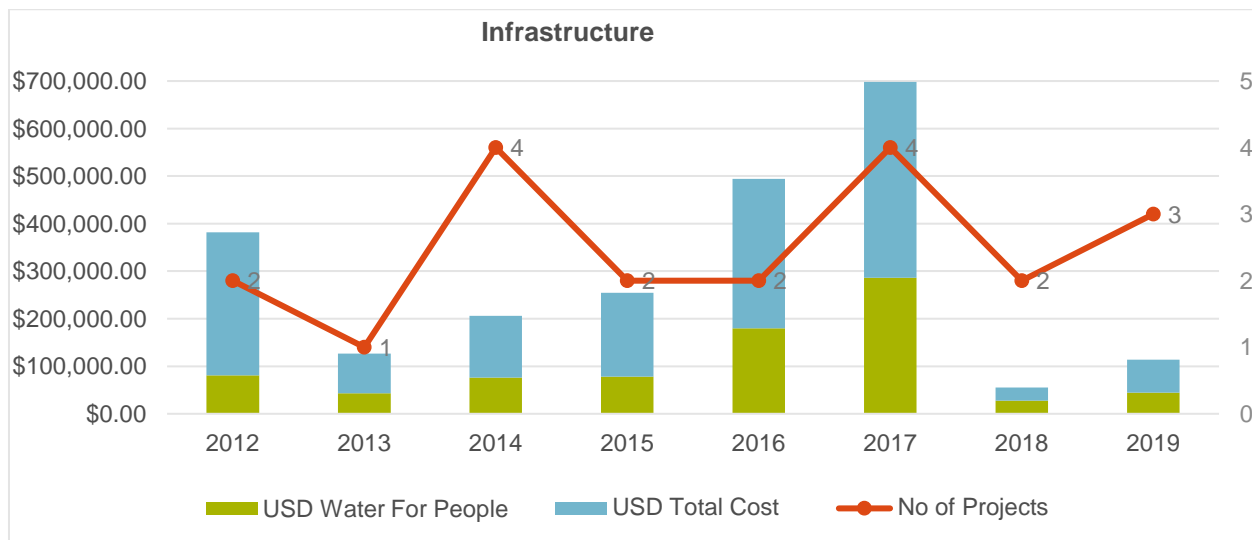
The basis for the implementation of the Everyone Forever Plan has been the annual exercises to monitor water and sanitation service levels in all communities. Coordination with MINSA and MINED were key. Water For People in Nicaragua is confident that together with other key actors, all communities, schools, and health centers can be reached with adequate water and sanitation conditions.

Investment in Infrastructure

In San Rafael del Norte rural communities receive water supply mainly through gravity fed mini-aqueducts, but there are also others who use electrical pumps. Some existing systems in 2011 were near the end of their useful life and required renovations or expansions.

Up to 2019, Water For People supported the construction of approximately 20 drinking water systems, which ensures supply to 28 communities in San Rafael del Norte.

Image 2: Investment Amounts 2012-2019



Up to 2019, an infrastructure investment of 1.5 million dollars is estimated in the municipality, where Water For People has contributed approximately 40%. Water For People never provides 100% of the financing for the investments; rather, we leverage our resources, asking for financial contribution from the communities and local government. In Nicaragua, it has meant that each family has contributed approximately USD\$100 at the time of the initial investment and contributes monthly through tariffs to cover the costs of operation, maintenance, and major repairs or replacement.

Building Administrative and Organizational Capacities

Before 2011, the municipal government of San Rafael del Norte, together with the Ministry of Environment and Natural Resources (MARENA) developed a Water and Sanitation Plan. Among the main findings it highlighted: CAPS were weak due to lack of community participation, lack of legal recognition of the existence of CAPS, unsustainable tariffs and in some cases there were no tariffs, lack of micro metering, deteriorated infrastructure in some water systems, inadequate water quality, inappropriate or excessive use of water, there were no bank accounts, sources without legalization or activities to protect recharge areas, and the CAPS lacked technical assistance by institutions.

