SWAROVSKI P U R U S
WATERSCHOOL AMAZONAS

PHASE ONE REPORT

Escola D'Água
AMAZÔNIA BRASIL

FAS

SWAROVSKI
WATERSCHOOL

ACKNOWLEDGEMENTS

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FOREWORD

One-fifth of the world's freshwater is in the Amazon. The region's importance in the balance of the world's water cycle is paramount. Water facts in the Amazon are indeed peerless.

Nevertheless, this initial perception of abundance can be deceiving. During the last decade, an increasing rate of extreme floods and droughts have pushed local communities beyond their resilience levels.

Traditional riverine communities' livelihoods are highly related to the hydrological cycle. These changes, due to climate change, deeply impact their ability to access safe water and food. Logistics, including those related to health and education services, are heavily affected.

The challenging water scenario in this region - with its extreme water dynamics conditions - requires creativity, innovation and behavior change to reach a long-term sustainable water management.

In 2016, ten schools of the Amazonas state joined the Swarovski Waterschool network. An international effort present in seven countries to support schools to provide water education, access to safe water and support sanitation and hygiene for its students.

To face up to the task Swarovski Waterschool partnered with the Sustainable Amazon Foundation (FAS), an independent foundation that works side by side with traditional forest communities all over the Amazonas to build long-term structural resilience by investing in sustainable livelihoods, social infrastructure and local empowerment.

Now the initiative reaches an important milestone and is about to evolve into a new phase. This report presents the road so far, including an overview of the project's context, its rationale and bottom-up strategies in the field. It also reveals and explores the achievements of the first phase, presenting the conclusions of the monitoring, evaluation and learning efforts. It shares some of the insights on the process and how they frame the next steps and point its path forward.

ABOUT US

SWAROVSKI
WATERSCHOOL

Founded in 2000 and situated in 7 countries within watershed areas of the Danube, Ganges, Yangtze, Nile, Amazon, Chao Praya and Mississippi rivers, the Swarovski Waterschool program has taught more than 500,000 children, using almost 10,000 specially trained teachers at more than 2,400 public schools. The program offers an educational learning experience revolving around the topic of water targeting children typically aged 8 to 18. Improving access to safe, reliable water and adequate sanitation at schools are additional key areas which are integrated into the framework. Through the Swarovski Waterschool program, students develop a lifelong passion for the subject, making them ideal ambassadors to influence whole families and their communities.

FAS

The Sustainable Amazonas Foundation (FAS) is a non-governmental organization created on December 20th, 2007 to meet the challenge of making tropical forests worth more standing up than cut down by designing and implementing innovative arrangements to recognize and reward traditional forest people for the environment conservation services they provide to the world. FAS was conceived as a Brazilian non-governmental, non-partisan, non-profit organization later acknowledged as of public interest, due to its accomplishments, by the Amazonas state and the federal government. The Foundation's mission is to promote the embracement of sustainability leading towards an environmental conservation model that considers the enhancement of traditional forest people's quality of life in the Amazon.

CONTEXT
MATTERS

RORAIMA

AMAPÁ

SANTAREM

MANAUS

AMAZONAS

PARÁ

PURUS

Brasil
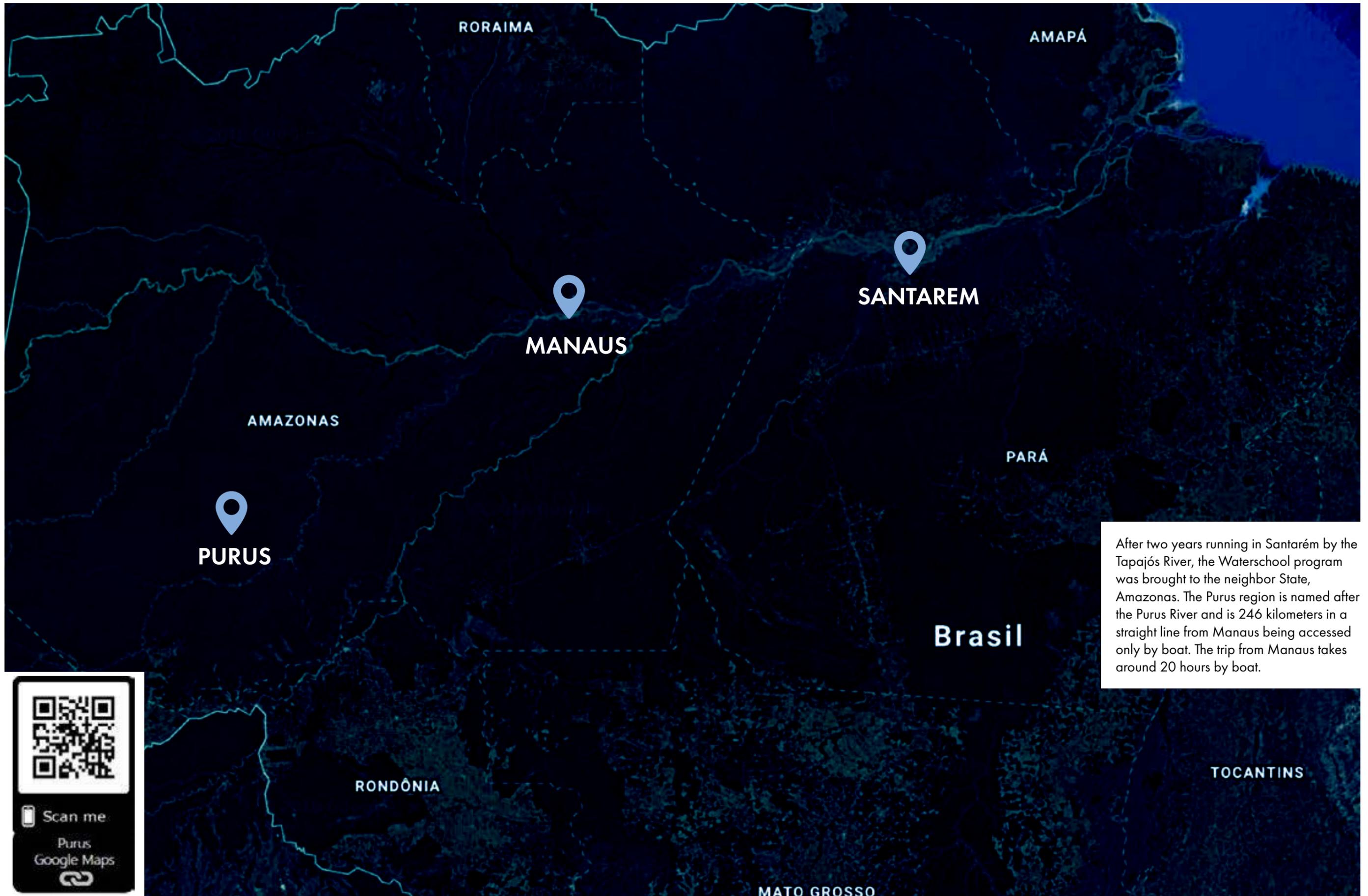
After two years running in Santarém by the Tapajós River, the Waterschool program was brought to the neighbor State, Amazonas. The Purus region is named after the Purus River and is 246 kilometers in a straight line from Manaus being accessed only by boat. The trip from Manaus takes around 20 hours by boat.

RONDÔNIA

TOCANTINS

Scan me

Purus
Google Maps

MATO GROSSO

The Piagaçu-Purus region is nowadays a Sustainable Development Reserve. These reserves are a part of the state's protected areas system in which traditional forest people live within old-growth tropical forests. Within these protected areas, communities and conservationists work together to balance biodiversity conservation with sustainable livelihoods for traditional forest people.

The Amazon Rainforest is a populated forest. Indigenous and forest dwellers communities, including rubber tappers, traditional fishermen and nut collectors are also part of this ecosystem. Nowadays, most people living in the Brazilian Amazon are a mixed descent of colonists and indigenous people. After generations living deep in the forest, they became increasingly adapted and embraced many practices of the indigenous communities in their livelihoods.

They came to rely on manioc (sweet and bitter cassava) as the basic ingredient in most meals and acquired protein through hunting and fishing.

Subsistence farming produces food for consumption along with some cash crops. Those along with various seasonal forest products sales result in little income which is used to purchase salt, coffee, sugar and some manufactured goods. This trade - usually not fair - often happens through middlemen that reach those distant locations by boat.

The Piagaçu-Purus reserve has 52 small communities, spread out across more than eight thousand square kilometers. Its area encompasses the biggest lake in the Amazon, the Amana Lake. The reserve is considered a crucial area of attention for the protection of the pink dolphin and the Amazon manatee.

The size of the communities engaged in the project range from 17 to 110 families. They live by the river banks or in floating houses. The communities are geographically isolated and can be reached only by boat. The furthest community takes up to three days by boat to the closest urban area, called Beruri.

Considering the challenging water scenario in this region - with its extreme water dynamics conditions - it is expected that most of these communities' livelihoods are highly adapted to the hydrological cycle. However, during the last decade, an increasing rate of extreme floods and droughts have pushed local communities beyond their resilience levels.

Conditions and strategies to access water in the Amazon are widely variable. In general, most of the forest traditional communities deal with at least two distinct seasonal scenarios regarding water supply: the wet and dry season. Amazonas Basin rivers widely vary annually up to 15 meters. Around half of the year the rivers are increasing its water volume and, in the remaining months, it's the other way around.

A similar situation occurs with official standard education evaluations which create a scenario of forgotten students in invisible precarious schools. Home born children with the aid of traditional midwives do not have birth certificates, which leads to a situation where child mortality is not actually monitored.

Due to their settlement pattern, most of these communities are not included in the official geographic and demographic statistics reports, such as the national census. Their communities do not often reach the house unit's threshold to be surveyed or are not reachable at the time the surveys are conducted.

In such context, any viable initiative must fully understand and develop strategies taking the demography and logistics of the Amazon into consideration. That implies additional operational costs and seasonal limitations that cannot be neglected.

These logistics challenges are one of the most significant obstacles to provide the forest people with access to the most essential public utilities and public policies, such as basic education and health, potable water, sanitation and energy.

Hardly public policies reach those communities they must develop alternatives by themselves to handle local issues, such as access to safe water, energy and solid waste management with no support from the government.
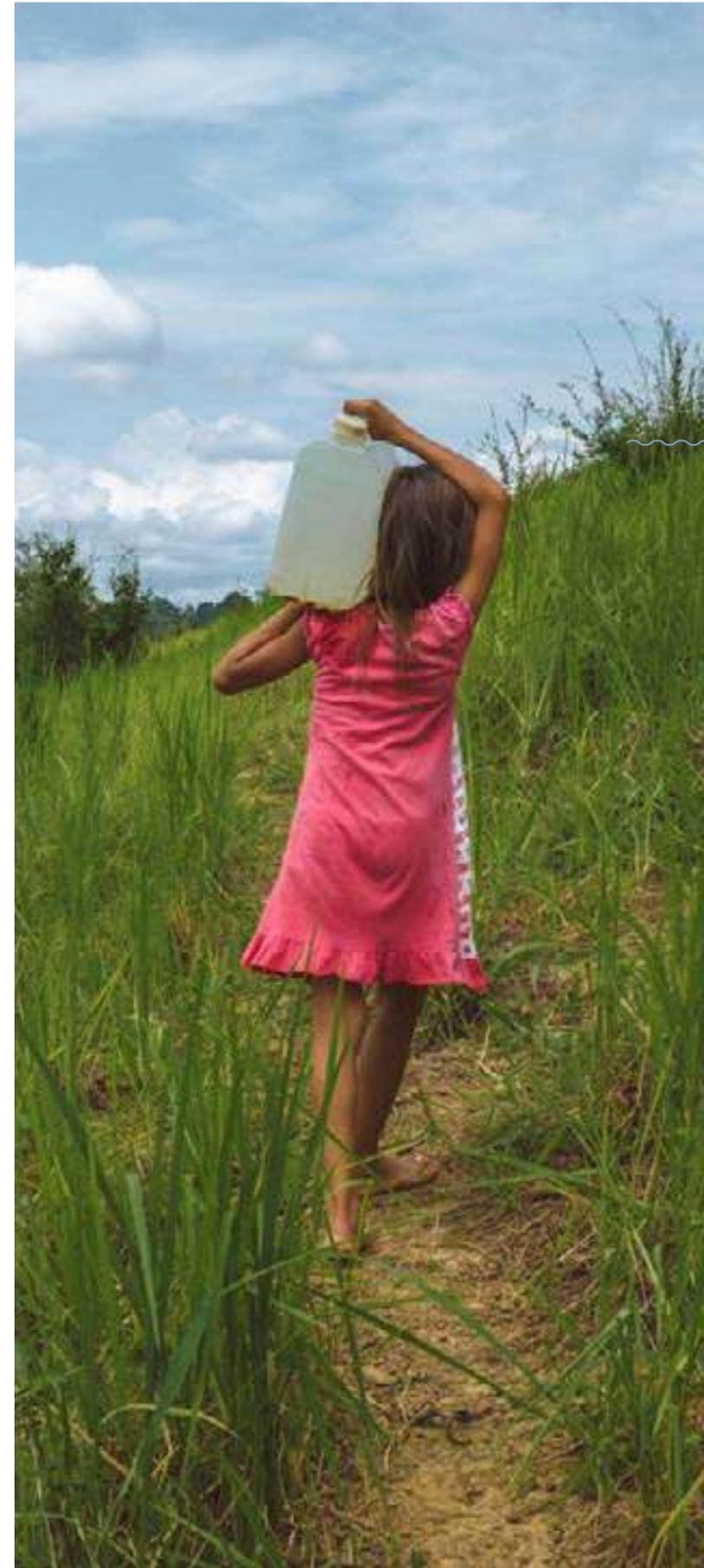
At a first glance an impressive network of streams, rivers and lakes, along with high rates of precipitation gives a sense of water abundance. It sounds counterintuitive that getting water requires effort and many health issues are related to the lack of access to safe water for consumption. Most of the communities use to collect water from the river or the rain, without proper treatment.

While some of the communities are settled in highlands, most of them are settled in lowlands that flood annually. In those communities is impracticable digging wells. The water availability is reduced during the dry season and most of the water becomes full of clay sediments. The solid waste becomes visible in the river banks and some of the already high rates of water-related diseases increase.

