

PLANET

#November 2017

Veolia Foundation Acting in the public interest



Forum

What is the place of corporate foundations in international humanitarian action?

Frontline

Hurricane Irma: Drinking water, an absolute emergency

Outfront

Humanitarian aid's future will be partnership-based

Explainer

Veoliaforce, the emergency logisticians

TABLE OF CONTENTS
NOVEMBER 2017

03 THE POST

by Antoine Frérot

04 CONTRIBUTORS

Dominique Boizeau, Alain Boinet, François Debiesse, Patrice Paoli, Patricia Ricard

06 TRENDS/INSIDE/ DATAVIZ

The news in brief.
An overview of corporate foundations infographic

12 FORUM

François Debiesse, Patrice Paoli, Thierry Vandeveld
What is the place of corporate foundations in international humanitarian action?

18 SPOTLIGHT

Christian Lefaix, Émilie Bancel

22 FRONTLINE

FRENCH WEST INDIES Hurricane Irma: Drinking water, an absolute emergency
DEMOCRATIC REPUBLIC OF CONGO Cholera: A multi-stakeholder approach to eradicate the disease
FRANCE Cap Sicié: Artificial reefs to revive the marine environment

38 GALLERY

Arnaud Späni, Green against the desert

46 OUTFRONT

The future of humanitarian aid will be partnership-based

51 COMMUNITY

Angkor and its water: Heritage in danger

52 EXPLAINER

Veoliaforce, the emergency logisticians

54 FUTURIST

Oakland EcoBlock: A replicable eco-district

Cover photo: The Veolia foundation's teams working in Saint Martin in the wake of Hurricane Irma.



Antoine Frérot
Chairman and CEO
of Veolia

September 18–22

Occupational safety week Occupational health and safety are an absolute priority. Whatever efforts have already been made, it is essential to make even more progress so that this right becomes a reality for everyone. To this end, Veolia organized an international health and safety week for the third consecutive year. It focused on management standards for high-risk activities and concerned every country where we are established. On this occasion, over a hundred best practices were gathered; they will shortly be communicated within the operational units. This event was a great success with our staff and stakeholders alike: subcontractors, clients, temporary staff agencies... and even the employees' children! Over time, this initiative has become an institution, making the culture of safety a more integral part of our activities.

September 19–26

The resilience of cities and regions under study Resilience has become a crucial topic. For this reason, Cerisy-la-Salle International Cultural Center, the Veolia Institute and Fabrique de la Cité — the Vinci Group's think tank — organized a top-level colloquium on this theme. Marked by increased vulnerability due to demographic density and human interactions, urban areas are a focal point for risks. Since the turn of the century, the landscape of crises has changed and they are becoming more heterogeneous and destabilizing: one need only think of the hurricanes of unprecedented force that ravaged Houston and Saint Martin. Our societies have little perspective on emerging risks and how to manage them, and find themselves in a fragile position. Hence the need to rethink urban strategies, in order to guarantee urban dwellers' safety and protect cities' economic, social, environmental and cultural heritage.

September 20

An open-innovation platform dedicated to air quality While air quality in the Greater Paris region is improving, too many citizens remain exposed to levels of pollution exceeding the World Health Organization's recommendations. So AIRPARIF, the organization in charge of monitoring the air quality in Paris and the surrounding area, has launched AIRLAB, the first innovation accelerator specializing in air quality. Through its subsidiary OFIS, our Group is one of the founding partners of this promising initiative. Within the framework of this platform, it will develop an innovative project in collaboration with Icade, designed to test a new generation of sensors enabling air quality to be managed in office buildings. This is a major issue as, contrary to popular belief, indoor air quality is worse than outdoor air quality!

October 5

Toward better plastics recycling While plastic represented one of the major revolutions of the 20th century, it has led to huge amounts of waste, which slowly breaks down in nature. At present, its recycling rate is extremely low compared to other materials: on a global scale, only 9% of plastics are recycled. Veolia is looking to construct a worldwide recycling and recovery channel to offer a credible alternative to virgin plastic. Our Group anticipates increasing its revenue fivefold in this business line by 2025, to reach €1 billion. Plastics recycling is a triple-winning policy, as it reduces the pollution discharged into the environment, lowers greenhouse gas emissions and creates jobs!

CONTRIBUTORS



Editor-in-chief Dominique Boizeau

Director of Communications
Veolia Foundation

Planet unveils its latest issue devoted to corporate foundations. What role do they play and what place will they have in an increasingly complex world? A new social paradigm that the Veolia foundation is incorporating into its missions on behalf of the Group. The Forum and Outfront sections shed some light on these questions. Defending one's values by promoting core business lines also includes showing solidarity at a time of multiple geopolitical crises and climate change. The Foundation is therefore involved in the emergency response in the French West Indies following Hurricane Irma, and in a more structured way in the Democratic Republic of Congo's cholera program and the efforts to preserve Mediterranean biodiversity in Cap Sicié, France. It's a fact: I know all about emergencies... Having been asked to become Planet's Editor-in-Chief, I had the opportunity to discover an urgency of another kind: meeting a magazine deadline! I couldn't have done it without a solid, motivated and efficient team.

Thanks to all.

Also in this issue

François Debiesse

President of the Admical organization
Admical's President since 2015, for twenty years he was the head of Paribas Private Bank and then BNP Paribas. In 1984, François Debiesse created the Paribas foundation, which he chaired from 1995 to 2008. In 2007, he initiated an advisory service for philanthropy in the private banking sector and created the Orangerie Foundation for Individual Philanthropy. He is the author of an informative book for the *Que sais-je ?* collection on patronage.



Alain Boinet

Founder of the NGO Solidarités International
President of Coordination Humanitaire et Développement and a member of the board of directors for Coordination Sud, which brings together 164 NGOs, Alain Boinet is also patron of the 35th 2017-2018 graduating class from the Bioforce Institute, which trained, guided and certified 2,904 people in humanitarian professions in 2016.



Patricia Ricard

President of the Paul Ricard Oceanographic Institute
Passionate about the sea from an early age — her grandfather Paul Ricard founded the eponymous Oceanographic Institute in 1966, she became president of the IOPR in 2005. A regular contributor to environmental discussions, she is also a permanent member of the Advisory Board for the French Southern and Antarctic Lands (TAAF) and director of the public body for France's National Parks.



Patrice Paoli

Director of the Crisis and Support Center — French Ministry of Foreign Affairs and International Development
Having joined the French Ministry of Foreign Affairs in 1979, he held various positions there in the eighties and nineties: Cooperation Attaché in Sanaa (Yemen), First Secretary in Amman (Jordan), Technical Advisor to the Minister, Consul General in Boston, etc. He was appointed Extraordinary and Plenipotentiary Ambassador to Kuwait in 1999, then to Abu Dhabi in 2005 and Beirut from 2012 to 2015. In 2015, he was named Foreign Crisis Management Ambassador.



Veolia publication (30, rue Madeleine-Vionnet – 93300 Aubervilliers – France)

Publication Director: Laurent Obadia. Editorial Director: Nathalie Cottard. Editorial direction: Anne Béchiri, Étienne Collomb. Editor-in-Chief: Dominique Boizeau. Image content: Laure Duquesne, Gilles Hureau. With special contributions from: Thibaut Constant, Feryel Gadhoun, Julien Grimaud, Damien Machuel, Emmanuel Plessis, Nicolas de Saint-Martin. Copyright: November 2017. ISSN number: 1761-4996. Veolia photo library: Emmanuel Besnier/Capa, Remi Cadoret/Altour Production, Olivier Guerrin, Iñigo Horcajuelo/Altour Production, Robert King/Interlinks Image, Stéphane Lavoué, Christophe Majani d'Inguibert, Sylvain Pierron/Capa, John.H.Walzl. Capa Pictures, Veolia foundation photo library, Charlotte Blan/Oceanica, Energie Jeunes, Luis Pablo Rosales Herrera/Veolia, Ben Hider/GettyImages/AFP, Getty Images/iStockphoto, Claire Charlotte LAUFF, Alexis Rosenfeld/Divergence, SIAAP/Emmanuel Riche/Odyssée, Anna Súriynach/MSF, Arnaud Späni, "Futurist" diagram Skidmore, Owings & Merrill LLP (SOM), Bernard WILLINGER/Apsara/AAA/SIAVB/SIAAP. Caters news/SIPA, Yann Bohac/SIPA, Chahène Nazarenko/Formica Production Limited, Damien Machuel. Cover photo: © Mathilde Nithart.