Image 3: 2019 Service Provider Monitoring Data

Service Provider Assessment Results 2019	
A service provider exists for all water points	100%
Service providers are legally recognized	100%
The CAPS has been supported by the UMAS to calculate a tariff	97%
The CAPS has set a tariff that covers 100% of the O&M of water systems	95%
The CAPS has set a rate that covers 20% or more of replacement capital costs	42%
The tariff or user fee for water service is collected based on consumption	84%
The committees have delinquency levels of less than 10%	50%
The CAPS has access to spare parts and supplies for O&M and water treatment	100%
The CAPS has someone who is trained in and responsible for O&M	95%
Bank account in the name of the Service Provider	5%

Strengthening service providers has been vital for the proper administration, operation, and maintenance of drinking water systems. Water For People in Nicaragua, together with the staff of the UMAS of San Rafael del Norte, has spent considerable time and resources to strengthen them.

The San Rafael del Norte CAPS have been trained and supported on the legal framework process, election of representatives, calculation and management of tariffs, administration, regulation, water quality and treatment, protection of water sources and operation, maintenance of water systems, and monitoring. Capacity building for CAPS members is critical to the sustainability of investments.

Structure

The CAPS were legally established in 2010, through a law passed by the National Assembly of Nicaragua, which allowed them to legally start to charge tariffs, be exempted from payment of taxes, open bank accounts, contract services, and obtain documents for the land where their water sources and other components of water systems are located, among other things. As of 2019, all the CAPS of San Rafael del Norte have completed all requirements to obtain legal recognition, and the municipal teams back the election processes to ensure they are updated frequently.

Finance

Although the San Rafael del Norte CAPS have overcome many challenges and difficulties, there are still others to overcome, such as generating savings that can be used to carry out major repairs and replacements and control their delinquency levels.

In 2011, in San Rafael del Norte more than 50% of the CAPS lacked meters, while in 2019, 84% (32 of 38) used meters. Almost all the CAPS have been advised and supported to calculate their water tariffs; however, the main difficulty is raising awareness of users to implement tariffs.

There are some factors that make the tariffs very expensive and therefore unacceptable to users:

- Pumping Systems (costs for energy, drilling, and pumping system equipment) - are costly and their relatively short useful life means a 100% replacement through a tariff.
- Communities with few houses - fixed costs are distributed among fewer households; therefore, it is more for each family.
- Dispersed housing - systems with dispersed housing assume much greater investment in pipes; therefore, the cost of infrastructure is greater.

Management

Fundamentally, the CAPS must possess the ability to organize and involve the user populations in water management in accordance with the regulations. The rules vary from community to community, although usually include provisions for the relief of the elected leadership, system maintenance, water service tariff, care for the environment, and financial management. It is difficult to enforce the rules: *this must be worked on through the promotion of community governance and participation.*

Once the water systems are built, they are passed on to the CAPS and they must be responsible for proper administration, operation, and maintenance.

In San Rafael del Norte, 95% (36 out of 38) of the communities have a plumber qualified enough to perform basic plumbing tasks, and the spare parts and fixtures of plumbing systems are accessible in the department of Jinotega.

Development of Institutional Capacities and Local Advocacy Work

To ensure that water and sanitation services are maintained over time, institutions must be prepared to support water and sanitation committees on technical aspects, management training, and infrastructure co-financing. The government should also have a central role and be responsible for the monitoring process of operation of the systems; then they will have a clear picture of the current state of systems, at any time.

Image 4: 2019 Sustainable Services Checklist Data

2019	
Service Authority	Structure: High Level Sustainable Services
	Finance: Inadequate Level Sustainable Services
	Management: High Level Sustainable Services
	Monitoring: Basic Level Sustainable Services

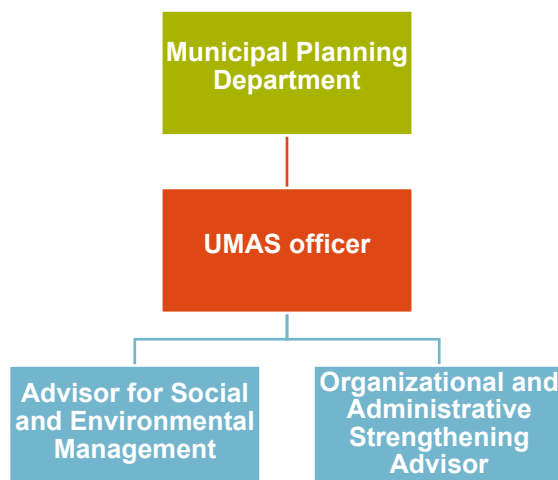
A key exit strategy in San Rafael del Norte is that our team works closely with the local government, which ultimately has the responsibility for planning, coordinating, and providing basic services.