Education is yet a major challenge for the region's development. There are still only a few people from the communities that have enough education to teach, so frequently the teachers come from nearby cities. They travel several days by boat to arrive in the communities and work in very poor conditions with few teaching resources provided and poor planning, sometimes they have no option but to live inside the schools. Students rarely have school meals and sometimes classes end up being shortened due to this matter.

In 2016, when the project arrived in the participating communities, no school had access to water (drinkable or not) or restrooms. In some cases, there wasn't even a school building and the students had class in other improvised structures. In many cases, the structure was in such poor conditions due to damaged caused by previous floods, that the school could not be safely used anymore.

In average there are usually only two weeks of classes per month since teachers must go back to the cities to get paid and buy basic manufactured goods. The contracts of the teachers last ten months and are annually renegotiated, which implies that every year teachers might change in each school. Due to the lack of available teachers, structure and the small size of the communities, most schools are not organized in grades. In other words, different ages study together at the same time in the same classroom.

Scan me
Context
video

Despite this apparently harsh context, these communities have been living in that region for centuries, relying on natural resources and community collaboration. Therefore, our initiative is guided by a deep respect for the forest people and their way of life. Only by acknowledging and respecting their values, wisdom and unique relationship with nature it is possible to build the trust required for a partnership towards long-term sustainable water management.

STRATEGY:
HOW TO GET THERE

PILLAR 1: ACCESS TO SAFE WATER

Lack of access to safe water represents one of the most significant barriers to health and development in many communities. Swarovski Waterschool works hand-in-hand with local partners to identify, establish and implement solutions that provide clean water to local schools and communities, solving both long- and short-term water-related challenges.

PROJECT ASSUMPTIONS:

☞ In the Purus region providing access to safe water is mostly related to care for the water sources and to foster proper storage and treatment practice

☞ Community's engagement as a key for success

PROJECT DESIGN

The starting point of the project design was the Swarovski Waterschool Program's main goal: contribute to the long-term availability of water for the benefit of people and nature and for the maintenance of the world's cultural and biological diversity. the program's vision is that global water challenges must be addressed by empowering children with the knowledge and resources they need to lead change. To foster "water-wise" communities the program invests in:

1 Teaching children the principles of sustainable water management.

2 Enabling communities to solve their water-related challenges.

3 Addressing ecological, economic, social and cultural issues that affect water on a local and global level.

4 Contributing to a world where all people have access to safe and reliable water and adequate sanitation.

To address the Purus region complexity the project design also considered a set of assumptions along with the Program's pillars*. These assumptions were essential to ground the program's global strategies, to detail the approach adopted and to build trust.

For additional information on the pillars of Swarovski Waterschool access: www.swarovskiwaterschool.com/the-three-pillars

PILLAR 2: WATER EDUCATION

Participatory teaching and learning is key to understanding the importance of water and sanitation in the greater context of health and education for sustainable development. Swarovski Waterschool programs engage with classroom teachers to empower children between the ages of eight to fifteen with the knowledge and skills necessary to take local actions to improve local environments.

Teaching materials convey related theoretical knowledge through engaging experiments and practical outdoor programs. This aims at involving the children as "Water Ambassadors" in the wider community. In addition, teacher training sessions help promote responsible water management by enabling them to give their own Waterschool classes – supported by specially developed toolkits.
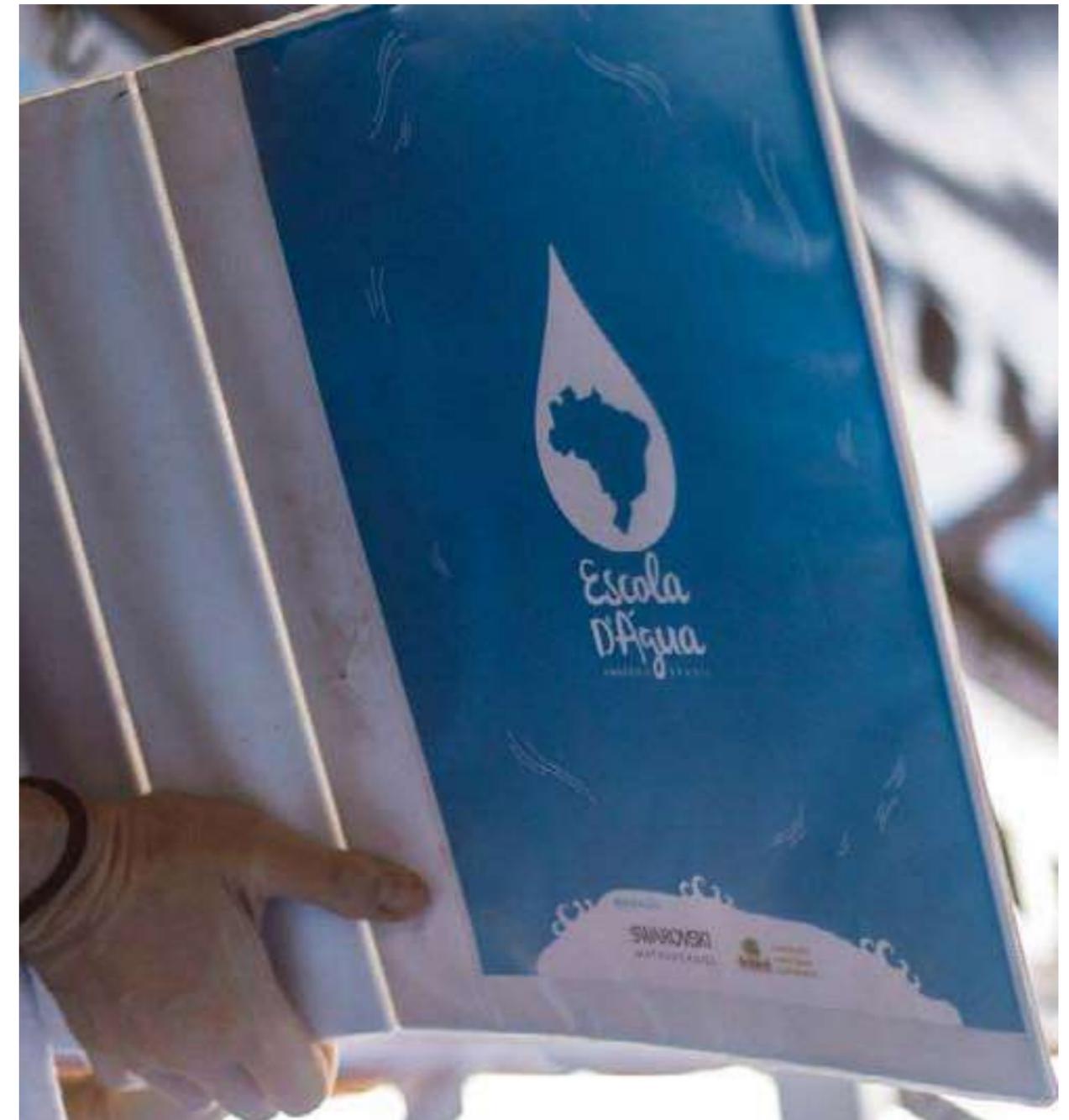
PROJECT ASSUMPTIONS:

☞ School can play a central role to foster community social change

☞ Teachers must be considered as the target group to bring out the water-related issues into the community agenda

☞ Proposed activities should be experiential and supported by accessible material

☞ Activities should go beyond just sharing knowledge and aim on positive attitudes and changes in daily practices on water-related issues

PILLAR 3: ACCESS TO SANITATION FACILITIES

Access to sanitation and hygiene education in schools promotes healthy life skills, improved learning and fewer absences from school, especially for girls. Swarovski Waterschool programs work with local communities to provide sanitation facilities and improve handwashing at schools.

PROJECT ASSUMPTIONS:

☞ Water issues should be linked to health, quality of life and sustainable development

☞ Investments in the school infrastructure are needed to create minimal conditions to change in practice and to make the project goals more tangible

THEORY OF CHANGE

The Water School's intended impact is associated with change on several levels. The sum of the project's outcomes intends to change the perception of the importance of water resources, its perceived value and impact on the community's daily life.

The theory of change is the exercise of thinking and describing how actions build-up a pathway towards clearly defined outcomes linked to the ultimate desired change. Considering these basic assumptions, the Swarovski Waterschool global guidelines and the accumulated experience FAS has in working in this area, the following Theory of Change for this project was designed:

Water-wise communities aware of and adopting sustainale water management **practices**

Community **piloting innovation** to improve water facilities and practices

Bottom-up community rules for proper water management

Community **takes action** to improve water related infrastructure at school

Action Plan to improve school's water related facilities and practices

Children and youth foster **attitude** change towards sanitation and hygiene practices and take cara of communities' water source

Community mobilized to improve sanitation and hygiene facilities and practices and take care of communitie's water sources

Water related **knowledge** disseminated through grounded and experiential means

Local teachers **engaged**, prepared and supported to foster water education

THE PARTICIPATING COMMUNITIES

Ten out of fifty-seven communities of the reserve were chosen to be part of the first phase of the project in the area. The choice was made considering the following criteria:

☞ Geographical conditions and logistics

☞ The diversity of water landscape (highlands, floodplain and floating communities)

☞ FAS track record: having a positive attitude for change

☞ Populations - big and small communities

☞ Difficulties in access to water

☞ Difficulties in school infrastructure

The first choice was made by FAS technicians that have been working in the region for eight years and are familiar with their reality. After having a first list of possible community options, the team had a first conversation with its leaders to select the final choice of communities.

The intention of starting with ten schools was to first prototype the project ideas in a way that the team could closely monitor and keep track of the implementation rather the beginning with a larger scale, where information could be hard to get and the relationship could be more distant.

In May 2016 the Swarovski Water school welcomed the 10 selected communities to integrate the global network. It is expected that they are just seeds that influence a bigger change in the whole region. The ten first communities are recognized as the pioneers of new practices that can expand the other communities in the reserve.

Community	Families	Housing units	Landscape	Municipality
Surara	55	40	High land	Beruri
Boas Novas	11	23	High land	Beruri
Uixi	65	49	High land + floating houses	Beruri
Arumã	100	110	High land + floating houses	Beruri
Santa Luzia do Jari	14	14	High land	Beruri
Tuiué	22	17	Floodplain	Beruri
Nova Supiá	30	30	Floodplain	Beruri
Santa Luzia do Jari	14	16	Floodplain	Beruri
Beabá de Baixo	10	15	High land + floating houses	Tapauá
Beabá de Cima	7	15	High land + floating houses	Tapauá
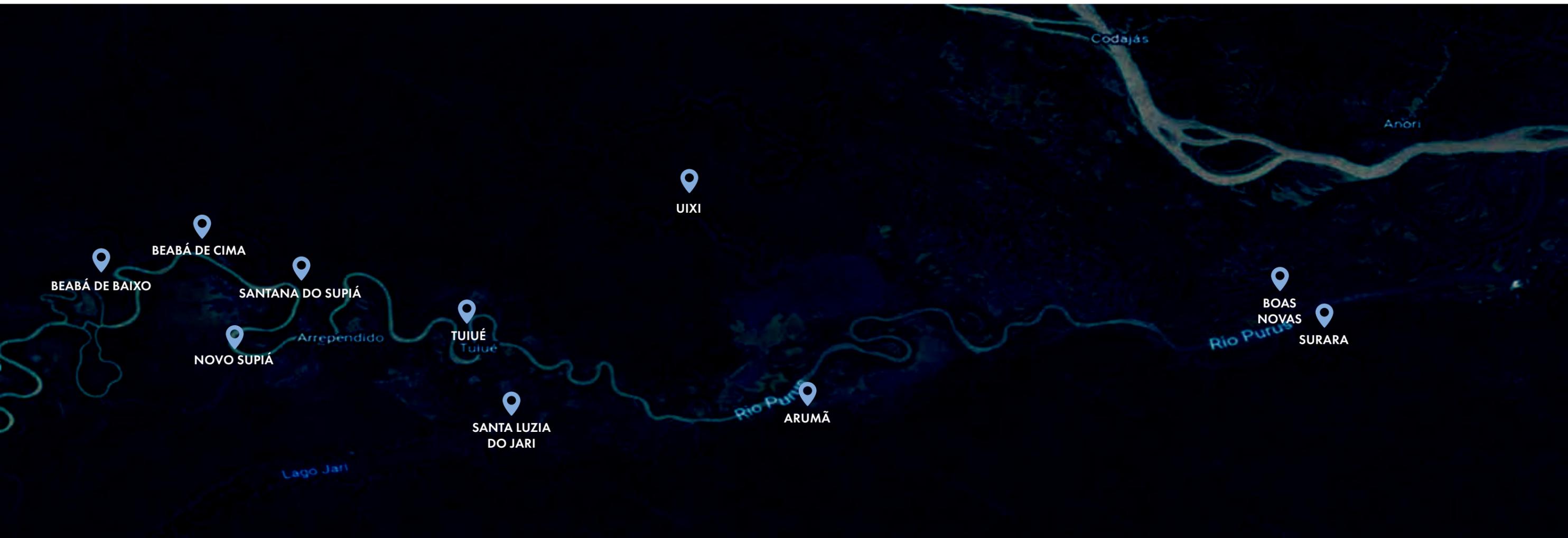
START OFF ON THE RIGHT FOOT

Schools play a key role in addressing water-related challenges, working as a hub to foster change among communities. Teachers and students are the changemakers that raise awareness on sanitation and hygiene issues and engage the community in sustainable water management.

The project's activities are designed to engage, inform and foster well-adapted water innovations in each community. The process encourages everyone to learn together with the school and propagate positive change among the community.

After the first moment of experiential learning, each school and its community is challenged to collaborate and design an innovative water, sanitation and hygiene solutions tailored to their needs and specificities. Being part of the solution design promotes engagement, appropriation and care for the investment.

The project's activities encompass an incremental approach to raise awareness. Each set of activities focus on the water relations with the (i) individual; (ii) school; (iii) community and (iv) the Amazon biome and the Planet.

Each workshop brings experiential water education for the whole school team and students, as well as key people from the community, such as the community's health agents and leaders. Adults are invited to participate in selected activities to take part in the dissemination process.

Each school receives a toolkit with structured challenges and activities to be followed by the teacher's team and students. The school team is supported and encouraged by the project team to help them achieve the goals and promote changes beyond the school.