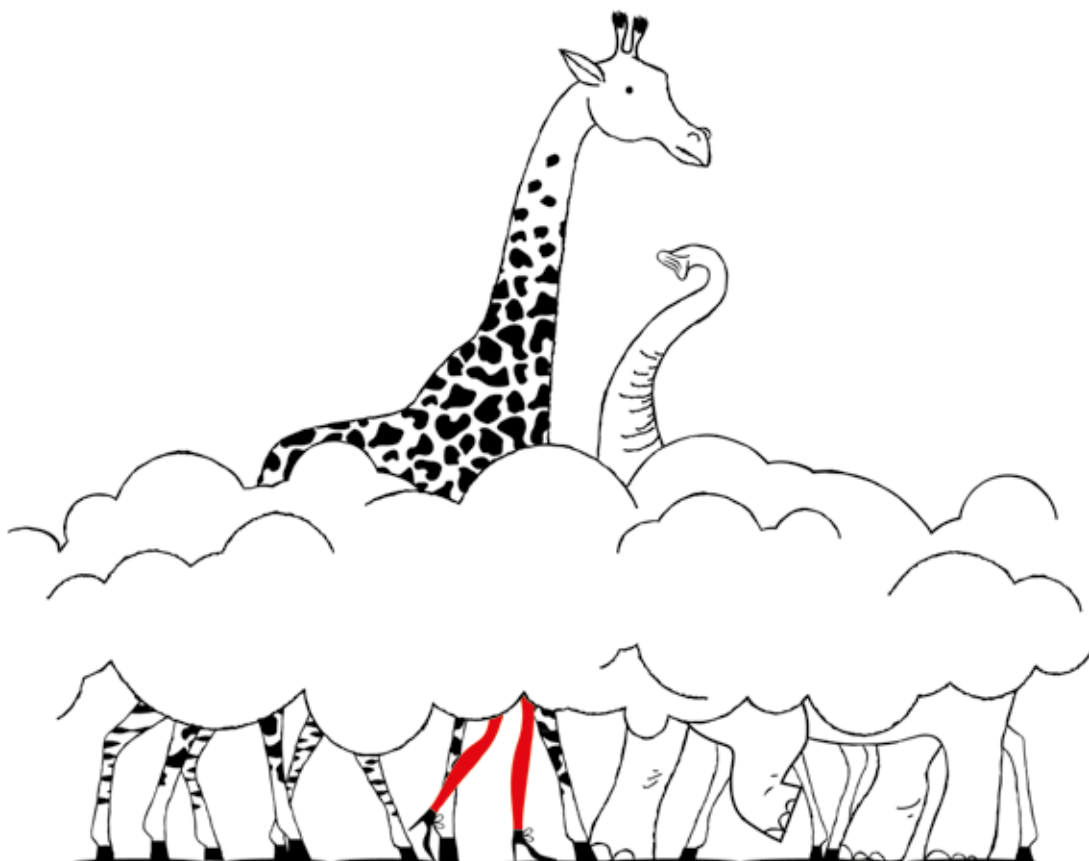
Published by Bords de Loir Art Director: Jean-Jacques Farré. Editorial team: Anouk Denis, Guillaume Frolet, Cécile Martin. Infographic and illustrations: Mariette Guigal. Coordination: Sylvie Roussel. Production Manager: Caroline Lagailarde. Printed by: Electrogezol Packaging, sorting and mailing by Staci.

DECEMBER 4-6, 2017, NAIROBI (KENYA)

3RD SESSION OF THE UN ENVIRONMENT ASSEMBLY

POLLUTION AND ITS IMPACT ON ECOSYSTEMS, HUMAN HEALTH AND ECONOMIC DEVELOPMENT

THE AIM OF THE LARGEST INTERNATIONAL ENVIRONMENTAL ASSEMBLY
IS TO DELIVER TANGIBLE COMMITMENTS TO REDUCE POLLUTION
AND INNOVATIVE SOLUTIONS IN TERMS OF RAISING PUBLIC
AWARENESS, FUNDING, AND IMPROVING GOVERNANCE.



[WWW.UNEP.ORG/ENVIRONMENTASSEMBLY/](http://www.unep.org/environmentassembly/)

TRENDS



6/7

125

million people need humanitarian aid.
OCHA 2015 annual report

65.6

million people have been displaced against their will; these include 22.5 million refugees, over half of whom are under 18 years old.

20

new people flee their home every minute.

1 in

113 people

on average has been uprooted nowadays, i.e. more than the population of the United Kingdom.

3

countries are responsible for over half of refugees: Syria (5.5 million), Afghanistan (2.5 million), South Sudan (1.4 million).

Source: 2016 figures, the UN Refugee Agency (UNHCR)



High seas An intergovernmental conference coming soon

“The plastic plague,” illegal and destructive fishing practices, an increase in greenhouse gas emissions that contribute to warming of the oceans, which are also affected by acidification and deoxygenation... In July at the UN, an agreement was finally reached to launch an international conference on the high seas. “The time has come for us to correct our wrongful ways. It is inexcusable that humanity tips the equivalent of a large garbage truck of plastic into the Ocean every minute of every day,” stated Peter Thomson, President of the General Assembly. This marks a major step welcomed by the Tara Expeditions Foundation, a United Nations special observer, partnered by the Veolia foundation. The resolution paves the way for a multilateral process with a stable, funded framework, a series of COPs like those devoted to climate, combined with restrictive objectives, a steering committee, a secretariat, and a scientific committee. Watch this space.



Migrants and refugees

A new humanitarian approach in an urban setting

In 2017, there are thought to be 244 million migrants and refugees worldwide. In September 2016, the UN recommended including these populations in communities on their arrival in the host country, because giving them access to education and the labor market allows them to develop their skills, become independent and contribute to the local economy¹. Helping them live rather than survive decreases their dependence on humanitarian aid. From this perspective, the “From cities in crisis to crises in cities: towards a collaborative urban humanitarian response” conference was held in London from November 15 to 17, 2017, organized by IIED² and the International Rescue Committee³. Researchers, humanitarian workers, urban specialists, senior officials, etc. discussed collaborative approaches to be implemented in urban settings with humanitarian players, local governments, organizations, the world of academia and the private sector. In late 2017, the UN Refugee Agency (UNHCR) and its partners will be drawing up “a global pact on refugees,” which will be presented to the UN General Assembly in 2018.

1- “New York Declaration” adopted by the 193 Member States.

2- Independent think tank based in London and headed by the anthropologist Andrew Norton.

3- Founded in 1933 on the initiative of Albert Einstein to help the opponents of Adolf Hitler, the IRC comes to the aid of victims of racial, religious and ethnic persecution as well as violence and war.

Finance gears into action for sustainable growth

Since the signature of the Paris Agreement in 2015, the world of finance has been changing. The major players in the sector, whether bankers, companies or fund managers, are undertaking to fund the world’s transformation. The collective effort is clear: major managers are taking action, such as GPIF, a Japanese pension fund (1,275 billion dollars in assets), which now incorporates three ESG (environment, social and governance) indexes into the management of part of its portfolio. Likewise, the Divest-Invest network for disinvestment in the fossil fuel sector today unites over 700 global institutions, worth more than 5,000 billion dollars. Europe is not to be outdone. The group of top-level experts on sustainable financing, created by the European Commission, published its progress report in which it makes some fifteen recommendations. The primary aim is to refocus the financial system to support sustainable growth. The following appeared in *Revue Banque* in 2011: “At present, the projects fostering the vision of sustainable finance are currently laying the foundations to ensure that the financial system is also social, responsible and ethical, in other words viable in the long term.”¹ Since then, the trend has been accelerating.

1- Vers une finance durable, *Revue Banque* no. 742, double issue.

“The private sector should establish a Global Business Council for Refugees to better coordinate their initiatives, motivate more support and advocate for better policies for refugees.”