Structure

In 2008, the municipal government of San Rafael del Norte approved the creation of the UMAS, with a technician within the Municipal Services department.

For 2019, after advocacy work with the municipal government, we managed to turn this "Unit" into a true "Office" with three technicians: 1) An UMAS officer who provides technical advice for the operation and maintenance of systems; 2) an advisor for organizational and administrative strengthening, responsible for the sustainability of service providers, who accompanies the CAPS for proper organizational functioning, but mainly, to

Image 5: Service Authority Organization Chart



ensure proper administration of resources generated by tariff payments; and 3) an advisor for social and environmental management, responsible for supporting communities to achieve changes in behavior favorable to the proper management of water, sanitation, and hygiene at the community level, but also coordination with other institutions such as MINSA, MINED, and MARENA.

Finance

The responsibility for financing the water systems in the municipality encompasses all levels. In Nicaragua a legal and regulatory framework already exists, and the National Budget Law considers the minimum allocation of 7.5% of the annual municipal budgets for water and sanitation investments, although it is not enough. The funds for direct and indirect support costs come from local tax collection; in some small municipalities, they also come from the national budget and are channeled to local governments. They are not sufficient in either case.

Management

The UMAS of San Rafael del Norte has a written and updated Municipal Plan to reach Everyone Coverage with sustainable services, and they carry out an infrastructure survey where they evaluate the operation and service level of the drinking water systems. So, you certainly know that you need to allocate not only a budget, but personnel capable enough to streamline processes and meet goals. However, its effectiveness remains a challenge, due to the multiple activities outside the area of water and sanitation that must be carried out by technicians.

Monitoring

Monitoring is more than a simple set of indicators and a database. It is a systematic way of generating data, analyzing it, and using it to inform action and decision making at multiple levels. Local actors need up-to-date information on the functionality of the infrastructure so that repairs can be made quickly. National actors need a synthesis of high-level trends to inform the formulation and planning of strategic policies⁵.

Since 2011, San Rafael del Norte performs monitoring annually under the Water For People monitoring framework, but also uses the institutional platform Information System for Rural Water and Sanitation (SIASAR). The platforms for collecting information used in Water For People's monitoring are Akvo Flow and mWater.

Water Resources Management

This municipality has an office and personnel dedicated to environmental management as part of the municipal structure.

In conjunction with UMAS, the effort has really been remarkable, not only to inventory its water sources and monitor their capacity, but to work on a Water Resources Action Plan that responds to municipal priorities in integrated water resources management (IWRM). We believe that part of the success of this Action Plan has to do with the ability to articulate, organize, and follow up with local actors of one of the resources of this municipality.

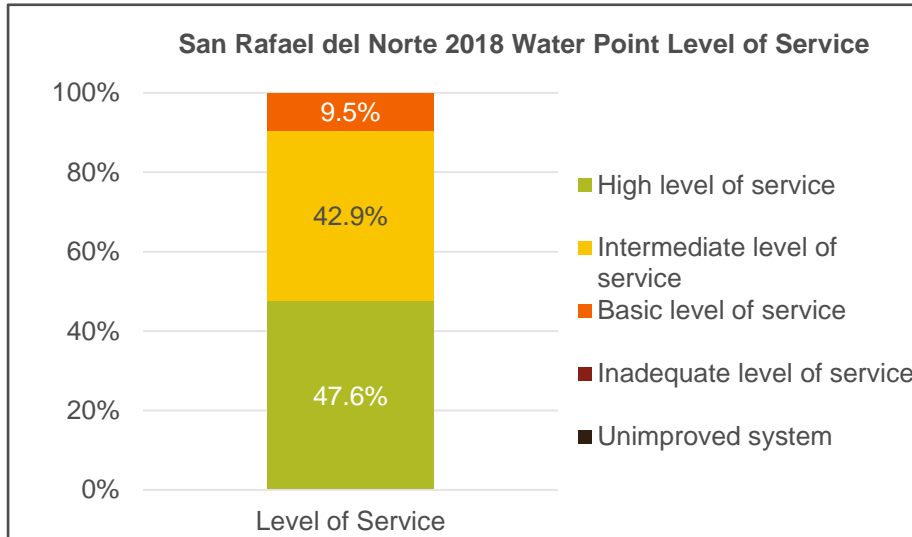
IV. The Final Situation and its Context Factors