Transparency was a major part of the strategy for getting the community's buy-in. To do it so on the very first contact with the communities a moment was prepared to share the project's vision and presenting the implementation strategy. This moment was a key to align expectations and create engagement.

To ease this process the team used a visual aid (banner above), where they could see the proposed path beforehand, as a flexible roadmap to be followed by the team, students, teachers and community together to reach the main goals.

This map presents each one of the workshops planned and the guiding questions to be explored through the activities. It intentionally shows the infrastructure component as a parallel and support effort to the educational path to show that the main effort relates to the change in knowledge, attitude and practice. It is usually much easier for communities to value only the infrastructure component since it is more visible and concrete, but the project wants to be positioned and valued as an educational effort.

The banner was hung in the schools and each new workshop everyone could revisit the map and check the progress made until the full cycle was completed. The presentation of this map was the base for the communities decide if they wanted to be one of the participating communities.

The Water and the School workshop promotes a reflection on the use of water in the day-to-day routine of the school. The activities were designed to foster change of attitude regarding water use and conservation, especially on how collective practices, such as proper solid waste disposal can contribute to collective health in the school environment.

This step also seeks improvements in water treatment and consumption in the school. Activities, such as water testing and contamination awareness are held with the whole school. At this step, the focus starts to move from the individual to the collective in a scale where changes can be easily observed and tangible.

The first workshop Water and Me aims at water use and self-awareness on hygiene habits. The school get challenges and goals to achieve in the following months. The workshop fosters reflection about the water in the student's life. Beyond the discovery of new knowledge, the activities focus on changes in attitude and practices relating to water use and conservation, especially those related to hygiene and health. Students that go through the activities can understand the importance of handwashing and drink treated water.

The expected attitude from a student that goes through the activities is to understand the impact of poor water management, lack of treatment and poor health habits. By applying the suggested activities in the school, the project expects to promote a healthy environment around the school premises, giving an example to the community.

Each school receives a kit to improve water conditions in the school focusing on drink water treatment and storage and a hand washer. Additionally, this workshop includes a planning for improving the water infrastructure at the school, such as restrooms, sewage, sinks and others. Along with the school team, local government and community leaders are involved.

The Water and the Community workshop has as main objective to involve families and the whole community. To engage them with the theme of care for water beyond the school. Students lead the process of awareness raising and seeking for a greater involvement of the parents and community members with the project.

The support and encouragement offered by the school project end up fostering the community engagement around sustainable water management. The methodology in which the project is based, which seeks to bring the school closer to the parents, is a way to awaken the capacity of collective doing, without waiting for external support.

The workshop Water in the Amazon and the Planet focus the action on the communities, in which water was presented as a planetary good that must be taken care of by all. Its main goal is to promote reflection on how human actions in the region can compromise the availability of this natural source. This module invites to a macro and global perspective on the water issue.

The activities focused on understanding how the Purus river links to the Amazon Basin and its importance globally. By hearing stories and exchanging letters with Waterschool students from other countries, they understood that the water context can be very different depending on where you live. This change of perspective helps to connect local efforts with the Swarovski Waterschool network.

IMPLEMENTATION:
MAKING CHANGE
H A P P E N

LOCAL TEACHERS ENGAGED, PREPARED AND SUPPORTED TO FOSTER WATER EDUCATION

52
teachers engaged in the Waterschool Purus

Whereas the school plays a significant role to foster community social change, teachers were considered a target group to bring out the water-related issues in the community agenda. Therefore, many actions took place to get their buy-in on the project.

They were approached and interviewed during the baseline field trip and were quite helpful sharing school information and local insights, helping to shape the project design.

As key stakeholders, they were informed on the whole project process

and their role in it. Along with individual reflection over practice moments and easy access to the project's team during their monthly visit to the urban center, this initial approach was essential to build trust.

Work as a teacher in Amazonas riverside communities is not an easy endeavor. They must deal with numerous hindrance factors and barriers to keep on going.

The lack of local government support, the high turnover and discontinuity of school education public policies and initiatives

set a context where they usually refrain from engaging in new projects.

The project's approach paid off. After the first field trip teachers were eager to get involved with the project, seeing it as a positive opportunity to learn new skills, enhance their curriculum and get involved in projects complementary to the classroom.

Teachers were trained to use the activities book and apply them to their students and were involved in every Waterschool activity.

Teachers were key partners during the whole process of improving the relationship of the project team with the communities and to engage students in water-related activities in the period between the workshops.

The contact with communities was also facilitated by the teachers. During their monthly visits to the city, they frequently contact the project's team to share news of the project's actions from the community and the school.

In several moments teachers went beyond the activities proposed and created additional handcrafts and music related to the water theme.

Despite the training provided the number of activities applied by the teachers widely varies. For the monitoring, the team interviewed a sample of 9 teachers representing different schools engaged in the project.

The single criteria was that the teachers that responded have participated in the four workshops and therefore being trained in all the teaching modules.

The amount of activities applied by themselves - despite the ones implemented by the team during the workshops - ranges from 1 to 12. The survey concludes that the number of activities applied is highly related to teacher's initiative and willingness to integrate it as part of the working

plan suggested by the education secretariat. They were also asked about how hard it was to develop them, which ones the evaluated more interesting and asked to provide feedback. They also answered what would foster them to apply the Waterschool activities toolkit content.

Some of the teachers provided notes on the activities that would contribute to making easy to understand and apply. Due to this evaluation, some important insights were provided by the teachers to improve the toolkit content and usage.

LACK OF BASIC SCHOOL SUPPLIES

Knowing that the access to teaching resources is very limited, on the activities design the needed supplies were limited to the minimum. Each school received a box of school supplies with all its required to implement the activities during the first workshop. Nevertheless, to be able to continue developing the activities on continuous bases basic items must be supplied by

the local government. Nowadays the schools do not get any basic school supplies to work with and it becomes a barrier to improve classroom practices.

THE OFFICIAL PEDAGOGICAL PLANNING

The teachers also suggested that the Waterschool content should be better integrated into the pedagogical planning. They believe that if so the education secretariat would be more willing

to provide the needed resources and enhance the chance of continuity of the Waterschool after the project ends.

MORE TRAINING MOMENTS

They also highlighted the need for more training moments, since teacher's turnover is high, and it is important to ease the teachers' way into the Waterschool activities toolkit content.

TEACHERS RECOGNIZED BY THEIR ENGAGEMENT

Sara, the teacher from Boas Novas community is from the very start one of most enthusiasts of the Waterschool. Very concerned with the environmental situation in her community, she sought the team to ask if her community could join the project. Due to her initiative, her community was included and she has been developing activities beyond the ones proposed by the Waterschool, such as water baptism as a ritual to increase awareness on the importance of the river that serves the community. Sara became an ambassador of the Swarovski Waterschool within the education secretariat. She told that her job as a teacher for the year of 2017 and 2018 was kept because of the recognition of her amazing contribution to the project.

📱 Scan me
Full Activities
Toolkit
🔗

WATER-RELATED KNOWLEDGE DISSEMINATED THROUGH GROUNDED AND EXPERIENTIAL MEANS

The Waterschool activities toolkit was organized in a binder that would be filled along the workshops with 39 activities related to the four teaching modules - one for each workshop. Each school got its toolkit along with a box of school supplies.

Many of the activities were applied during the workshops, working as an in-job-training and the remaining were available to the teachers to implement between the workshops by themselves. The team implemented 22 activities in each community within the project's 1st phase. Part of the activities was also designed to be implemented in multiple moments, in which teachers and students would keep on after the activities' kickoff during the workshops.

The development of the proposed activities took into consideration the use of material locally available and the need to be applied in multigrade classrooms. The toolkit also had to contain basic information and content considering that teachers or students have no other sources of research (i.e. internet).

One of the focus of the Waterschool activities toolkit is to bring new information and develop awareness on safe water use. To foster change, it is crucial that families understand why this issue matters and what can be the unwanted outcomes of not wash hands properly or drink unsafe water, for instance.

558

**students learning
through Waterschool
Purus**

Health and hygiene issues are not usually addressed during classes. The teachers understand that those subjects are a family matter. The parents, on the other hand, believe it is something to be taught also in the school. Only in three out of ten communities, the respondents of the focus group could point out at least three consequences of not wash their hands.

With that aim, educational activities were designed, based on the global Swarovski Waterschool material and other local and global inspirations. The main concern was that the toolkit should be grounded and keep a close relation to the communities' reality.

Every semester a new module would explore a set of guiding questions with activities that engage students to act and reflect. To do it so, the activities follow an experiential learning approach: students first experience a situation – usually playful and ludic - and then think about it about it to produce insights and reach the learning goals.

The outcomes evaluation process revealed that water-related knowledge increased in all dimensions. The longitudinal comparison from 2016 to 2018 - before and, after the project, was made applying a semi-structured questionnaire to focus groups in each community.

Based on the feedback provided each community was placed in a five levels evaluation matrix for each dimension related to the program's pillars (for the full evaluation matrix and additional detail refer to Monitoring Evaluating and Learning session).

COMMUNITIES' AVERAGE CHANGE IN WATER RELATED KNOWLEDGE IN EACH PILLAR (N=10)

Pillar 3 - Access to sanitation facilities (and improvement of hygiene habits): 3.7

Pillar 2 - Water education: caring for and respecting our water sources: 3.3

Pillar 1 - Access to safe water: water treatment: 4,1

Pillar 1 - Access to safe water: proper water supply and storage: 3,8

*for descriptors check pages 106 and 107

■ After Phase 1 (2018) avg.
□ Baseline (2016) avg.

0,0: Worst case scenario
5,0: Best case scenario

According to the evaluation process the knowledge sharing efforts during the workshop days, along with the activities implemented by the teachers between the workshops were able to improve the water-related knowledge among communities.

The highlight of this analysis relates to the knowledge acquired in terms of the importance of handwashing and other hygiene habits. During the interviews was manifested that the awareness regarding most of the aspects of handwashing and water treatment increased. Communities of Boas

Novas, Santana do Supia, Surara and Tuiue which had the lowest baseline could get to the same level of the others. Nevertheless, there still work to be done to consolidate these positive outcomes from the first phase and increase their understanding of water-related issues.

CHANGE IN KNOWLEDGE RELATED TO PILLAR 3 - ACCESS TO SANITATION FACILITIES (AND IMPROVEMENT OF HYGIENE HABITS) IN EACH COMMUNITY (N=10)

Community	After Phase 1 (2018) avg.	Baseline (2016) avg.
Arumã	4	3
Beabá de Baixo	3	2
Beabá de Cima	3	2
Boas Novas	3,5	1
Jari	4	3
Novo Supiá	4	3
Santana do Supiá	4	1
Surara	3,5	1
Tuiué	4	1
Uixi	3,5	3

*for descriptors check pages 106 and 107

■ After Phase 1 (2018) avg.
□ Baseline (2016) avg.

0,0: Worst case scenario
5,0: Best case scenario
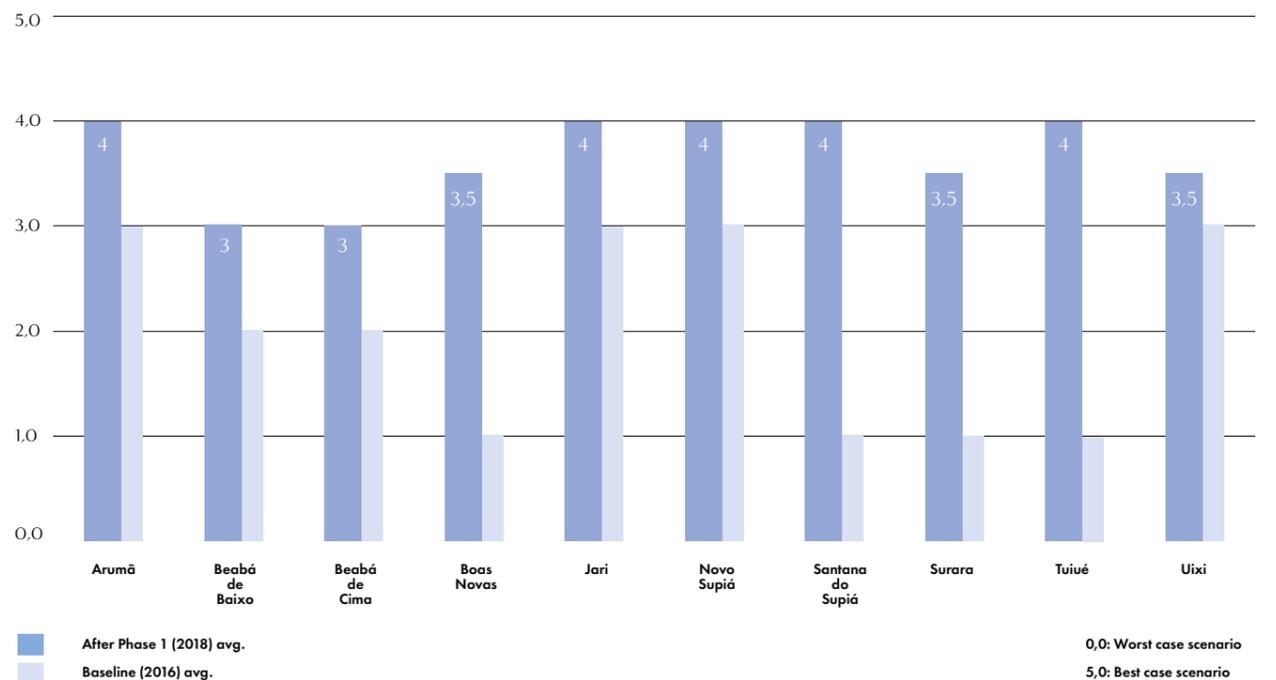
GAMES AS A STRATEGY TO REVIEW PREVIOUS CONTENT

Instead of applying traditional methods (i.e. tests) to evaluate knowledge sharing progress the team adopted an innovative approach. The content of the previous workshop was revisited in a fun way. While running penalty kicks challenge students should get the Waterschool content question right to validate the goal. The response was quite impressive, in terms of student's engagement as well as the rate of correct answers.

THE WORKSHOP DAYS

Each workshop day was known to be fun days that the school members were eager to participate and get ready for. A typical workshop day would start with a reception or presentation prepared by the school and the community. That could involve regional food, music and presentation of the evolution of the work, in between the modules.