(devex.com opinion column, June 2017)

Ziad Haider, Senior Consultant, World Bank, and Senior Advisor, Center for Strategic and International Studies, former Special Representative for Commercial and Business Affairs at the U.S. Department of State





SIAAP THE WASTEWATER SERVICE OF THE FUTURE

The public wastewater service in the Greater Paris area is looking to set an exemplary and innovative example.

The Greater Paris Interdepartmental Sanitation Authority (SIAAP) has therefore chosen Veolia to carry out the operating and maintenance activities for the Valenton plant: smart and environmentally friendly, it will produce as much renewable energy as it consumes and benefit from a hypervision system allowing SIAAP to monitor the performance indicators in real time.

Concluded within the framework of a single-purpose semi-public company (SEMOP), the twelve-year contract, worth almost 400 million euros, is one more in a series of successes for the Group in the field of wastewater in France, including Marquette-lez-Lille, Le Mans and Bonneuil.



IN LONDON, THE NATURAL HISTORY MUSEUM PAYS ATTENTION TO ITS CARBON FOOTPRINT

Veolia, which has been working with London's Natural History Museum since 2004, will extend its energy performance contract for ten years. The aim is to further improve the energy efficiency measures, which have surpassed the savings targets set each year. The technical solutions already implemented include combined heat and power production on the institution's two sites, modernization of the lighting – thanks to energy-efficient systems and replacement of the boilers – and the installation of new air-conditioning equipment.

Telex

In the United Kingdom, Veolia is offering companies a new service for recycling **disposable cups**, which consists in providing users with specific collection bins to “capture” the cups before they enter the general flow of waste. The raw material to be recycled is therefore of better quality. The fiber recovered can be used to manufacture a host of products: egg cartons, cup holders, etc.

Second “Écogeste collèges” campaign

Almost 1.5 million obsolete school books will be collected and recycled throughout France: the proceeds from the operation, organized by Belin, a publishing company, and Veolia, will be donated to Unicef.

At the Climate Chance summit held

in Agadir (Morocco) in September 2017, the emphasis was on climate change-related issues faced by countries in Africa and the Global South. Pierre Victoria, Veolia's Sustainable Development Director, presented the example of the city of Durban (South Africa) where municipal wastewater is recycled to be reused by industry.



APPRENTICESHIP: THE WAY FORWARD

For over twenty years, Veolia has been committed to apprenticeship and work/study training programs, providing young people with the qualifications they need.

In France, the Group welcomes 1,300 work-study students each year, ranging from vocational training to five years of higher education. In the United Kingdom, there are 300 apprentices in sustainable waste management, electronic engineering and mechanical engineering. This commitment was rewarded in early September with the Apprentice of the Year awards ceremony at the House of Commons. Last September, Veolia joined the GAN (*Global Apprenticeship Network*) network in France. This coalition of companies, supported by the OECD and the International Labor Organization, champions apprenticeship on a global scale.



Veolia's expertise at New Orleans' service

The Big Easy aims to become a smarter, more resilient and inclusive city. Long-standing partners, the Sewerage and Water Board – the authority in charge of the city's water and wastewater – and Veolia are going to continue their collaboration, while a state of emergency was declared by the city in early August. This decision follows the strategic risk analysis carried out in 2016 by Veolia and the reinsurer Swiss Re.

INSIDE

SOLVING COMPLEX POLLUTION FOR ANTERO RESOURCES

A leading oil and gas production company in North America, Antero Resources has given Veolia a new mission: collecting, packaging, transporting and treating sludge derived from recycling the water from its Clearwater site, located near Pennsboro in West Virginia (United States). The Group will rely on the expertise of its Nuclear Solutions business line, as it also involves collecting and treating low-level naturally radioactive waste from industrial production processes (waste classified as TENORM¹). The mission also includes a global prevention, health and safety dimension intended for exposed personnel. The ten-year contract with a cumulative value of 70 million dollars follows the contract awarded in 2015 for treating and recycling industrial water at Antero Resources' plant located in Doddridge County, West Virginia.

1- Technologically Enhanced Naturally Occurring Radioactive Material



AIRLAB: Veolia and Icade join forces

to develop the air quality sensor of the future

While air quality in the Greater Paris region is improving, too many citizens still remain exposed to levels of pollution exceeding the World Health Organization's recommendations. In an attempt to remedy this, Airparif – an independent air quality monitoring body – has launched the AIRLAB platform. It is a collaborative and open innovation initiative, of which Veolia and the real estate developer Icade are founding members. Their joint project is testing a new generation of sensors for measuring and continually acting on indoor air quality (ventilation, recycling air, measuring the hygrometry and CO₂ levels, etc.). To see this project through successfully, Veolia and Icade are going to call on the services of several start-ups. The first tests are scheduled for spring 2018, including a tower in the La Défense business district.

Telex

In Northern Iraq, the Veolia foundation trained some fifteen Red Crescent volunteers how to install, operate and maintain mobile water treatment units of the Aquaforce 5000 type.

At Huawei Eco Connect, which was held in Shanghai from September 5 to 7, 2017, Veolia presented the strategy drawn up together with Huawei to develop digital solutions best tailored to the needs of cities and industrialists.

Tara – of which the Veolia foundation is a long-standing partner – is halfway through its latest expedition in the Pacific Ocean. It has already travelled 50,000 km, visited 15 countries and taken 15,000 samples from coral reefs, i.e. 2,000 dives at 17 sites. Their analysis will make it possible to compile an unprecedented database and gain a better understanding of the biodiversity present on the coral reefs, their state of health and their ability to adapt to climate and environmental changes.

From June 10 to September 10 in Astana (Kazakhstan), the 2017 World Expo welcomed 115 countries and four million visitors on the theme of future energy. Veolia was a partner of the French Pavilion, a showcase for French know-how based on three themes: sustainable cities, renewable energy and eco-compatible mobility.



MEXICO TAKES A CHANCE ON THERMAL RECOVERY

On September 7, the Mayor of Mexico City, Miguel Ángel Mancera Espinosa, laid the first stone of the city's future waste-to-energy plant, in the presence of numerous authorities. Built by Veolia, this facility is the first of its kind in Latin America and looks to be a technological benchmark on a global scale. On completion of the work, scheduled for 2020, 1.6 million metric tons of household waste, i.e. a third of the city's waste, will be treated there and recovered as green energy. The 965 GWh electricity produced each year will supply the city's metro and cover 100% of its needs.

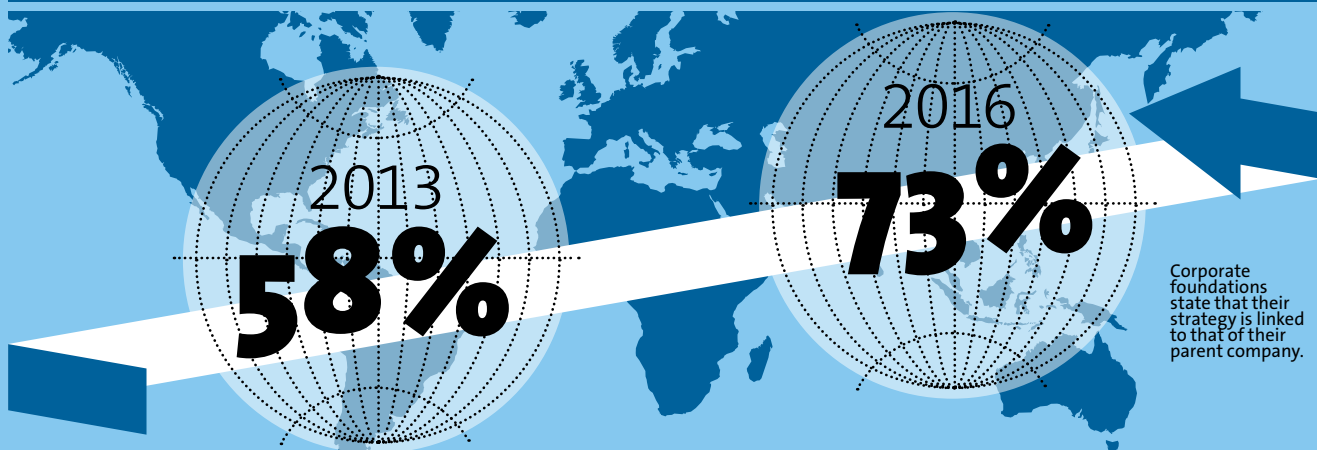
VEOLIA'S CSR COMMITMENT RECOGNIZED BY DOW JONES

Veolia has been included in the Dow Jones Sustainability World Index and the Dow Jones Sustainability Europe Index. Every year, these two socially responsible investment indices honor the best-performing companies on the basis of economic, environmental and social criteria, with over 600 indicators analyzed. Only 10% of the largest global companies are selected for the Dow Jones Sustainability World Index, out of the 2,500 eligible. "We are extremely proud of this distinction. It compels us to persevere in our ambition to resource the world, incorporating sustainable development into Veolia's global strategy," stated Antoine Frérot, Veolia's CEO.