In a country where, according to the Joint Monitoring Program, 48% or more do not have access to safe water services, the municipality of San Rafael del Norte reached Everyone with safe water services in 2018, and one year later maintains this milestone in all of its 46 communities. This

⁵ The building blocks of sustainable WASH systems: <https://www.ircwash.org/wash-systems-academy>

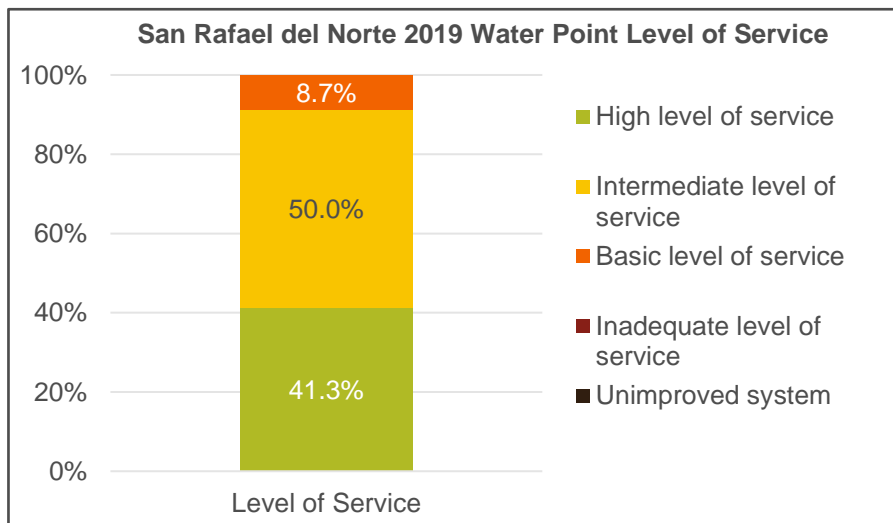
means that 90% or more of the communities have an intermediate or high level of water service, and the rest have a basic service level.

Image 6: 2018 Level of Service Monitoring Data 2018



San Rafael del Norte Level of Service	Number of Water Points	Frequency
Unimproved system	0	0.0%
Inadequate level of service	0	0.0%
Basic level of service	4	9.5%
Intermediate level of service	18	42.9%
High level of service	20	47.6%
Total Water Points	42	100%
	<i>Intermediate or High Level of Service</i>	90.5%

Image 7: 2019 Level of Service Monitoring Data



San Rafael del Norte Level of Service	Number of Water Points	Frequency
Unimproved system	0	0.0%
Inadequate level of service	0	0.0%
Basic level of service	4	8.7%
Intermediate level of service	23	50.0%
High level of service	19	41.3%
Total Water Points	46	100%
	<i>Intermediate or High Level of Service</i>	91.3%

V. Lessons Learned

With eight years of work and investment in San Rafael del Norte we have learned that:

- Making alliances to leverage resources works.
- Transmitting our dream to the municipality is essential to achieving it.
- Investments must be made in municipalities with the greatest need.
- Strengthening local capacities is the guarantee of sustainability.
- The leadership, analysis, and return of information to the municipality is vital for making strategic decisions.

VI. Recommendations

In each of Water For People's actions, the vision of achieving Sustainable Development Goal 6 is present; however, this is closely related to the other Sustainable Development Goals. Therefore, we recommend:

- Taking into account the leadership upon entering a municipality, since truly effective institutional coordination depends largely on the leadership of the municipal authority.
- Promoting hygiene practices and rational use of water in families on a regular basis as it supports decision-making that facilitates investments in handwashing structures.
- It is not enough to partner with an actor or two, we need them all.