A circle usually opened the day to remember the learnings from the previous workshop and present the goals and agenda for the day. To start the activities, energizers were proposed by the team or by the teachers, to prepare the mood and move on to some exercise from the Waterschool activities toolkit.

Usually, four activities from the Waterschool activities toolkit were held during the day. They were selected depending on the size and age of the groups and the specific topic that should be more developed in each community.

The groups were divided by age. In the bigger communities, such as Arumã, the team got to work with more than 200 students at the same time, so the activities were organized as a circuit, with many happening at the same time, so everyone could engage in the activities in smaller groups.

They were days full of activity, starting at 8 am to 4pm, stopping for lunch, that was sometimes prepared by the community families for every participant. The day would end with reflections about the learnings of the day, followed by recreational moments led by the children usually including river bath and Waterschool songs.

Although the main public was composed of school members, every workshop had many other representatives from the community, including parents, health agents and community leaders.

CHILDREN AND YOUTH FOSTER ATTITUDE CHANGE TOWARDS SANITATION AND HYGIENE PRACTICES AND TAKE CARE OF COMMUNITIES' WATER SOURCES

Attitude is a way of being, a position. It is an intermediate step between the situation and the response to this situation. In this project, attitude relates to the level of concern the communities show to proper water use and management and their willingness to actively act upon it. Attitudes are not as directly observable as practices, but it can be assessed through conversations.

The change of attitude towards water use was incentivized in the project by bringing content to sensitize students to act as ambassadors of the theme in the school and in their houses and activities that involved also the rest of the family. The playful way the content was brought up created a positive atmosphere, showing that care with water and health depends on active participation and can be fun.

In addition, the team also promotes reflective and provocative conversations with the communities. In circles where the whole community was invited, the purpose of the project was revisited and communities were could talk about what they were perceiving as evolution and the challenges of the process. These were opportunities to assess and hear opinions on the project subjects and create a positive attitude towards change.

"I'm 50 years old and it happened more than once that this small kid come to tell me about the importance of water and the consequences of throwing garbage on it"

Pastor Adolfo, Surara Community

The expected outcomes from this effort were that proper water use and management become part of the communities' agenda. In other words, the desired outcome is the water-related issues to be part of the chat when children tell their parents what they did in school that day and in informal gatherings or in a casual talk between neighbors.

Attitude is also about changing the way one sees and reacts to unsound water use and management practices. Are they uncomfortable with someone throwing waste in the river? Are they unwilling to share glasses? Are they comfortable in asking if the water being offered was treated? This mindset goes beyond knowledge. Is about assimilating and where they stand when water-related issues pop up.

Nevertheless, it also refers to changes in socially accepted - and unaccepted behaviors. If somebody states that only drinks properly treated water, how their peers react? A response that considers this statement as a nonsense or an excess of zeal or cause for mockery will probably trigger a negative response to this new practice the project is fostering.

On the other hand, if someone is engaging in an unsound water management practice, is expected a collective reaction of disapproval, which in turn will indicate that it is and socially unaccepted behavior.

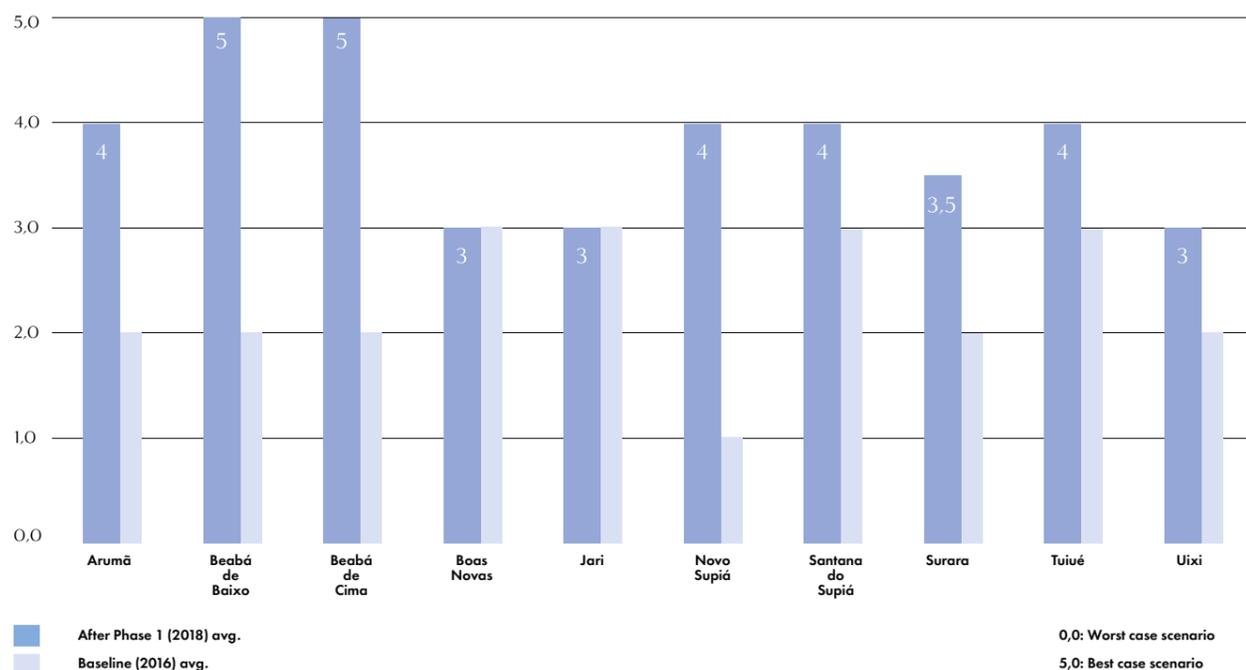**COMMNUNITIES AVERAGE CHANGE IN WATER RELATED ATTITUDE IN EACH DIMENSION** (N=10)

Pillar 1 - Access to safe water: proper water supply and storage: 3,75

Pillar 1 - Access to safe water: water treatment: 3,75

Pillar 2 - Water education: caring for and respecting our water sources: 3,85

Pillar 3 - Sanitation, Hygiene and Health: 3,6

*for descriptors check pages 106 and 107

■ After Phase 1 (2018) avg.
□ Baseline (2016) avg.

0,0: Worst case scenario
5,0: Best case scenario
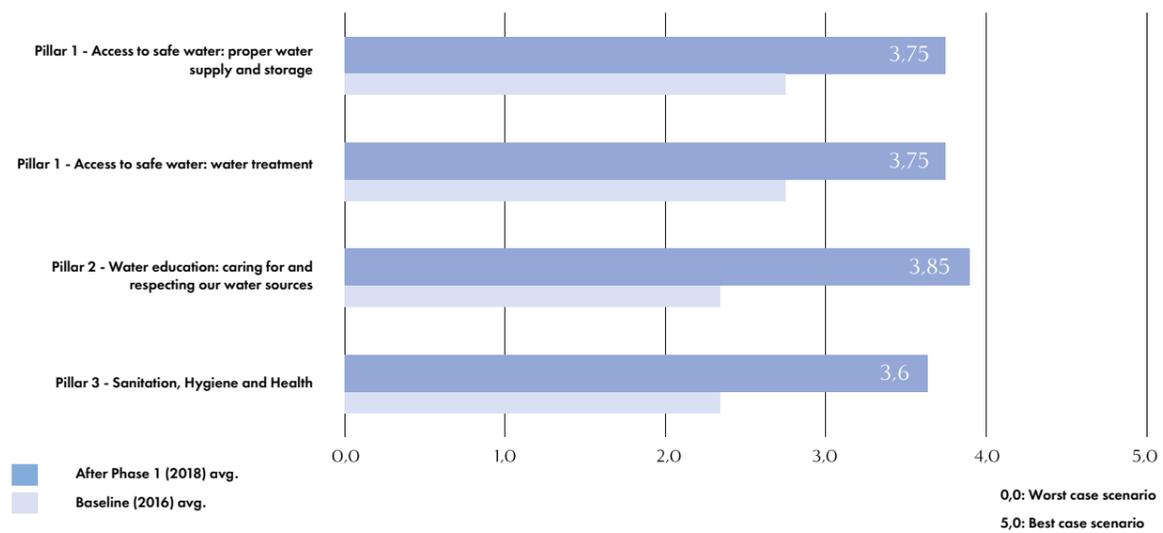
During the assessment interviews, the respondents were evaluated according to the interest in changing the situation related to the main themes of the project and their proactivity. For example, an answer that showed interest for the families to take lead in making the change happen was better rated than one that said that the situation could only be changed by the government.

Considering all communities responses, the theme where attitude had most significantly improved was in caring and respect for water sources. With an average increase of 1,55 points (in a 1 to 5 scale), this assessment relates mainly to the attitude in relation to throwing garbage, batteries and oil in the floor and in the rivers, a theme extensively promoted along the project.

According to the outcomes evaluation an advancement can be seen in the communities of Beaba v Baixo and Beaba de Cima when it comes to attitude. In both communities, the students always impressed the team on how much they assimilated the content and in every new workshop they make

headway building upon the previous one. These two communities are also known for receiving visits from other communities for sports and parties and they are proud to be known as one of the cleanest communities around.

CHANGING ATTITUDE REGARDING SOLID WASTE FROM REGIONAL BOATS

Since the diagnostic phase, communities have been pointing out to a problem related to garbage in their communities that were perceived as beyond their scope: the travel boats would through their garbage bags in

the river. All this waste would end up in the river banks in front of the communities. In Jari, the communities proudly told us a story of one of the 13 years old girls who, when traveling in one of those boats, saw that happening

and promptly went to talk to the boat staff about her concern and the things she had learned. Communities said that since then, that boat changed their practice and take the garbage to the town.

CHANGE IN ATTITUDE RELATED TO PILLAR 2 - WATER EDUCATION: CARING FOR AND RESPECTING OUR WATER SOURCES IN EACH COMMUNITY (N=10)

Community	After Phase 1 (2018) avg.
Arumã	4
Beabá de Baixo	5
Beabá de Cima	5
Boas Novas	3
Jari	3
Novo Supiá	4
Santana do Supiá	4
Surara	3.5
Tuiué	4
Uixi	3

*for descriptors check pages 106 and 107

■ After Phase 1 (2018) avg.
□ Baseline (2016) avg.

0,0: Worst case scenario
5,0: Best case scenario

COMMUNITY MOBILIZED TO IMPROVE SANITATION AND HYGIENE FACILITIES AND PRACTICES AND TAKE CARE OF COMMUNITIES' WATER SOURCES

The end goal of the Waterschool initiative is that communities adopt sustainable water management practices and improve their sanitation, hygiene and health conditions.

To foster water-wise communities is an incremental process.

To get there the team had to assure that the community shared the same vision and was mobilized to walk this path along with them. There is an African proverb that says: "If you want to go quickly, go alone. If you want to go far, go together."

The project encourages ownership, which is key for the continuity and sustainability of the local initiatives. Fostering participation and empowering the community is a key aspect of making

the proposed changes perennial. The challenges and campaigns that were proposed between workshops worked as tests to evaluate the community mobilization around the project goals while promoting good habits and practice.

One of the main challenges to set up for the next step was to overcome the social standard understanding that the school is a government responsibility. To do it so the team called a meeting to answer the question: "what can we do together to improve water-related issues at school?" and encourage them to take the lead on this matter.

The success of a collective action is conditioned to a variety of aspects such as:

Amount of effort needed - some schools are being built from zero and some chose to do small repairs and water structure installations. Getting wood and flatten is quite demanding and can take several days of work.

Internal organization and leadership - local social and political dynamics directly influence in the capacity of the community to get organized to conduct the work.

Natural conditions - in some places there was the need to wait

until the river was higher to be able to get the wood, for example.

Political conditions: In some communities, the municipality had promised to renovate the school, contributing to the process and influencing its schedule.

These aspects were taken into consideration to define the next steps in each participating community. The participative decision making and implementation process also intended to approximate the parents with the school and the collective feeling of collaboration in favor of the education and the healthy life in the community.

376
community members directly participating in the workshops

PHOTOS TO CONNECT

Photo exhibitions and activities involving printed photos and showcasing videos were tools to create project ownership. The team selected and printed a set of photos of the project's activities in each community.

Recognize themselves in images bring up memories that directly connected them to the project which, in turn, increase their further involvement in following workshops.

These activities are used as an opportunity to revisit previous workshops and its content. While they are checking and talking about the images they could refer to familiar landscapes and people and to remind the content shared during the previous workshops. It also worked as a benchmark opportunity, since communities could see what happened in the others participating in the project.

The intention is that they could see that the project is made by them and for them. There are several intangible aspects of community development that must be considered in successful initiatives. The project team actively seeks to leverage from opportunities like this. Emphasizing the good moments, the share along the project strengthen their bond with the Waterschool.

BOTTOM-UP COMMUNITY RULES FOR PROPER WATER MANAGEMENT

Students were encouraged to write a letter to their community to share the knowledge they acquired during the workshops. In the letter they should include care for water sources, proper water storage and treatment and water-related hygiene, sanitation and health recommendations.

The activity was both a reflection opportunity for the students and a way to disseminate de water-related knowledge they had so far. Students could register and organize the ideas any way they want, which end up creating many interesting approaches.

The letters were presented to the communities, that had the chance to ask questions and make an agreement to adopt those practices in their homes. The feeling in the meetings was a mix of pride for the knowledge acquired and aspiration for better care for the community's water and health.