OVERVIEW OF CORPORATE FOUNDATIONS

More and more numerous and better equipped, corporate foundations are increasingly serving their parent company's strategy. Generally speaking, we are seeing a thematic and geographical refocus, along with increased professionalization of the teams. The major aim is to boost the performance of their actions.

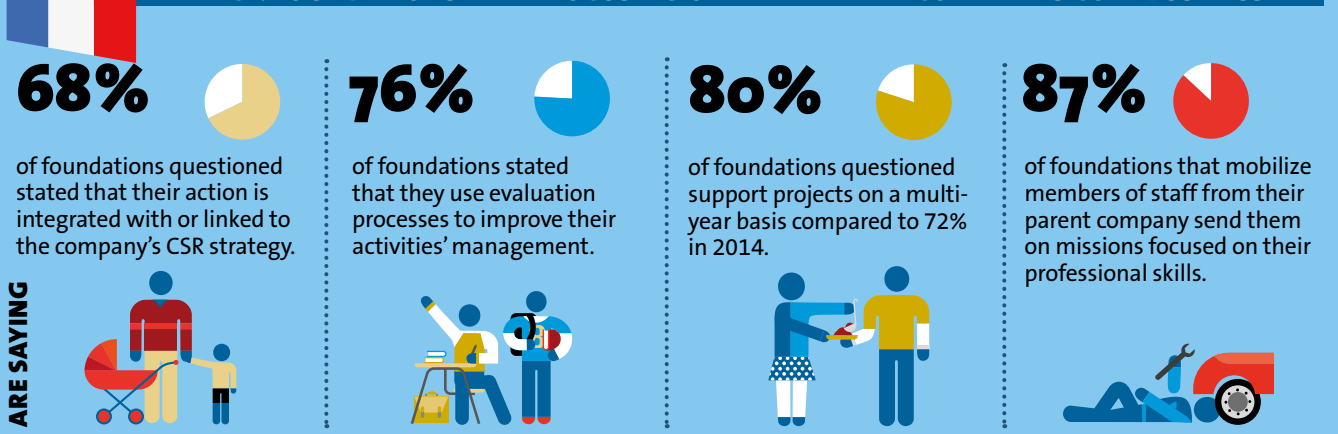
WORLD: CORPORATE FOUNDATIONS INCREASINGLY INTEGRATED INTO THEIR PARENT COMPANY



UNITED STATES: CORPORATE DONATIONS TO FOUNDATIONS ARE SET TO INCREASE

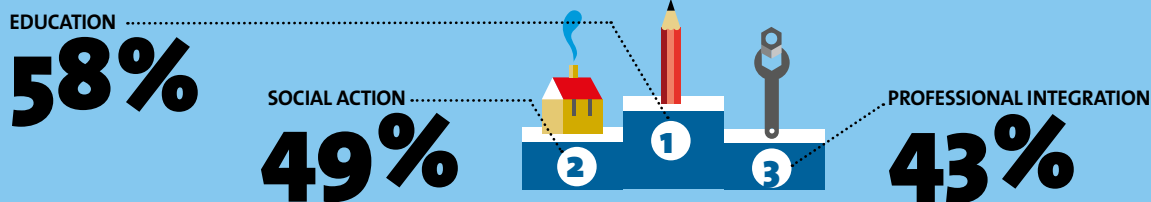


FRANCE: FOUNDATIONS ARE REFOCUSING ON THEIR PARENT COMPANY'S CORE BUSINESS



WHAT MANAGERS ARE SAYING

THE TOP THREE AREAS OF INTERVENTION



Scope of the study: 65 foundations, 5 endowment funds.

Evaluation, a key to action

Foundations and endowment funds are increasingly seeing evaluation as a steering tool and decision-making aid: choice of projects, renewal, terms of support. The practice is therefore becoming more widespread, especially as it also makes it possible to rationalize and optimize the allocation of resources... and so provide better long-term support for the project owners.

Sources: "An overview of European Corporate Foundations"/Corporate citizenship. "The philanthropy outlook 2017 & 2018," Marts & Lundy, Lilly Family School of Philanthropy, January 2017. "Panorama 2016 des fondations et des fonds de dotation créés par des entreprises mécènes," Ernst & Young, September 2016.

What is the place of corporate foundations in international humanitarian action?

We meet Thierry Vandevelde, François Debiesse and Patrice Paoli.

12/13



Thierry Vandevelde,
Executive Officer
of the Veolia foundation



François Debiesse,
President of the Admical
Association



Patrice Paoli,
Director of the Crisis and Support
Center — French Ministry
of Foreign Affairs
and International Development

Corporate foundations have become key players in international aid. Over and above the recurrent and growing need for funding, skills sharing is the solution to new expectations on the part of stakeholders and regions.

In a world that has become complex, how is humanitarian action organized and what part are you playing in it?

Patrice Paoli: As a crisis and support center, we are the French Ministry of Foreign Affairs' ER department. Our two missions are protecting French citizens abroad and humanitarian aid. The urgency of the situation may vary. Our actions may also prioritize stabilization. This booming concept is halfway between a humanitarian response and a restoration of normality. Take our recent intervention in Mosul, Iraq, which has been freed from the control of Daech, by way of example. In this instance, we helped bring about a return to normal: resettling displaced populations in their village of origin, helping clear mines, restoring essential public services, and so on.

Thierry Vandeveld: To date, few foundations have taken the step of operational engagement. In France and abroad, the Veolia foundation supports non-profit actions in the public interest: fighting exclusion and protecting the environment, as well as providing emergency aid during natural disasters. What makes us different is that twenty years ago we were a pioneer in getting employees involved by introducing skills sharing. Not to mention mobilizing volunteer staff as part of Veoliaforce. Nowadays the foundation is continuing to develop major partnerships on the ground, in Haiti for example, with the French Ministry of Foreign Affairs' crisis and support center, major NGOs such as the Red Cross and Doctors without Borders, and United Nations agencies such as UNICEF.

François Debiesse: Our mission consists in giving companies the desire and the means to fulfill and give concrete shape to their social role through all kinds of patronage. They thus create links that our society sorely needs. Our role is to represent them before the public authorities and international bodies.

What is the place of corporate foundations nowadays?

Th. V.: The Veolia foundation is a fabulous tool for building bridges between business and the humanitarian sector. In many countries, it is seen as a major partner to the local authorities in managing large-scale emergency or development projects. In addition, through the involvement of the Group's staff from the very outset twenty years ago, the Foundation has generated a real sense of pride in belonging internally, both for those working on the ground and for all employees. This reflects a search for meaning in their job. The Foundation also facilitates dialogue, supports social and civic-minded innovations, finances feasibility studies, etc. It goes without saying that it is a player in Veolia's CSR policy and its performance boosts the Group's extra-financial rating. By sending members of staff on missions in complex contexts (following natural disasters, for example), it provides the company with talent able to handle extreme situations: a real asset, as these situations are multiplying under the effects of climate change!

“Our two missions are protecting French citizens abroad and humanitarian aid.”

Patrice Paoli



“In France and abroad, the Veolia foundation supports non-profit actions in the public interest: fighting exclusion and protecting the environment, as well as providing emergency aid during natural disasters.”

Thierry Vandevelde

14/15

... **P. P.:** Companies are a real partner for us. In 2014, we signed an agreement with six French foundations including the Veolia foundation – which we would like to renew – and we are planning a new wave of partnerships with three to five other groups for 2018. We work closely together and we even travelled with a delegation of twenty-six players to the Dubai International Humanitarian Aid and Development Conference in March 2016, where we presented French expertise and innovations in this field. We also provide support for companies in crisis areas. For example, we can guide them when they are responding to a United Nations call for tenders to set up infrastructure as part of a peacekeeping mission. In this case, we can help them understand the procedures and provide our on-the-ground knowledge. This is a key issue at stake for them, because if their product is chosen by the UN for its humanitarian interventions, they can become quality standard makers. We also assist many innovative small- and medium-sized companies in the humanitarian field. We work with the private sector on a daily basis in many different ways and this interaction increases our effectiveness and coherence.

F. D.: The foundation embodies corporate social responsibility and corresponds to a search for meaning in their professional lives on the part of Generation Y and Millennial members of staff. They expect their employer to give them a job but also an opportunity to engage. Companies have become aware of this and are implementing measures to win the loyalty of their best staff. This patronage – made possible through foundations – is an extraordinary bonding tool. The company can get its staff on board with its actions. This new link between the company and its staff and between the company and its ecosystem – the charitable sector, public authorities, other companies, etc. – creates strong roots in society. Don't forget that the foundation's philosophical dimension is a key concept. A corporate foundation is a symbol, a standard-bearer. It gives concrete form to the actions that a group wants to develop.

“Our role is to represent [companies] before the public authorities and international bodies.”

François Debiesse

What are foundations' main levers of action?

F. D.: The major lever remains financial, but human resources are becoming fundamental. Nowadays, skills sharing (during working hours) and skills-based volunteering (in their free time) are popular among employees of all ages. The foundation may involve the company's members of staff in order to better assist the associations that it supports. For the charitable sector needs skills and sees real added value in all that companies can provide it. In my view, another important lever is the desire to have an impact and be effective. In the initial years of corporate patronage in the early eighties, companies did not measure the impact of their actions very much. The evaluation approach came from investors, for whom donations have to have a purpose. Today, donors (whether individuals or companies) want to know what their impact is. Last but not least, the final lever is a collective approach, which differs from individual patronage. For a long time, companies carried out their patronage actions alone. The breadth and complexity of needs have brought all of the components of their ecosystem around the table: individuals, institutions such as Admical or the Fondation de France, companies, the public authorities (government, local authorities, etc.), associations. In short, looking out for the general interest is now a shared endeavor.

Th. V.: The financial lever, of course, because it is vital that the Foundation has a substantial budget. All the same, we operate with a set amount of resources, which forces us to prioritize our interventions. We have thus moved from undifferentiated philanthropy – which supports a large volume of projects – to looking to make an impact. Today, we are aiming for effectiveness and to this end we have identified avenues allowing us to increase our added value. Starting with innovation and expertise on key subjects that reflect Veolia's core business lines, such as water, rehabilitating extremely degraded areas, bioplastics, employment/integration of the most deprived members of society, etc. Skills are not



Intervention in Mosul, Iraq, which has been freed from the control of Daech. The Foundation is helping bring about a return to normal: resettling displaced populations in their village of origin, helping clear mines, and restoring essential public services.

Since 2014, thousands of displaced people fleeing violence have arrived in Melut County in the Upper Nile state of South Sudan. Three women walk to the displaced persons camp after drawing water from the Nile.

The different types of foundations in France

In France, the term “foundation” covers different legal entities of various kinds. At the beginning of the eighties, the government began to take an interest in foundations and offered different approaches: the officially recognized non-profit foundation, declared by ministerial decree on the advice of the Council of State; the corporate foundation, created and managed by the company itself; the umbrella foundation (such as the Fondation de France) that offers service provisions – logistics support, donation management, etc. – to sheltered foundations; not forgetting university, partnership-based (university/company), scientific cooperation, etc. foundations.

Over the years, the legal framework has become more sophisticated, leading to the creation in 2008 of the endowment fund, a less cumbersome and more reactive entity in terms of its structure and funding, dedicated to collecting and allocating private funds.

••• enough to see these tasks through successfully. We have to fund feasibility studies or pilot operations. For large projects, we have to apply for subsidies from the European Union or the French Development Agency. These are all levers that allow us to cultivate a solid network of partners – UNICEF, WHO, MSF, University of Berkeley, CNRS, etc. – and so be more ambitious in our responses. Another lever is skills sharing, embodied in particular by Veoliaforce, which groups together experts who may be specialized workers or engineers.

P. P.: The world is changing and the vision of combining efforts is on the right track. In fact, while we are seen as a huge European contributor to humanitarian action through ECHO, to which we are the second largest contributor, we are small fry on the international stage. This is why we have formed agile and innovative partnerships. At the Ministry of Foreign Affairs, our very configuration is a representation of the world with which we work. The team members come from many different backgrounds (medical, private, NGOs, etc.) and form a convergence of complementary resources. However, we remain pragmatic: when we don't have an area of expertise, we admit that others have it. Our role as a "networker" therefore consists in bringing together best practices: in crisis management, we create ties between the different players involved in humanitarian aid — the military, development agencies, the police, NGOs, companies. We are an inventive and creative toolbox made up of several elements and we know how to combine resources. Some are activated at our initiative but do not depend on us, while others depend primarily on our action... We never work alone!

In this respect, what common base can the humanitarian world rest on?

P. P.: We are working in variable configurations in which the players have diversified... While NGOs remain our primary partners, corporate foundations and private groups represent a second circle. Together, we find ourselves on a humanitarian coordination committee that we are steering, where a great deal of space is given to dialogue and thinking about the meaning of our actions and the resources attributed to them. In fact, we are preparing the "New humanitarian strategy" for France, which we will be revealing at

“We are working in variable configurations in which the players have diversified.”

Patrice Paoli

“We are capable of delivering an emergency water service to the most destitute with exceptional efficiency.”

Thierry Vandevelde

“The public and private sectors must work hand in hand.”

François Debiesse

an international conference during the first half of 2018. In brief, this strategy falls in line with the "Grand Bargain," a sort of code of conduct launched by the UN intended to combat the funding gap for humanitarian aid worldwide. Three aspects are of particular interest to us: strengthening the links between emergency action and long-term action; developing localization, i.e. relying more on local NGOs or partners – which means giving them more resources; and implementing accountability, or how to check that our action is exemplary, particularly by simplifying reporting and the restrictive procedures that our partners must undergo.

Th. V.: The Foundation is not alone on this base that is being built. As a stakeholder in these major partnerships, it is becoming more effective in its response to emergencies and on the ground. What I call a "hybrid partnership" combines civil society and the private sector in an ideal model for humanitarian action and development aid. All around the world, there are highly competent local entities. This configuration provides a partial answer to the major problems of an urbanizing planet. By way of example, the Veolia foundation excels in urban utilities, while an NGO will be effective in crisis management and rural areas. Together, we are able to provide more ambitious collective solutions from a technical perspective. So, with the Red Cross or Oxfam, we are capable of delivering an emergency water service to the most destitute with exceptional efficiency.

F. D.: The public and private sectors must work hand in hand. Patronage clubs have been created in small companies and large groups alike. These forums for dialogue and encounter are now giving rise to joint actions. Such as the Alliance pour l'éducation organization, which works to prevent children dropping out of school. It was created by all of the corporate foundations who considered this theme, after an incubation phase by Admical. From now on, this collective spirit must take on an international dimension. In fact, patronage has long remained purely French, whereas the Anglo-Saxons have got ahead of the game. The United Kingdom, the Netherlands and Belgium are doing great things in this area. Our openness to other countries complements our collective approach!



Can and should you evaluate the usefulness of a corporate foundation? And if yes, how?

Th. V.: We not only can but we should! This is what we are doing for our iconic and multi-year programs. Especially in the Democratic Republic of Congo, where we are cofunding our Cholera program with AFD, in a scientific partnership with the London School of Hygiene & Tropical Medicine. The same applies in Cameroon, with the water access program. The Foundation itself is inspected each year by external auditors and routinely undergoes surveys conducted by extra-financial rating agencies. Not forgetting that every five years, the Foundation's board of directors and its three boards of founders, employees and qualified figures external to the Veolia group decide on the foundation's longevity and the resources at its disposal.

F. D.: Evaluation is a key question and the divisions responsible for it within companies must be able to consider what a foundation's purpose is. It is a demanding exercise as evaluation methodologies are becoming increasingly complex under the Anglo-Saxon influence. Besides, there is no one form of evaluation. If we take the example of dropping out of school, detailed figures are published and the effectiveness of the scheme can be checked. In other areas, obtaining figures is sometimes more difficult. It all lies in signing a contract of trust with the beneficiary on the qualitative objectives.