The community water "rules" proposed and presented by the children and the youths was widely accepted by the communities. The outcome of this activity was above expectations.
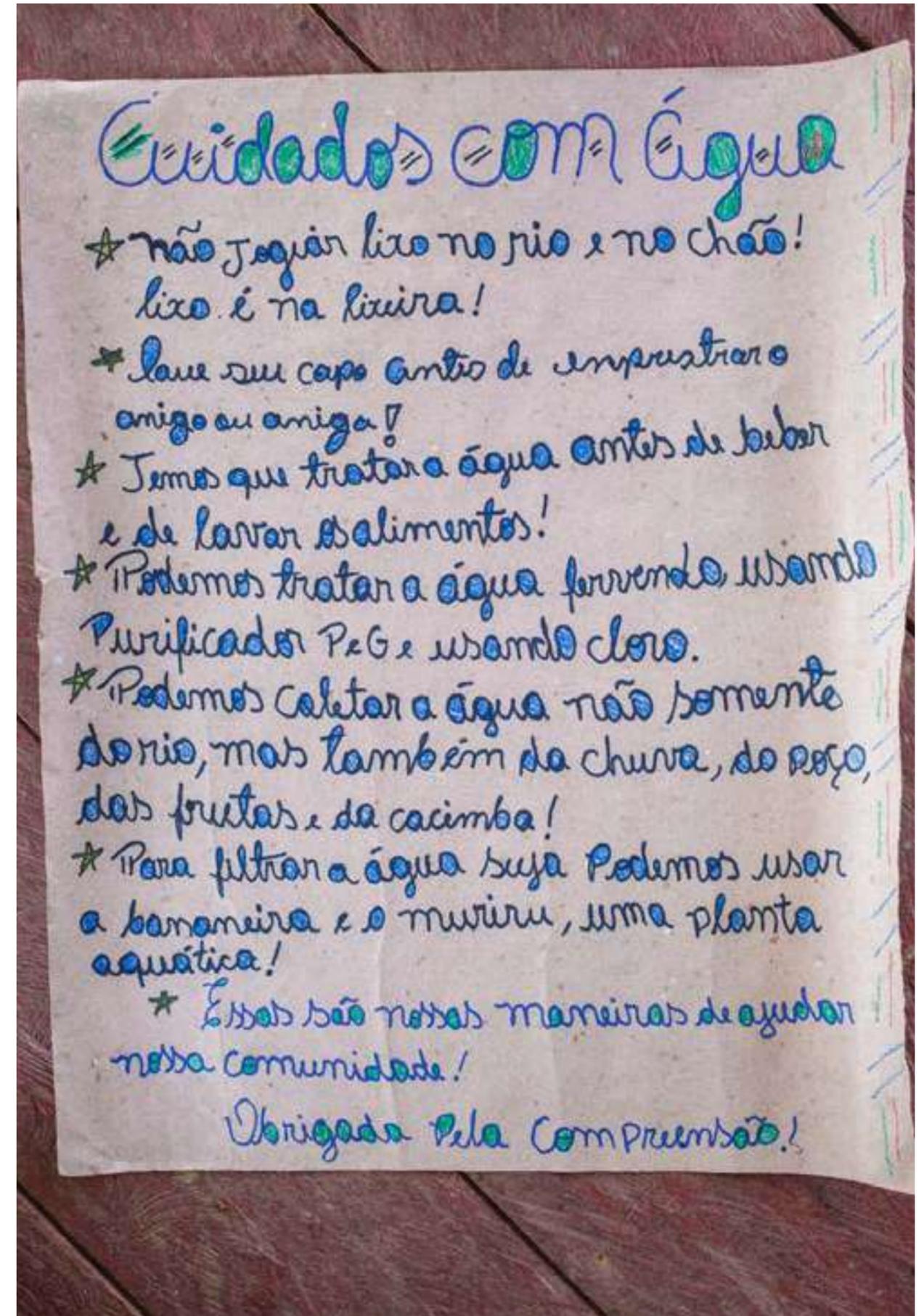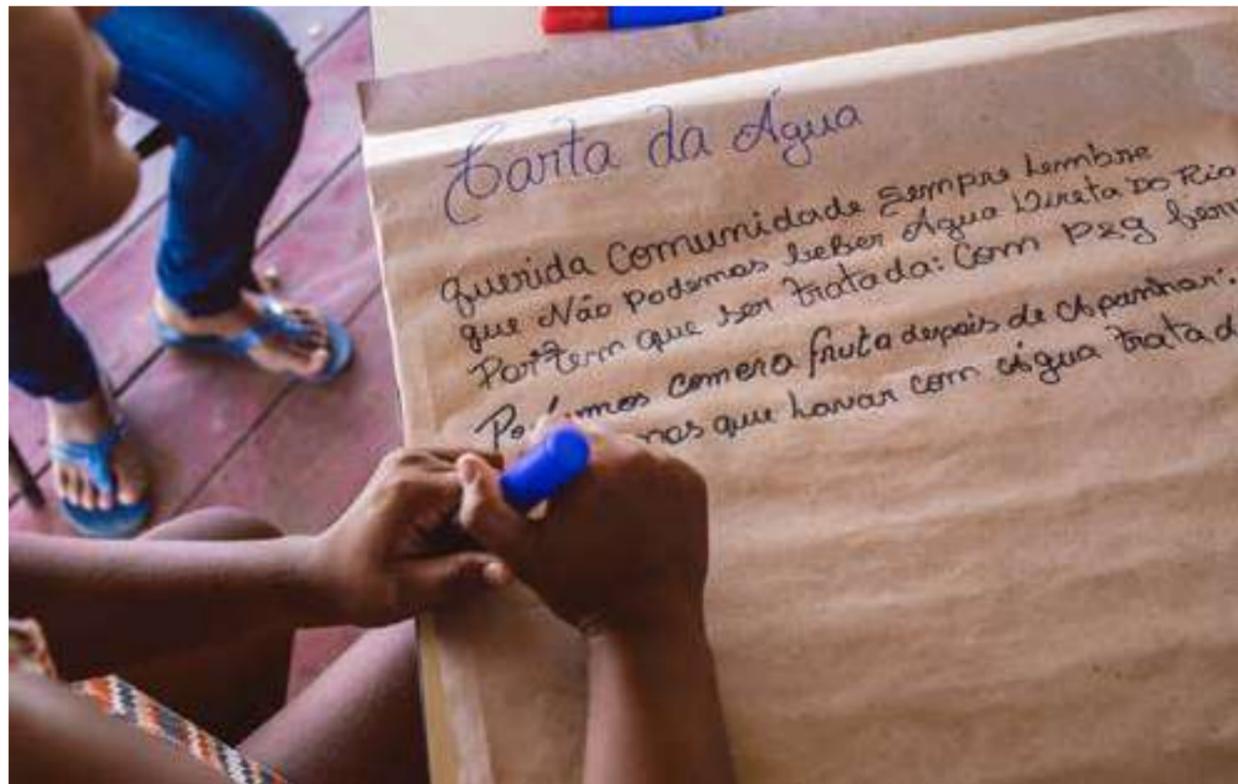
SCHOOL FREE OF GARBAGE: 21 DAYS CHALLENGE

Garbage is a major issue on riverbank communities. The cultural practice of littering along with the absence of a public solid waste management system in the communities create a context where most of the waste goes to the water bodies.

Studies on behavioral psychology indicate that if someone practices something for 21 days it tends to become a habit - something you will do naturally without much thinking. To address the solid waste issue, the project launched a school free of garbage challenge. Each school received a 21-day calendar to register every day the situation regarding the garbage in and around the school area.

Daily groups were responsible to check the situation and register if there was no garbage, little garbage or a lot of it. The challenge was to reach a sequence of 21 days free of garbage. Therefore, if garbage was found on the school premises, they had to start all over again. Eight schools accepted the challenge. Each one won a prize upon reaching the 21-day milestone.

Improvised trash bins and signs with reminders of proper disposal of the waste started to pop up nearby the schools as a reaction to the challenge. The school premises remained kept free from garbage after the challenge.

ACTION PLAN TO IMPROVE SCHOOL'S WATER-RELATED FACILITIES AND PRACTICES

Communities were guided through a two steps process to design their action plan to improve the school's water-related infrastructure.

Initially, they made a diagnosis of the current state of the school and then had to envision the school of their dreams.

Two of communities - Beaba de Cima and Beaba de Baixo - decided not to engage in this part of the project. Their decision was based in a promise of the local government to build brand new schools in each community. By the time we prepare this report the promise is yet to be fulfilled.

For the other eight communities, the canvas organized the school issues in two dimensions: (i) general issues and (ii) water-related issues. Even though the project couldn't address general issues it was important to build a holistic view of the school's critical points. The idea behind it is that after being able to improve water-related issues, the communities are empowered to reach local authorities to pursuit other improvements to the school.

The action plan is a roadmap of how they can evolve from the current status closer to the imagined future. The community made choices of what could be done within the timeframe and considering the available resources - that includes financial support from the project and the community expertise. The plan consists of a joint agreement between the project and the community detailing what could be accomplished together in step by step plan.

The proposal of restoring some aspects of the school took greater proportions in four communities where the structure was either lacking or so deteriorated that they decide to build new structures from zero.

The team approach was clear in terms of the community compromise to lead the action plan for school improvement. The action plans worked as a roadmap for the joint endeavor. The project had a limited budget to support the endeavor so the communities would have to strive to make it happen. The project team also provided technical support when was needed.

The action plans were intensively discussed among community members. The previous workshops contents pop up during the planning meetings. The level of commitment of the eight communities that participate in this part of the project was outstanding.

The outcomes of this process certainly go beyond the assessment of "accomplished" or "not accomplished". The action plan was an important exercise to demonstrate that with some planning the communities can accomplish a lot together.

For those that decided to build a new school, the community side usually involved significant efforts that require specific know-how and time on construction, wood harvesting. From the eight plans made, four were finished in time and the other four are about to be concluded while we write this report.

The table below presents the school improvement action plan in each community. It also highlights specificities of each action plan, such as, need to articulate to neighborhood communities to access timber, engagement of local government, among others.

Community	School improvement action plan summary	Highlights
Boas Novas	Renovate the school structure, build restrooms and a rainwater harvesting system	Community received the support from 5 students from California University of arts, that helped the plan for 10 days
Surara	Install a rainwater harvesting system, renovate and upgrade the sewage treatment system and grow a new school garden	The renovation of the structures had the support of the municipal government
Uixi	Install a rainwater harvesting system and start a vegetable garden for the school	The municipality was sesitized to build a new school. The rainwater collection will be implemented, by the community, after the news school is finished
Arumã	Install a rainwater harvesting system and a distribuition net to provide water from the community well to the school. Renovate the restrooms and the kitchen	The implementation was simple and fastly made
Jari	Build up an entire new school with water supply and bathrooms	Best case of community mobilization
Tuiué	Build up an entire new school with water supply and bathrooms	The community made an agreement with surrounding indigenous tribes to provided the needed wood for their new school
Novo Supiá	Build up an entire new school with water supply and bathrooms. Create a leisure area and grow a school garden.	The community overcome internal political conflicts and committed towork together to finish the school improvement action plan
Santana do Supiá	Build up an entire new school with water supply and bathrooms	Community overcome a initial issue regarding the timber to build the school
Beabá de Baixo e de Cima	They decided not to bring any improvement because they believe the municipality should make it	The school now is improvised in a house's balcony

COMMUNITY TAKES ACTION TO IMPROVE WATER-RELATED INFRASTRUCTURE AT SCHOOL

The efforts on the school infrastructure involved many different actors of the communities.

Some concrete steps and commitments had to be made both from the community and the project team. The project provided all the building material that could not be obtained in the community and, in turn, they organized to get all the local material and workforce to make it happen.

The project team joined the communities for 3 days hands-on collective work. Team presence was essential to facilitate decisions and encourage people to the collective work. Having Waterschool team members contributing to the "hands-on" also strengthen the trust and partnership between communities and the project team.

Soon the planned improvements previously started to become reality. Food gardens, restrooms, water reservoirs were installed in the schools of the participating communities.

As already mentioned, during the process of evaluating the school infrastructure, the team used a visual aid to help the focus groups evaluate the school infrastructure and share their assessment with all the community.

Using a three-color level status, different aspects of school infrastructure were evaluated such as restrooms, sinks and water storage (check next page for the full matrix). Being red color the most critical and green color the most adequate - considering local reality and current limitations.

At the end of the infrastructure process, the matrix was applied again and compared to the previous one. This tool that helped community's reflection over practice process and perception of how these issues are evolving because of their action.

We are confident that this whole approach is the best way to bring a process that not only reaches the final objective but builds a stronger base for the sustainability of this infrastructure, helping the community to reflect on their own capacity and creating ownership.

ASPECTS	STATUS		
	Adequate	Intermediate	Critical
Overall school structure	Good and well conserved structured	Bad structure, needs renovation	No structure, needs to be built
Access to safe water sources	Water from well or river with automatic pump	Water from the river, manually pulled	No access to water
Water storage and treatment	Water tank with treated water	Improvised reservoirs, no treatment	No water storage or treatment
Safe water availability	Treated water with individual cups	Water to drink without treatment or individual cups	No water to drink
Hand washing facilities	Hand washer with running water and soap	Hand washer without running water or soap	No place to wash hands
Sanitation facilities	Restrooms with closed sewage system	Restroom with no sewage system	No restrooms
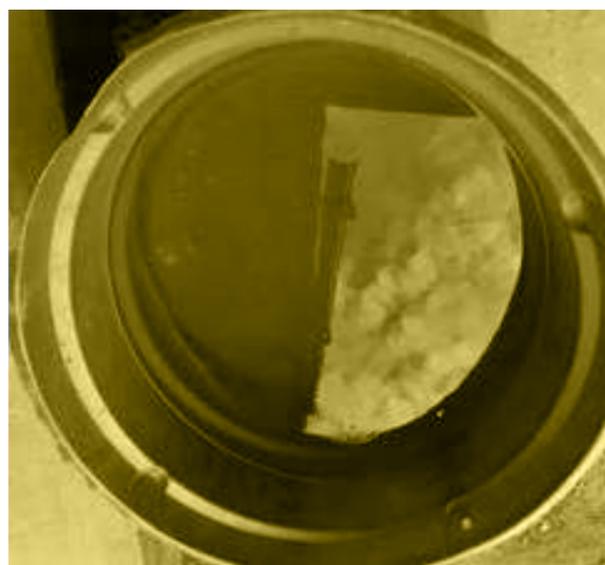
SCHOOL'S INFRASTRUCTURE STATUS BEFORE THE PROJECT (MAY 2016)

COMMUNITY	OVERALL SCHOOL STRUCTURE	ACCESS TO SAFE WATER SOURCES	WATER STORAGE AND TREATMENT	SAFE WATER AVAILABILITY	HAND WASHING FACILITIES	SANITATION FACILITIES
Arumã						
Beabá de Baixo						
Beabá de Cima						
Boas Novas						
Jari						
Novo Supiá						
Santana do Supiá						
Surara						
Tuiué						
Uixi						

The infrastructure component of the project is, without a doubt, the most tangible outcome of the Waterschool in the Purus. These tables contrast the situation of the school's infrastructure in May 2016 against the May 2018 status. The matrix on the side page presents a detailed description of what is critical, still requires attention (intermediate) and as considered adequate for each aspect.