P. P.: Evaluation already exists, of course. But through the "Grand Bargain" and its accountability dimension, which we will be signing in 2018, we are going to make these rules an integral part of the French government's action. With the twofold aim of guaranteeing and simplifying. ■

The Foundation facilitates dialogue and supports social and civic-minded innovations.

They represent the Foundation's two stages of action for a better world: Émilie responds to emergencies in Veoliaforce, while Christian is developing a long-term environmental vision in Armenia.

Above and beyond

Meeting Veolia employees from all over the world.

Christian Lefaix

General Manager of Veolia's Drinking Water and Wastewater contract in Armenia

Whether at the helm of an airplane or a new company, Christian Lefaix feels the thrill of take-off every time. "I like to help a company get off the ground," admits this amateur pilot with a globetrotting CV. Sent on missions throughout his career to Argentina, Colombia, Brazil, Saudi Arabia and Gabon to promote Veolia's local development, he touched down in Erevan a year ago to oversee the creation of a Group subsidiary. Since January 1, Veolia has been managing the water and wastewater services throughout the country for a fifteen-year period. For Christian Lefaix, the Armenian adventure began with integrating – in less than a month – 3,000 employees into the new entity. "In the depths of winter at -20°C, ensuring continuity of service was a tall order!" recalls the engineer, who also had to obtain the investment needed to maintain the drinking water networks.

The General Manager of Veolia's local subsidiary is aware that Armenia has many challenges to face with regard to resource management. "In addition to developing water and wastewater infrastructure, there are major needs in terms of cleaning up industrial and mining sites. As well as protecting natural heritage," he adds. This is true for Lake Sevan, the largest freshwater reserve in Caucasia, the cleanliness of whose banks is threatened by summer tourism. A meeting with the French-Armenian Development Foundation quickly convinced Christian Lefaix of the need to act to organize the clean-up of its beaches. The "Clean Sevan" campaign was born. Supported and monitored by the Veolia foundation, the project aims to raise awareness among visitors by installing signposts and trash cans, as well as developing a waste collection service, which has created 21 seasonal jobs. Successfully launched last summer, the campaign is set to be renewed for at least five years. "Our local partner has been able to perfectly coordinate the actions on the ground," concludes Christian Lefaix with satisfaction. So much so that a future collaboration is in the pipeline to awaken young minds to environmental issues in the classroom. ■



SPOTLIGHT

20/21



Émilie Bancel

Process Engineer
at Sidem, a Veolia subsidiary
Veoliaforce volunteer for the
Veolia foundation. Paris

For Émilie Bancel, showing solidarity provides the link between her job and her humanitarian commitment. “When you know that you can help a population facing a natural disaster, you don’t hesitate for a second to go,” says the young engineer from Sidem¹. Her specialty — designing seawater desalination facilities to produce drinking water and putting them into operation — is a key skill that since 2011 has led her to join emergency missions in Zimbabwe, Haiti and Iraqi Kurdistan. This is how she has been involved in rehabilitating drinking water plants, putting in place disinfection systems and training local operators within the framework of Veoliaforce, the Foundation’s network of volunteers.

When the devastating effects of Hurricane Irma on the island of Saint Martin were reported in September 2017, Émilie immediately volunteered to accompany Veolia’s dispatch of a mobile seawater desalination unit. As it does not have a freshwater source, the little island in the West Indies depends entirely on this technology to provide its inhabitants with drinking water. On her arrival, Émilie was shocked to see the scale of the damage. Devastated by the hurricane and threatened by major sanitation risks, Saint Martin urgently needed a water supply.

“A twofold challenge awaited us: providing immediate support for the population and restoring the plant run by Veolia to working order,” notes the volunteer. Bearing in mind that it takes three days to deploy the equipment transported by plane, the clock was ticking. Émilie and her colleagues geared into action to install a unit capable of desalinating 600 m³ of water each day. “In other words, around 17 liters per person per day for the 35,000 inhabitants of the French part of the island,” specifies Émilie. Adjoining the drinking water production plant heavily damaged by the hurricane, the desalination unit treats seawater as a complement to the existing facilities, which have now been restored to maximum capacity. On site, Veolia’s employees began working from the day after the hurricane to repair the drinking water production and distribution facilities. And are continuing to do their utmost to rapidly restore normal service in Saint Martin. In the meantime, the humanitarian actions of Émilie and the other volunteers help provide the populations with the vital resource they lack. ■

1- Subsidiary of Veolia Water Technologies, at the forefront of thermal and membrane reverse osmosis seawater desalination technologies.



French West Indies

Hurricane Irma Drinking water, an absolute emergency

On September 6, 2017, Hurricane Irma devastated two French islands in the Caribbean: Saint Martin and Saint Barthélemy. It was a race against the clock for Veolia's teams. Their priority was to ensure a drinking water supply to the impacted populations.



Issue at stake

► Restart drinking water production and distribution as quickly as possible in Saint Martin, after the serious damage left in the wake of Hurricane Irma.

Objective

► Implement emergency solutions to supply populations with drinking water until Veolia's desalination units in Saint Martin are up and running again, along with the water and wastewater systems.

Veolia solution

► Mobilize a team of experts and volunteers from the Veolia foundation, along with Group staff members based in Guadeloupe.
► Transport a mobile seawater desalination unit to Saint Martin from Spain and emergency equipment from France.

The day after Irma

—a category-5 storm, the highest on the hurricane intensity scale — hit, Saint Martin (40,000 inhabitants in the French part) and Saint Barthélemy (almost 9,500 inhabitants) presented a desolate landscape: boats and cars embedded in buildings, and heaps of debris with a jumble of fragments of roofs, windows and walls. The airports were out of use for several days, while electrical facilities and seawater desalination plants were damaged. The human toll was compounded by considerable material destruction.

Concentrating efforts on Saint Martin

As they do not have any natural freshwater reserves such as rivers or water tables to which they can turn in an emergency, the two islands depend on three seawater desalination plants managed by Veolia. However, these were heavily damaged and the Group geared into action to supply drinking water to the populations. “The damage to the water production and distribution infrastructure was severe and it will take several months to return to normal service,” highlights Thierry Vandevelde, Executive Officer of the Veolia foundation, on his return from the field. “The facilities are obviously located on the coast and were therefore partly submerged when the hurricane swept through.” The



teams' efforts were concentrated in Saint Martin, where the desalination units and networks were most affected.

Restarting water production and distribution

On September 22, drinking water production and distribution slowly but surely started up again in Saint Martin. Ahead of the set targets, the desalination facilities were already delivering 1.5 million liters/day, i.e. 30% of the plant's pre-disaster production. The Veolia teams worked tirelessly on the network and individual connections to gradually restore them to working order. In early October, production exceeded three million liters per day and over 65% of households were being supplied once more. An achievement down to everyone's involvement, including members of staff from the local area, Guadeloupe and France, experts in emergency situations, desalination, drinking water distribution, wastewater

...





VITAL RACE AGAINST THE CLOCK

Friday, September 8: Veolia organizes, along with the government services, the transfer by plane of a mobile seawater desalination unit to meet the populations' urgent need for drinking water.

Friday, September 8 and Saturday, September 9: Veolia transfers several staff members based in Guadeloupe to Saint Martin to strengthen the local teams. Their mission is to assess the state of the drinking water distribution facilities, an essential prerequisite to getting them up and running again.

Tuesday, September 12: a first team of experts from the Foundation arrives on the ground. They take reception of over ten metric tons of storage, distribution and water quality analysis equipment, transported by airplane thanks to the French Red Cross.

The next day, they are joined by two Veoliaforce volunteers who specialize in desalination techniques to put the emergency mobile unit into operation.

Friday, September 15: the mobile desalination unit is transported from Madrid by an Antonov, a huge military cargo plane, which touches down at Pôle Caraïbes airport in Guadeloupe. The final part of the journey is made by barge, from Pointe-à-Pitre to Saint Martin. This operation is a real challenge for the Foundation's teams charged with the transshipment, unloading, assembly and start-up of essential equipment to restore part of the island's drinking water.

Wednesday, September 20: a new team from the Foundation arrives to assist the team present in Saint Martin with water distribution and network issues. With the French Red Cross, they install twelve emergency water stations (reservoirs connected to the network and distribution manifolds) and, day after day, search for leaks and repair the pipelines. At the same time, repair equipment and vehicles are sent by sea for the teams working to get the pre-existing facilities up and running again.

Sunday, September 24: the mobile desalination unit begins to function with a maximum production volume of 600 m³/day (its start-up was delayed due to Hurricane Maria passing through).

Thursday, September 28: 65% of the island's inhabitants have access to drinking water once more and the production of all of the desalination units (including the mobile desalination unit) exceeds 3.5 million liters per day.

Interview Nicolas de Saint-Martin,

Director in charge of monitoring overseas territories for the General Counsel of Veolia Water in France, was at the heart of the Veolia crisis unit set up at the Group's headquarters the day before Irma struck.

With a month's hindsight, what are your lasting impressions and images?

A major crisis, because the hurricane hit two islands with few resources to cope with this type of disaster. Physical distance, which made the emergency interventions difficult and limited communication. Also, an absence of freshwater on both islands, which made the traditional mobile units unsuitable and forced us to find units that produced drinking water from seawater. Veolia employees on the spot and their families, who were themselves victims of Irma and its consequences... People who were completely dedicated but also in a state of shock... yet they were working 20 hours a day! Finally, a lack of security, with the theft of equipment and supplies — power generators, chlorine, etc., which obliged us to ask for the army's assistance in securing our different sites. In this chaos, I see two more favorable factors: a rather small and concentrated population (approximately 50,000 people on the two islands at the time of the hurricane) and the immediate mobilization of emergency intervention teams.

How does the crisis unit work?

A conventional watch cell was set up on September 5, in anticipation of Irma's arrival. From 6th onward, all the skills we needed were assembled: the Veolia foundation, crisis management experts from Veolia France's Water business line, the Operations, Communication, Human Resources, Safety, Risks and Insurance divisions, along with staff from the Group's subsidiaries present in situ. The crisis unit then

met every day and crafted a tailored response to the emergency. After assessing the needs, we identified potential problems and the solutions to be implemented. For me, the crisis unit is a unique place where information flows well, actions are prioritized... The professional commitment was 100% and everyone's energy was focused on the sole aim of responding to the emergency and facilitating a return to normal as quickly as possible.

What is your role in this exceptional context?

We are there to help those on the frontline withstand the shock. In particular, this consists in setting up a psychological assistance unit, organizing the necessary repatriations and sending reinforcements, communicating messages accessible to all, fostering relationships of trust and transparency with the crisis units of all those involved, and structuring decision-making. In short, smoothing relations between all the stakeholders and facilitating the work of staff on the ground. It is ultimately a concentrated hub of support functions for operational staff.

At the end of the day, this is a tiring, demanding and intense period. Members of staff spontaneously came to join the Foundation's volunteers to use their skills on behalf of the company. In this type of extreme situation, Veolia's DNA comes to light and reveals the pride in our values...

(Interview conducted in early October 2017)

...

and network rehabilitation. They all worked in close collaboration with government services, the local authority and other local operators such as EDF.

Long-term emergency management

The volunteers from the Veolia foundation began by focusing on getting the Veolia mobile desalination unit from Madrid up and running (see boxed text p. 25). In the meantime, the water reserves gathered in anticipation of the hurricane provided a supply to the hospital

Key figures Saint Martin

100% of water production has been restored compared with the pre-hurricane period (early November 2017)

81% of households are supplied with drinking water (early November 2017)



“Veolia employees on the spot, although they themselves were victims of Irma and in a state of shock, were working 20 hours a day!”

in Marigot, the large town to the west of Saint Martin, in the first days after Irma hit. As a provisional emergency solution, twelve district water stations were set up in parallel by the French Red Cross with the support of the Foundation's teams. The “sanitary” quality water distributed met hygiene needs but did not initially replace



bottled water for drinking. “We are still in a state of emergency,” Nicolas de Saint-Martin, Director in charge of monitoring overseas territories for the General Council of Veolia Water in France (see interview), reiterated in early

October. “The Veolia crisis unit is continuing its daily briefings with local personnel — information sharing, joint decisions, feedback of needs, etc. — nights and weekends included!” With the gradual resumption

of production, life on the island is slowly getting back on track. Veolia must now begin the long process of gradually reconnecting all the districts over several months. At the same time, the Group is

working relentlessly to restore wastewater services. The priority is cleaning the sewers to prevent an accumulation of wastewater and the inherent sanitation risks. After the time trial, a marathon is now beginning... ■

Fundraising appeal

In response to the request from many Veolia staff members keen to show their support for affected populations, the Veolia foundation has opened a special “Irma Emergency” account. For each euro donated by a member of staff, the Foundation donates an additional euro. Beyond the emergency period, the seriousness of the situation will require ongoing interventions for many months. “All of the donations will be used to fund emergency and relief programs, followed by reconstruction efforts, which will be supported and assisted by the Veolia foundation,” concludes Thierry Vandeveldé.



Democratic Republic of Congo

Cholera

A multi-stakeholder approach to eradicate the disease

28/29

Sometimes incorrectly called the “dirty hands” disease, cholera is more accurately a disease caused by dirty water. The most serious cholera epidemics occur in areas where access to clean water and proper sanitation is lacking. Louis Pasteur said it long ago: “We drink 90% of our diseases.” Vaccines do exist, but they remain relatively ineffective, especially in children under the age of 5, and their use is extremely limited.

Tackling the causes

For Thierry Vandeveld, Executive Officer of the Veolia foundation, “the real lasting solution to epidemics of cholera and other water-borne diseases therefore lies in strengthening access to hygiene, water and sanitation. This hygiene-based approach is greatly facilitated today by advances in epidemiology¹, making it

Since 2007, the Veolia foundation has been supporting the Democratic Republic of Congo (DRC) in its fight against cholera. To date, the DRC remains the only country in Africa with a national eradication strategy, which relies a great deal on access to high-quality water. This public policy brings together three ministries, NGOs, backers and private partners. However, the fight to eradicate cholera is far from over.

possible to identify where these epidemics begin: source areas (or hot spots). We can therefore better target the response and make it efficient by focusing efforts on these few target areas and promoting a multisectoral approach. Accordingly, from the outset, the DRC devised a plan

involving the Ministries of Health, Finance and Planning, along with Regideso (the national water utility company).” As of 2007, the Veolia foundation has been supporting evaluation work with a view to understanding how cholera and other water-borne diseases in the country





Issue at stake

- › Eradicating cholera

Objective

- › Implementation of a national plan for eradicating cholera in the Democratic Republic of Congo (DRC)

Veolia solution

- › Promoting a strengthened international partnership: identifying the causes of the spread of the disease and modernizing water and wastewater infrastructure in the two pilot cities of Kalemie and Uvira, in the east of the DRC.

... spread. This work is based on the results of scientific research carried out by the epidemiologist Didier Bompangue², published in 2009, which clearly establish a correlation between the development of cholera and a lack of access to drinking water. They also identify eight source areas in the east of the DRC. On the basis of these findings, in 2010 the government officially launched a Strategic multisectoral plan to eradicate cholera and combat diarrheal diseases (PMSEC-MD). It has chosen to rely on a “magic square,” i.e. a strengthened partnership with four stakeholders: the Congolese ministries, local NGOs, experts in urban water and energy infrastructure, and international backers. Eight major regions have therefore been methodically protected in order to better delineate some thirty health zones³ subject to increased surveillance. The aim is to define and then implement a prevention and response approach to cholera epidemics. These zones are all located in the east of the country, around lakeside regions conducive to the development of bacteria.

Understanding in order to act

Doctor Didier Bompangue, the man behind this first plan, has since been appointed by the Minister of Health as Coordinator of the National program to eradicate cholera and combat diarrheal diseases (Pnechol-MD). He recalls that at the time, he “thanked Doctor Vandeveld for daring to trust [his] approach and that of [his] epidemiologist colleagues from Besançon University, when no one had yet clearly understood what we were working on.” Eight missions on the ground were organized with the Veolia foundation between July 2005 and March 2009. With the support of the ministry, “we patiently created an epidemiological surveillance system thanks to a host of partners who enabled us to check our hypotheses on the ground. Especially those to geographically determine the priority research zones. Nowadays, this system allows us to have databases updated on a weekly basis,” highlights the epidemiologist. This surveillance system shows that people living near a lake in the DRC are 7.5 times more at risk of being affected

...