In the baseline 39 school's infrastructure aspects were considered critical and, after the project,

it was reduced to only 2. The complexity of the improvement (i.e. building a new school) and the engagement of third parties, such as the local government demanded an extended schedule in some of the communities.

The items in white in the table correspond to the cases where the improvements are still being implemented. The expectation is that all these descriptors are upgraded to the adequate (green) status in a month or two.

SCHOOL'S INFRASCTRUCTURE STATUS AFTER THE PROJECT (MAY 2018)

COMMUNITY	OVERALL SCHOOL STRUCTURE	ACCESS TO SAFE WATER SOURCES	WATER STORAGE AND TREATMENT	SAFE WATER AVAILABILITY	HAND WASHING FACILITIES	SANITATION FACILITIES
Arumã						
Beabá de Baixo						
Beabá de Cima						
Boas Novas						
Jari						
Novo Supiá						
Santana do Supiá						
Surara						
Tuiué						
Uixi						

THE FIRST RESTROOM OF BOAS NOVAS COMMUNITY

Boas Novas School's overall infrastructure was in good shape, but never had running water and restrooms. Students use to go to a neighbor's house to drink water.

The community chose to use the action plan resources and support to increase its water distribution network and build restrooms in the school. It is the first and only restroom in the community. After six months some families are also planning to build restrooms in their homes.

COMMUNITY PILOTING INNOVATION TO IMPROVE WATER FACILITIES AND PRACTICES

Many of the water management issues in these communities do not have an off-the-shelf-solution.

Communities that stay part of the time flooded and communities composed of floating houses have huge challenges to properly handle waste, sewage, dig wells among other issues. Power supply shortage also limits the alternatives for pumping and filtration alternatives.

In this context, innovation is key to overcome local obstacles and keep improving water management. During the first phase, the school also was used as an innovation lab and a showcase for available solutions on rainwater harvesting, water filtration and treatment and proper storage. Some adequate septic tanks were built where possible.

Having all the efforts previously presented as an initial solutions portfolio, the team believes the communities, especially the youths leaded efforts can propose new water management innovative solutions. Youths are eager to be challenged in a way that stimulates them to deepen their involvement and creativity towards contributing to more sustainable communities.

The next phase will build on these steps so the project participants can work together on discovering new possible paths for solving local water challenges. It will be done by supporting youths to propose and test solutions for the main local water challenges, combining innovation with local knowledge.

Other communities in the Amazon have figure out how to overcome similar challenges and can share their insights with the Purus communities. The project will incentivize this kind of exchange.

A common issue in all participating communities is the solid waste management.

Communities don't have access to a public solid waste management operated by the local government. In this matter, there is plenty of room for local innovations and the second phase will also foster solutions to this issue. Finally, the project is always open to opportunities to bring others aboard to contribute to the sustainable water management within the communities.

As the first step in this direction, during the closing workshop of the first phase, the project brought an extra activity with the aim of intriguing students curiosity and sense of discovery. In partnership with Water Rangers, a project that works with native people in Canada, some water testing activities were brought to awaken water curiosity and care for water care among the youths.

After identifying different water sources on their community, youths collected water samples and analyzed the samples using Water Rangers test kit.

The youths collected all the community data on the water sources and interpreted the information. Additional water samples were collected for further lab analysis.
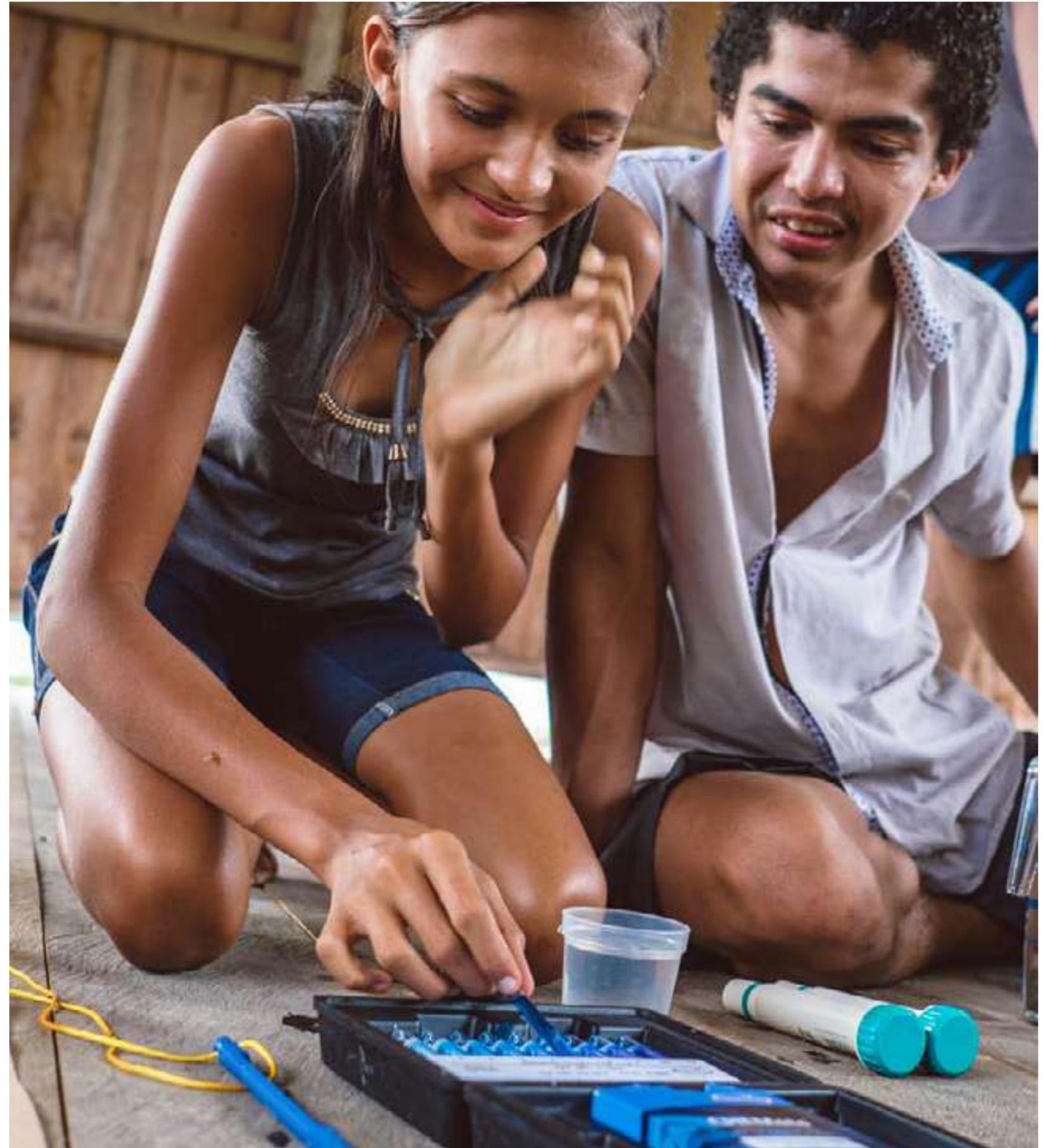
WATERSCHOOL PURUS IN THE SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK

The Waterschool Purus was invited to be integrated in the SDSN Amazonia platform of sustainable development solutions. The UN Sustainable Development Solutions Network (SDSN) is an initiative launched in 2012 aiming to global scientific and technological expertise to promote practical solutions for sustainable development.

The goal is to enable a learning environment - for practitioners and decision-makers - that fosters integrated approaches that address the interconnected economic, social and environmental challenges in line with the Sustainable Development Goals (SDGs).

SDSN works closely with United Nations agencies, multilateral financing institutions, the private sector and civil society. The organization of SDSN engages many leaders from all regions and diverse backgrounds to participate in the development of the network. The regional branch of the SDSN for the Amazon works to identify and promote practical Solution Initiatives involving emerging technologies, business models, institutional mechanisms and policies that are either proven or promising projects yet to be developed. These initiatives aim to have a transformative impact in sustainable development.

The initiative developed, in collaboration with Google an open access web-based platform to share knowledge about solutions for Amazon. This solution builds on an existing FAS project in collaboration with Google. This platform will gather best practices and expertise generated by the scientific and academic research institutions at country and regional levels.

SHARING EXPERIENCES WITH WATERSCHOOL SANTAREM

The Swarovski Waterschool in Brazil started in 2015 in Santarem – Para State. Its main rivers, Tapajos and Arapiuns, are tributaries of the Amazonas River.

Being part of the same Amazon Basin, Santarem region presents some conditions and contexts that are like Purus region, such as, the floodplains where communities face annual flooding similar water-related challenges. Therefore, the Waterschool in Santarem was a valuable reference to the Waterschool Purus.

In September 2017, The Waterschool - Purus was invited to integrate the Waterschool Festival in Santarem. It was a great opportunity to exchange learnings and present the Purus initiative strategy and approach with a set of activities and meetings.

The results from the Santarem work with the youths were impressive. The way they presented themselves and how passionate they are being an inspiration to our initiative. This remarkable experience was embedded in the planning for the second phase of the Waterschool Purus.

Another point that called our attention was to see how much the project is rooted in the local agenda and it is referred to bring up water-related issues. It incentivizes the youths to value the richness of the Amazonian culture, through a lot of art, music, regional dances.

The Purus team is actively working to increase the interchange with the Santarem initiative. We are confident that both initiatives can leverage from the lessons learned, the proposed innovations and solutions developed in each project to improve the outcomes.

SHARING AND ADAPTING SOLUTIONS

Sometimes, very simple infrastructure can represent an important leverage for behavior change. When the baseline research was made, no school had a place with running water for students to wash their hands.

In November 2016, the schools in the Purus river received a handwasher, designed inspired by the "tip-tap", an innovation used by the Swarovski Waterschool Uganda. This simple step made it possible for around 600 students in ten communities to have a facility to wash their hands while they are in the school.

WATER-WISE COMMUNITIES AWARE OF AND ADOPTING SUSTAINABLE WATER MANAGEMENT PRACTICES

The final goal of the Waterschool project is to help communities to become water-wise.

Awareness raising through knowledge sharing is an essential step, as well as the fostering new attitude towards water issues, but the actual impact relies on a change in the communities' daily practices.

Community behavior change is a complex and intricate process. It involves habits and patterns that are deeply embedded in a social context and rules.

The main practices that the first phase encouraged were:

☞ Consumption of safe water

☞ Not sharing cups, especially in the schools

☞ Hand washing and other hygiene habits

☞ Care and protection of water sources, with a focus on disposal of solid waste and improving sanitation facilities

☞ Proper water supply and storage

The knowledge on the importance of treating water before consumption isn't a novelty to most adults of the communities. Community health agents and some other initiatives have, at some moment brought this subject up. Families rely on chloride and purifying sachets to treat water. When the sachets are not available they tend to drink unsafe water. Diarrhea and amoeba are still common among communities, nevertheless. The issue seems to be that water treatment practices go on and off around the year and the water related disease cycles are not broken.

To talk about water treatment with children and youths was a way to bring up this matter. The approach included a set of activities to emphasize the importance of always drink safe water. In the school of Surara, for instance, the staff are now making all the efforts to serve only and always safe water.

The process involves pumping water from the river to water tanks and then filtering it with a high technology filter (donated by the California University through the project).

During the outcomes evaluation, adults mention that they started to bring treated water even when they go fishing and to work in subsistence farming. During the baseline, the most common scene in every school in the region was a single cup shared by all students over a big water jar. Reports of how diseases spread quickly in the communities were frequent.

To address this issue the toolkit included activities raise awareness com how cups can be a driver for these epidemics and distributed one cup per student. The school leaders decided if to keep them in the school or let students take them home and bring it to class. In one way or another, most of the schools started to take better care of cups and glasses and provide individual cups to the students. They were also incentivized to wash cups and glasses after use. At Beaba de Cima, the adherence was total. Each cup has a name in it and the student use only their own to drink safe water from the recently built well.

Considering the local context, it is impossible to think of practice without looking at the available infrastructure and conditions. Sanitation was a major challenge because it depends not only on appropriate infrastructure but also in structures that could work in the flooded areas that are not available yet. All schools have septic tanks now in the highlands communities. Some are already eating bananas from the banana circles built to filter the gray water from the school sinks.

WATER-WISE* COMMUNITIES CHANGE (N=10)

After Phase 1 (2018) avg.
Baseline (2016) avg.

0,0: Worst case scenario
5,0: Best case scenario
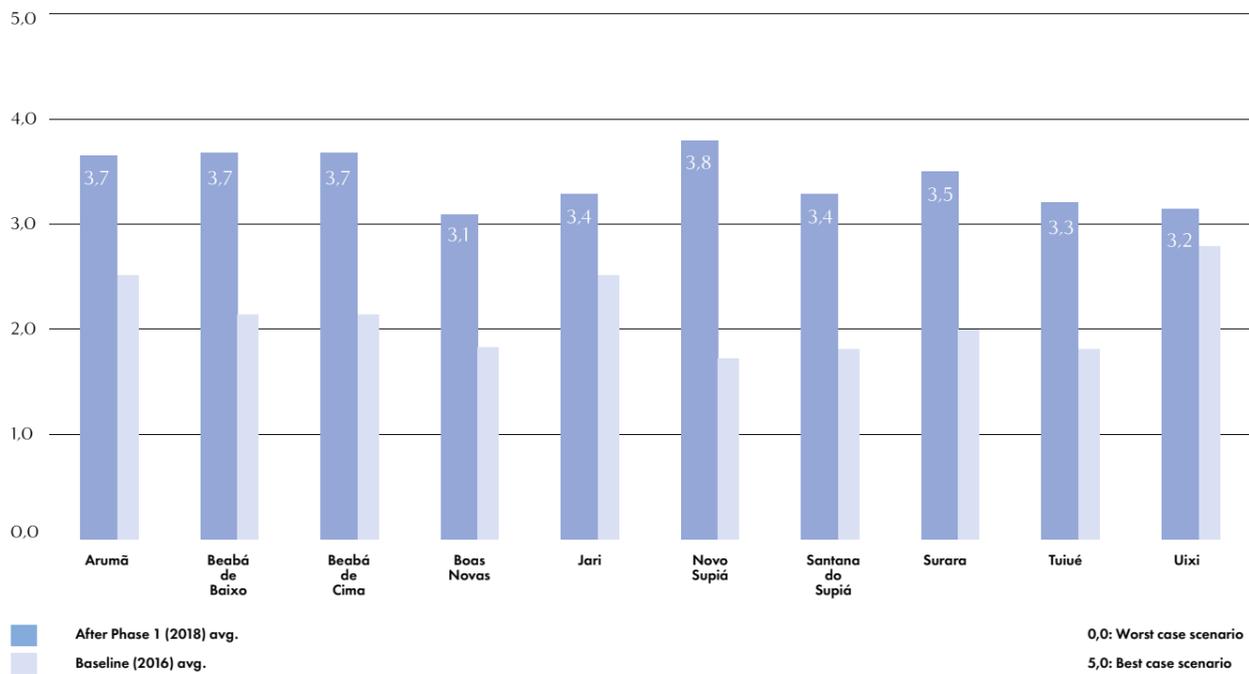
*for descriptors check pages 106 and 107

All communities demonstrate progress in terms of becoming water-wise in comparison to the baseline. From a baseline overall average around 2 points to a 3.5 out of 5. Novo Supia stands out in terms of overall progress, which is remarkable considering is one of the communities in the challenging context of being flooded every year.

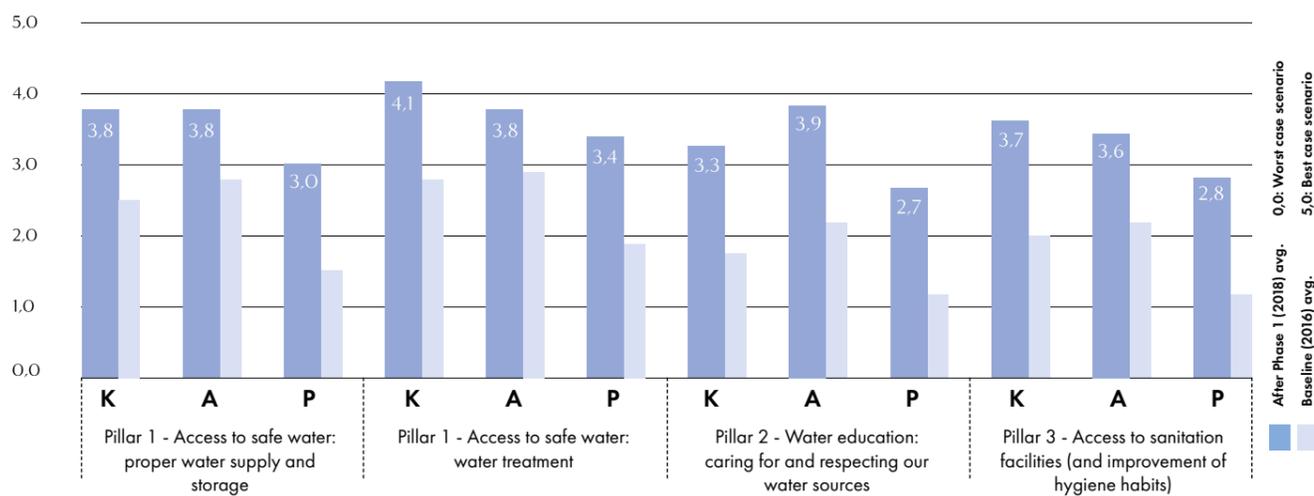The communities are now more alike on water issues, which means that the project was able to level their average K-A-P on water issues. However, it doesn't mean that the communities chose the same solutions to overcome the water-related challenges.

In Boas Novas community, the school was the first among the 15 houses to have a proper sewage system. Students and families are proud of it and the structure has already inspired the teachers to build a similar in their houses. In this same school, students have developed the habits of wash hands always with soap and brush their teeth every day at school.

As expected the knowledge aspect has a better score in most of the communities, followed by attitude. Practices are harder to influence and takes time to knowledge and attitude become actual practice. Nevertheless, the practices score of all communities increased in comparison with the baseline. Access to safe water has the best score in terms of changes in practices.

OVERALL CHANGE IN KNOWLEDGE, ATTITUDE AND PRACTICE IN EACH PILLAR (N=10)

After Phase 1 (2018) avg.
Baseline (2016) avg.

0,0: Worst case scenario
5,0: Best case scenario

K	A	P	K	A	P	K	A	P	K	A	P
Pillar 1 - Access to safe water: proper water supply and storage			Pillar 1 - Access to safe water: water treatment			Pillar 2 - Water education: caring for and respecting our water sources			Pillar 3 - Access to sanitation facilities (and improvement of hygiene habits)		

CHANGE IN PRACTICES RELATED TO PILAR1 - ACCESS TO SAFE WATER: WATER TREATMENT IN EACH COMMUNITY (N=10)

After Phase 1 (2018) avg.
Baseline (2016) avg.

0,0: Worst case scenario
5,0: Best case scenario
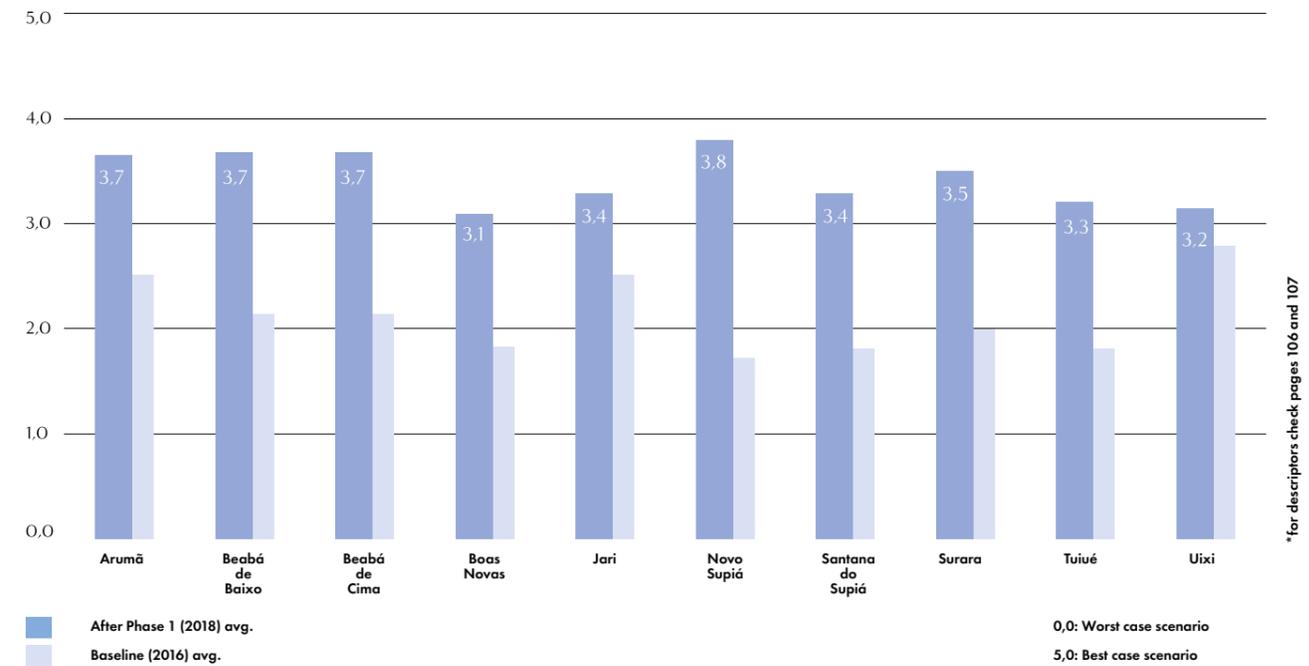
*for descriptors check pages 106 and 107

Despite the project outcomes, communities still face challenges regarding access to safe water. Only 3 out of 10 communities reached a score of 4 which stands for "treat water in effective ways most of the time and always use individual cups" while the others still adopt limited or ineffective water treatments occasionally and use individual cups most of the time.

Another aspect that requires attention is the care for water sources. Improvements were made

in terms of attitude, mainly in the school context, but there still work to do to reach the whole communities.

Practices related to Water Education: taking care of water sources had the lowest score among the pillars. The main driver in this region is the wrong disposal of the increasing amounts of solid waste, especially plastic, batteries, used oil - one of the most visible threats to the life in the rivers and lakes. In Tuiue, Santana do Supia and Novo Supia, communities that

flood every year, all the garbage on the floor is "washed out" by the overflowing river, giving the impression that they disappeared.

After the cleaning campaign and many community reflections, Novo Supia was proud to state that the community "entered the water cleaner as ever before", with no trash by the river banks. Despite these initial inspiring outcomes, the solid waste issue is still to be handled in the next phase of the project.

COMMUNITIES' AVERAGE CHANGE IN WATER RELATED PRACTICES IN EACH PILLAR (N=10)

After Phase 1 (2018) avg.   0,0: Worst case scenario
Baseline (2016) avg.   5,0: Best case scenario
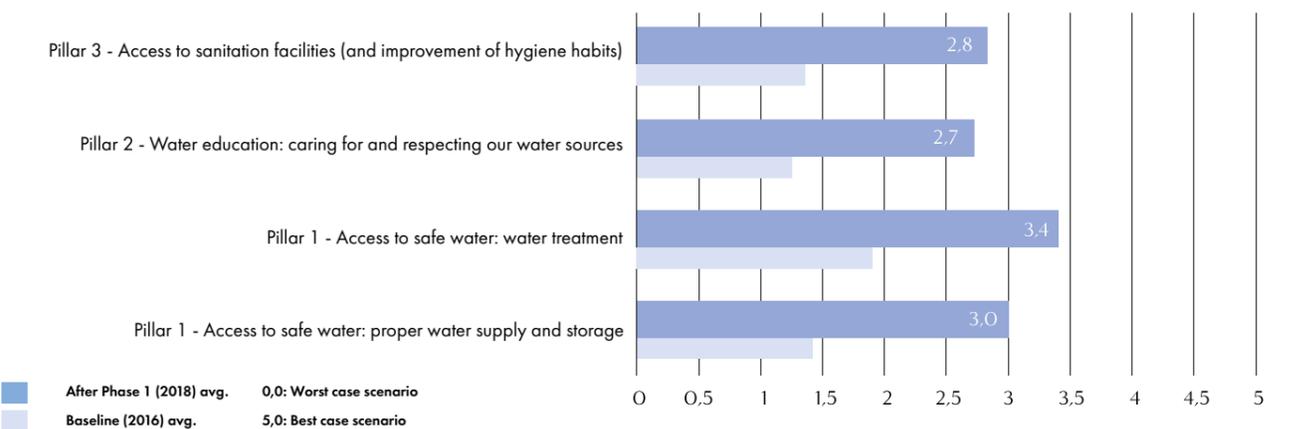
*for descriptors check pages 106 and 107

USED OIL: SOAP INSTEAD OF WASTE IN THE WATER BODIES

In the Purus region families use lots of kitchen oil to fry their meals and all this used oil was being disposed in the river or at the ground, going directly to the water table. One liter of used cooking oil contaminates 10.000 liters of water – decreasing its capability to maintain life among other problems.

To address this issue, during the second round of workshops, the project team called adults to participate in an activity that explored how to make soap using the old kitchen.

The initial distrust was converted into a very enriching process: not only to see waste turning into something interesting but also by the opportunity to explore different scents and colors with the group. Making soap, in the end, was also a way to get close to the women, who were crucial to the project's aim to community social change.

While making the soap, the conversation was around the benefits of not throwing used oil in the water and soil; how much money each family could save by not having to buy soap anymore and how the ones that really want to take 'making soap' seriously could gain, as a way of income generation.

During the conversations, the participants also pointed out that they didn't know that the oil could be harmful, and now they will pay more attention. This experience showed us the power of a simple workshop when it starts with the active listening of the local community needs.

This process was such a success that the women asked for new workshops on producing cleaning products for their houses. FAS has been working on that through different programs.

EVALUATION APPROACH:
ARE WE GETTING THERE?

MONITORING, EVALUATION AND LEARNING PROCESS

The monitoring process of the Waterschool project in the Purus leveraged from a series of tools. The structure of the monitoring was organized in a longitudinal process which included a report from the baseline field trip and this final report based on the Phase 1 evaluation field trip. The outcome assessment focused on three main areas:

☞ The global pillars, focusing on how knowledge, attitude and practice had evolved considering the specific themes the project worked locally

☞ The infrastructure improvement and how it has evolved in each school

☞ The Waterschool activities toolkit and its use by teachers

The methodologies used to assess each one of them were diverse and involved focus group conversations, interviews with families in their houses, questionnaires with teachers.

BASELINE REPORT

The baseline field trip gathered information from each participating community and its school by applying a semi-structured survey to focus groups in each community.

Several insightful moments happened during the group reflections. In circles, representatives from different groups, such as community leaders, school students, teachers, staff and parents and representatives of the government would talk openly about the main project subjects, facilitated by a set of guiding questions. The questions had the intention to assess the group position when it comes to knowledge, attitude and practice related to the project pillars.

There was space for agreements, disagreements and argumentations. More than serving the project's monitoring intent, the circle was an opportunity for the community to see each other's positions and learn about their own position when it comes to water-related issues and community engagement.

PARTICIPATORY CANVAS TO EVALUATE INFRASTRUCTURE

As already mentioned in the Action Plan Section, the team used a canvas style visual tool to evaluate the school infrastructure in each community. The exercise provided support for each community to design their action plan to improve the school infrastructure.

TEACHERS INTERVIEW TO EVALUATE THE WATERSCHOOL ACTIVITIES TOOLKIT

The use of the toolkit by the teachers was assessed using two tools. In the first visit, each school received a Waterschool journal: a book to register the activities they did and reflections from them and from the students. These registrations gave the team an idea of how the teachers were using and how effective each activity was.

To complement this register, considering that not all the activities were registered in the journal, a questionnaire was made with the teachers that were part of the project since the beginning, to assess the number of activities the applied and their general feedback on the activities toolkit.

FAMILIES INTERVIEWS TO ASSESS CHANGE

For the final evaluation, an interview was held with families in their houses. The feedback was compared to the baseline answers to assess change. According to the project's theory of change, the behavior change should start at the school, reach students and in turn their families at home. The assessment intended to monitor the change in the families' end.

For the application of the questionnaire, external evaluators were invited to make this assessment, to bring answers not so influenced by the team's presence. According to the average feedback given by the respondents, the team would place the community status by comparing response provided to a descriptors matrix. This matrix was designed to assess Knowledge, Attitude and Practice, according to a five-level grade that considers aspects of the pillars and its main issues. The position of each community was then compared to the baseline answer. The matrix design intention is to make the qualitative assessment measurable.

	K - A - P	5	4	3	2	1
WATER, SANITATION AND HYGIENE: Hand washing and hygiene habits	K	They are able to list the main reasons for handwashing - associated with specific health issues and disease transmission	Can list the main reasons for washing hands	Can list some reasons for washing hands	They try but can not articulate the reasons for washing their hands	They do not know why they should wash their hands
	A	It is clear about the consequences of not washing the hand and take an active stance towards understanding that everyone should wash their hands of a healthy community	Has clarity of the consequences of not washing the hand and directs family members to do so	Note that washing your hands is a positive attitude.	They are indifferent to washing their hands	Do not think it's important to wash your hands
	P	Wash hands before meals and after using the toilet correctly using soap	Wash hands before meals and after toilet	Wash hands before meals or after using toilets	Wash hands occasionally	Don't wash hands
ACCESS TO SAFE WATER: Water treatment	K	They are able to list the main reasons for treating water - associating it with specific health issues	They can list the main reasons for treating water	Can list some reasons to treat water	They try but can not articulate reasons for treating wate	Do not know why they should treat water
	A	It is clear about the consequences of not treating and adopting an active stance towards understanding that everyone should treat water for a healthy community	Have clarity on the consequences of not treating water and directs family members to do so	Understand that treating water is a positive attitude	They are indifferent to treating water	Do not find it important to treat the water
	P	They treat water for general consumption in a correct way and always use individual drinking glasses	They treat water for consumption as best they can or when possible use individual cups	They treat water for consumption as best they can or when possible use individual cups	They treat the water occasionally	Do not treat water for consumption

	K - A - P	5	4	3	2	1
ACCESS TO SAFE WATER: Proper water supply and storage	K	They are able to list the main reasons for drawing water from safe sources associating it with specific pollution issues - and explaining the correct way of storing it	They can list the main reasons for getting water from safe sources and storing it correctly	Can list some reasons to capture water from safe sources or store it correctly	They try but can not articulate the motives for capturing water from safe sources and storing it correctly	They do not know why they should draw water from safe sources and store it correctly
	A	Is clear of the consequences of not properly capturing and storing water for a healthy community	The consequences of the importance of collecting water from safe sources and storing it correctly is clear	It is clear from the consequences of the importance of collecting water from safe sources and storing it correctly and directing family members to do so	They are indifferent to picking up water from safe sources and storing water correctly	Do not think that storage can compromise water quality; Do not care about where they pick up water
	P	They capture water from safe sources in a conscious way and always store it properly	They collect water from safe sources in a conscious way or always store it properly	They harvest water from the best available source and store it as best they can and have invested or plan to invest additional resources to improve the conditions of the sources and storage	They harvest water from the best available source and store it as best they can, but do not invest additional resources to improve supply and storage conditions	Do not pick up water from safe sources and do not store properly
WATER EDUCATION: Caring for and respecting our water sources	K	They can list the main reasons for taking care of water sources - associating them with specific health or pollution issues - and explaining the correct way of allocating waste and adjusting practices (ie raising pigs or black holes)	They are able to list the main problems related to waste and other practices for drinking water quality	They can list some reasons for correctly disposing of waste or avoiding some practices with negative impacts on the quality of the water for consumption	They try but can not articulate the relationships between garbage and other practices to water quality	Do not associate garbage and other practices with the quality of the water they consume
	A	It is clear about the consequences of not addressing waste and some community practices and takes an active stance towards understanding that everyone should treat water for a healthy community	It is clear of the consequences of not treating waste properly and some community practices and directing family members to do so	Understand that managing waste properly and taking care of water sources are positive attitudes	They are indifferent to the impact of litter and inappropriate practices on the quality of the water they consume	They do not think it is important to properly dispose of waste and to change some community practices that have an impact on community water quality
	P	The whole community treats garbage properly and has eliminated practices that impair water quality	They treat waste properly or avoid practices that impair water quality and aim to advance in these issues or invest resources for such	They treat trash as best they can and avoid some practices that impair water quality and intend to advance on these issues or invest resources for such	They treat part of the garbage, or only some families treat the garbage and have practices that damage the quality of the water. They are not mobilizing on these issues or investing resources for that	Do not dispose of garbage correctly, and have practices that impair water quality

NEXT STEPS:
THE PATH AHEAD

KEY FINDINGS

The team had a meeting to reflect over practice after each workshop. Along with the outcomes evaluation, this process became a very rich learning process for the project. As a result, some important issues came up, which give insights and inform future steps of the project.

These key findings help to improve the project's performance and put a light on a wide range of pressing challenges that go from knowledge gaps, to obstacles to adopt water-wise practices and proper solutions to the communities' specificities.

THE URBAN PARADIGM

When assessing the knowledge of the community, the best alternatives they see still come only from urban references, although the context is very different. There is still lack solutions that fit the reality are sustainable, low-cost and that can be managed locally.

LACK OF SOLID WASTE MANAGEMENT MODEL FOR RIVERINE COMMUNITIES

Although there is more clarity on the importance of not throwing the garbage on the ground or water bodies, it is not clear yet what to do with it.

LACK OF COLLECTIVE ACTION AMONG COMMUNITIES

The communities also face the challenge of garbage coming from other communities and thrown by the big boats that navigate Purus river. Although the issue is much bigger than what one community can solve alone, it points to a question to be explored during the next steps of this project: what is the best possible model for such communities?

SANITATION AWARENESS IS NEEDED TO INCENTIVIZE NEW SOLUTION

Although it is a key issue the project is targeting, the causality between sanitation and safe water is not intuitive to the communities. The lack of sewage treatment doesn't pop up as an issue. No respondent spontaneously linked their current restrooms with water contamination. It is a tricky reflection to be made when there is still no access to good solutions to this issue. Creating awareness must go along with developing creative and innovative solutions.

CURRENT EDUCATIONAL PLANNING REFRAINS THE TOOLKIT POTENTIAL

Although some teachers are really involved in the Project, many were not able to integrate the activities into their classes routine or register it in the school diaries the project provided. The reasons seem to be beyond the project's reach - it involves the lack of working material, the poor conditions they must live in the community, limited time they spend in the community (around two weeks per month). They also must follow a very strict work plan designed by their pedagogic coordination that does not allow to report extra activities as part of the formal curriculum.

BEHAVIOR CHANGE REQUIRES CONTINUITY

Fostering behavior change is a long run. The process started with the project's first phase must be constantly supported and incentivized. The continuity makes possible to keep track of the progress with constant feedback loops between communities and project team that allows for long-term achievements.

MAIN LESSONS LEARNED

Capturing lessons learned has been an ongoing effort throughout the life of the project. Two main points stood out during the reflection process and will be addressed during the second phase.

ADDITIONAL EFFORT TO ENHANCE PARTNERSHIP WITH THE LOCAL GOVERNMENT AND INCREASE TEACHER ENGAGEMENT

Despite many conversations and attempts, the project could not engage the mayor and the education secretariat of Beruri in the Waterschool strategy. During the project, the education secretary changed three times and disrupted the ongoing conversations and agreements.

The outcomes evaluation demonstrates that the level of adoption of the toolkit widely varies. The project team believes that a deeper collaboration is required to provide the teachers the confidence to increase de usage of the toolkit. Not all teachers are self-determined and for those having the official incentive to apply the activities and having it included in the regular curriculum would go a long way towards a wider teacher's engagement.

YOUTH'S ENGAGEMENT IS NEEDED TO INCREASE THE SUSTAINABILITY OF THE WATERSCHOOL INITIATIVE

Youths from 15 to 25 are the next generation of leaders and teachers, and thus, crucial for the sustainable development of the communities and for the sustainability of the Waterschool in the region.

We noticed that, during the workshops, the youths (from around 16 to 25) engagement was limited in some proposed activities. Their feedback on this matter indicates their perception that some of the activities were only for small kids and others for adults.

Youth's best response came when they were challenged to create something new. To target them, we need a different approach, that is being incorporated in Phase 2 of the project.

THINK GLOBALLY, ACT LOCALLY TO MEET DEVELOPMENT GOALS

The Waterschool Purus seeks to contribute to the World's effort to meet the sustainable development goals. We work under the premises that the project's outcomes must positively impact the following goals:

Scan me
Outcomes
video

WINDOWS TO A SUSTAINABLE FUTURE IN THE PURUS

Being the first project to enter the schools in such remote area provides the Waterschool Purus with the great opportunity of being in service to the sustainable development in areas usually left apart by public policies and programs. The Purus region importance is paramount to the conservation of the entire Amazon biome, and therefore, to the World.

The trust built with local communities gave the team an insight perspective on how to foster sound water practices. The lessons learned point to new paths to be taken in this direction. The data along with the testimonies collected through the conversations with the participant families directly feed into strategies for the upcoming continuity plan. The results so far suggest that a new dynamic of water management is unfolding. This change in progress was sparked by Waterschool in the Purus region.

Knowledge and information combined with low-cost infrastructure solutions in the school show the way to water-wise communities. Remarkable changes can be observed after only two years of the project's implementation. Healthier practice starts to move beyond the school borders and the ongoing initiatives have the potential to become role models for other communities.
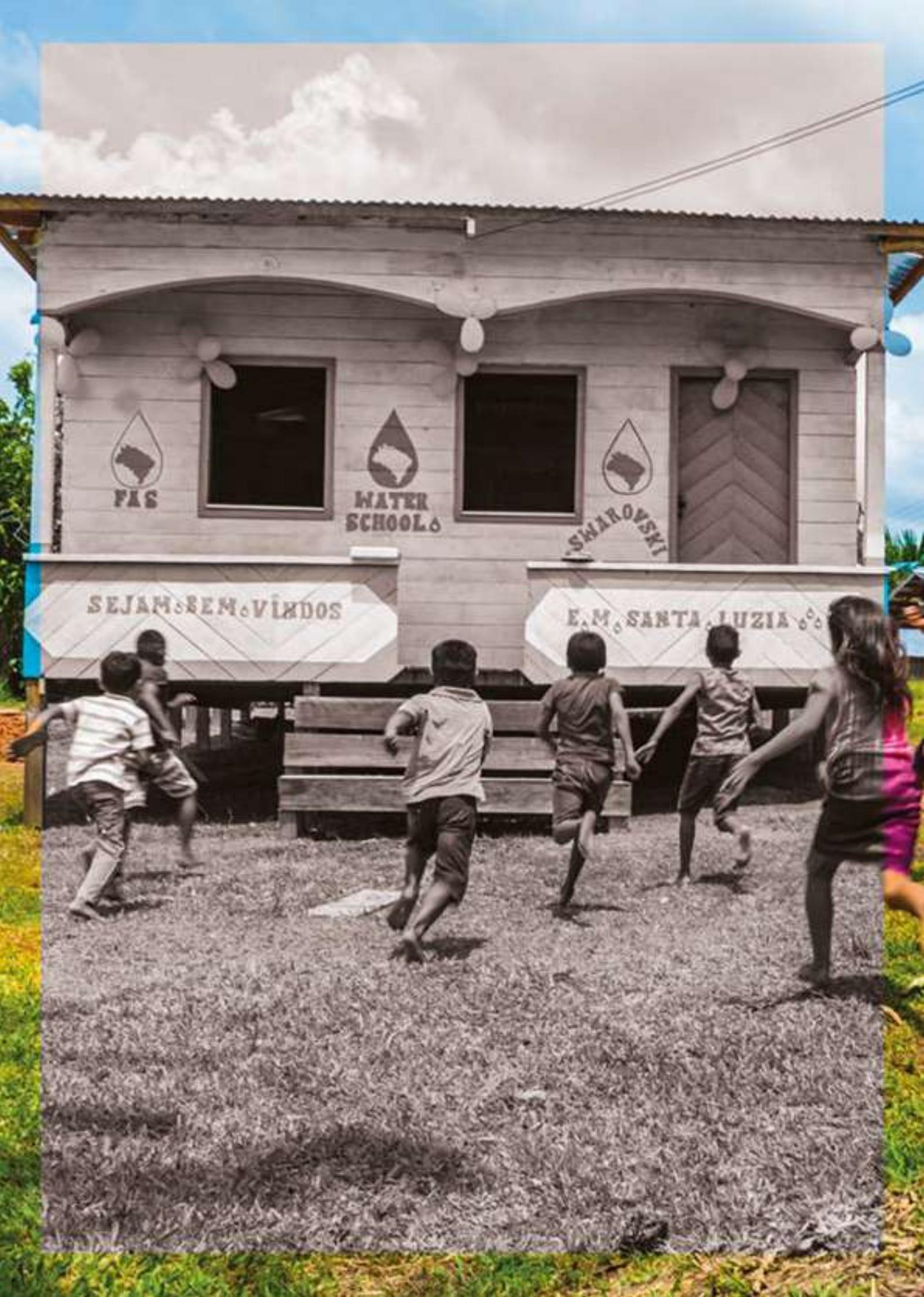
It is inspiring to see the youths eager to lead this sustainability movement. Focusing on them as multipliers to push the project forward locally, a group of representatives from all Waterschool communities in the Purus gathers around the most pressing issues to overcome in their communities and scale up to other.

The water education brought by the project is a relatively new subject for the school curriculum. As any novelty, it will require time and persistence to embed. The project proposes a new way of teaching that has been raising the attention of local teachers. The forthcoming efforts on influencing the system's level by training teachers and making arrangements to incorporate the approach and activities into the school curriculum also brings an exciting perspective of improving the quality of education in the region.

The resilience and determination seen in these communities to strive in such harsh environment indicate they have what it takes to move towards a sustainable management of their natural resources. The role of the project is to bring up this discussion. It is an honor for the project team to be in service of encouraging reflections and actions in this direction.