Aurélie Jeandron

Research fellow at the London School of Hygiene & Tropical Medicine

“Evaluation, an indispensable component of development projects”

“Pipes alone cannot guarantee the quality of the water distributed if production is not reliable upstream. This is one of the main findings of the 2015 study conducted by the London School of Hygiene & Tropical Medicine in the Democratic Republic of Congo. The aim was to establish a link between interruptions to the drinking water supply and an increase in the number of cases of cholera and other diarrheal diseases. The researchers (epidemiologist physicians) observed, on the basis of reports drawn up by local NGOs, that the number of declared cases increased with each power cut or during technical breakdowns in the water production and distribution system. With each failure of the water treatment system (a day-long interruption to the water supply), these reports noted a 155% increase in the number of people contaminated or presumed to be so over the next 12 days. The results of this study – funded by the European Union, the French Development Agency and the Veolia foundation – are a decision-making tool to improve drinking water distribution. Once the modernization of the water infrastructure is completed, we will continue to measure the impact of failures on the incidence of cholera. With the hope that in the long term this work will help reduce the number of cases of cholera and other diarrheal diseases in Uvira.”



Ibrahim Mayaki

President of the GAAC and CEO of the African Union's development agency, NEPAD
(New Partnership for Africa's Development)

Advocating a global strategy to combat cholera

The Global Alliance Against Cholera (GAAC) is an international advisory platform. It was created in 2010, in the light of the epidemic that struck Haiti after the earthquake on January 12. The fear of a planetary resurgence of one of the worst scourges of the 19th century gradually led the WHO to reactivate its Global Task Force on Cholera Control (GTCC), which regularly calls on the skills of GAAC's experts. Ibrahim Mayaki, President of the Alliance, explains its strategy.

Why was an international alliance to combat cholera created?

There wasn't a platform bringing together the public and private sectors, the academic world and foundations that devote themselves to the question of cholera. The originality of the GAAC is to create a multi-player alliance composed of figures renowned for the quality of their work, offering the Alliance optimal visibility in the eyes of major international institutions. Without playing an operational role, the Alliance draws up methodologies to combat cholera.

Is there a divergence in approach between the WHO and GAAC regarding the strategy to be implemented to combat cholera?

I would describe our strategies more as complementary. Without playing an operational role, the Alliance draws up methodologies to combat cholera, while the WHO counts above all on vaccines to respond to crises. We have a different aim: we prioritize the development of sanitation infrastructure.

Is this why the Veolia foundation is a member of the Alliance's executive board?

Exactly. The foundation draws its expertise from Veolia's know-how, its business lines for managing the essential services of water, waste and energy. This helps us define methodologies that can be replicated in other countries such as Chad, Niger, etc.



Do you suggest methods or programs tested on the ground?

Absolutely. The work carried out on the ground for many years by the Veolia foundation and all of the epidemiologists in the Democratic Republic of Congo has allowed us to understand the factors that trigger the disease, starting with those linked to the quality of water and sanitation.

How do you work?

With this kind of multi-player platform, capable of proposing replicable methods, we have extremely effective advocacy to win over other actors such as the Rockefeller and Hilton foundations and thus promote a synergistic approach. We then work closely not only with the WHO but also governments – such as the Ministries of Public Health, Sanitation, etc.

– or the Pan American Health Organization for South America.

How do the GAAC and the sanitation actions carried out on the ground help Africa's development?

With all of these players, we not only respond to crises, but we also organize prevention and act to promote development. Our activities nurture the Pan-African development agency – NEPAD – and help it define education and learning programs. This provides invaluable support in developing centers of excellence in water management, in areas as varied as irrigation or urban infrastructure, across the 52 African countries where we are involved.

Do political stability and lasting solutions go hand in hand?

Obviously lasting solutions require political stability. However, the work on the ground undertaken in the Democratic Republic of Congo over the past decade, with a host of local and international players, has been extremely positive. Progress is being made despite the difficulties. For example, the local water management services previously did not work with the health services. Bringing them together on the ground has made it possible to build partnerships and create solid ties. It's essential to act in this way, with the right methodology, if we want to ultimately eradicate cholera.

Key figures on cholera

The figures are complex: in 2016, **132,121 cases** were reported to the WHO by **38 countries**, with a mortality rate of **1.8%** (source: Weekly Epidemiological Record 2017, 92, 521-536). The estimates established by epidemiologist physicians speak of **four million cases worldwide** et and **21,000 to 143,000 deaths** each year.

Cholera in brief This acute diarrheal infection, which can prove fatal within several hours if it is not treated, is caused by the ingestion of food or water contaminated by the bacillus *Vibrio cholerae* (Source: WHO).

Find out more: www.fondation.veolia.com/en



... by the disease. Such as the inhabitants of Kalemie and Uvira, on the banks of Lake Tanganyika, which are key permanent source areas of cholera⁴. Working in these two cities, the Veolia foundation is putting forward a two-step strategy. First of all, understanding how the disease spreads. “The solution may therefore lie in better access to water at certain points, and sanitation elsewhere,” Thibault Constant, the foundation’s project officer, reminds us. In a second phase, sanitary hydraulic master plans promoting access to water and epidemic control are drafted collaboratively, involving experts from Veoliaforce, Congolese epidemiologist physicians, Regideso’s hydraulic engineers and NGOs on the ground.

A hot topic

These plans are leading to the implementation of infrastructure work. Already well advanced in Kalemie (355,000 inhabitants⁵), in partnership with the NGO Solidarités International, the work is beginning in Uvira (400,000 inhabitants), in South Kivu, with the support of the British NGO Oxfam and Regideso. It also benefits from eight million euros in funding from the French Development Agency, the European Union and the Veolia foundation. The results are already tangible in Kalemie, which offers improved access to high-quality water at access points and at home. This has led to a rise in the number of customers, strengthening Regideso’s self-financing capacity, a sign of the modernization and development of new water and sanitation infrastructure. Nonetheless, despite the investment already made and the multisectoral coordination in place for a decade under

Interview
Martin Le Ménager
 Project Manager in the Water and Sanitation division, AFD

What is the French Development Agency?
 It is the French bilateral cooperation agency for development. Enjoying an autonomous status, it implements French policy in this area, through subsidies paid to governments expressing a need and the funding of long-term projects. Where the Democratic Republic of Congo (DRC) is concerned, these funds come from ministries in charge of water management in countries of the Global South. We don’t decide on the projects but assist their implementation, and sometimes their reformulation, in a spirit of mutual dialogue. As the Agency is above all concerned to meet local demand, our financial support is provided within a precise scope of implementation.

You are helping fund a project to improve sanitation infrastructure in Uvira, in South Kivu. Why did you get involved?
 We knew that the Veolia foundation was highly involved in understanding the dynamics of the spread of cholera in the Great Lakes Region. In particular, it has been able to support the DRC’s national water utility company (Regideso), especially its South Kivu provincial division, in drawing up a project for rehabilitating water infrastructure in the city of Uvira. We therefore had the assurance, specified in the agreement signed by the parties, that the foundation would monitor the smooth deployment of the project and ensure, among other things, that the modernized infrastructure is maintained in good condition. The project also incorporates community mobilization. The idea is that customers – who, incidentally, pay an extremely affordable price for water – are themselves responsible for seeing that the access points are used correctly. Finally, this project has an “impact study” dimension (see boxed text, page 30). All of these components allow us to gain experience and above all measure the project’s effectiveness over time.

Who is the beneficiary of your subsidy for this project?
 We allocate the funding to the government, which then entrusts it to the national water utility company. The funding decision was made in 2012, for a sum of six million euros from the AFD. We also convinced the European Union to contribute 2.5 million euros.

the authority of the National committee for action on water, hygiene and sanitation (CNAEHA), eradicating cholera remains a hot topic. Between the beginning of 2017 and the end of August, the DRC recorded 528 deaths in almost a third of its 26 provinces. “We must continue our joint efforts and be able to collectively fund the

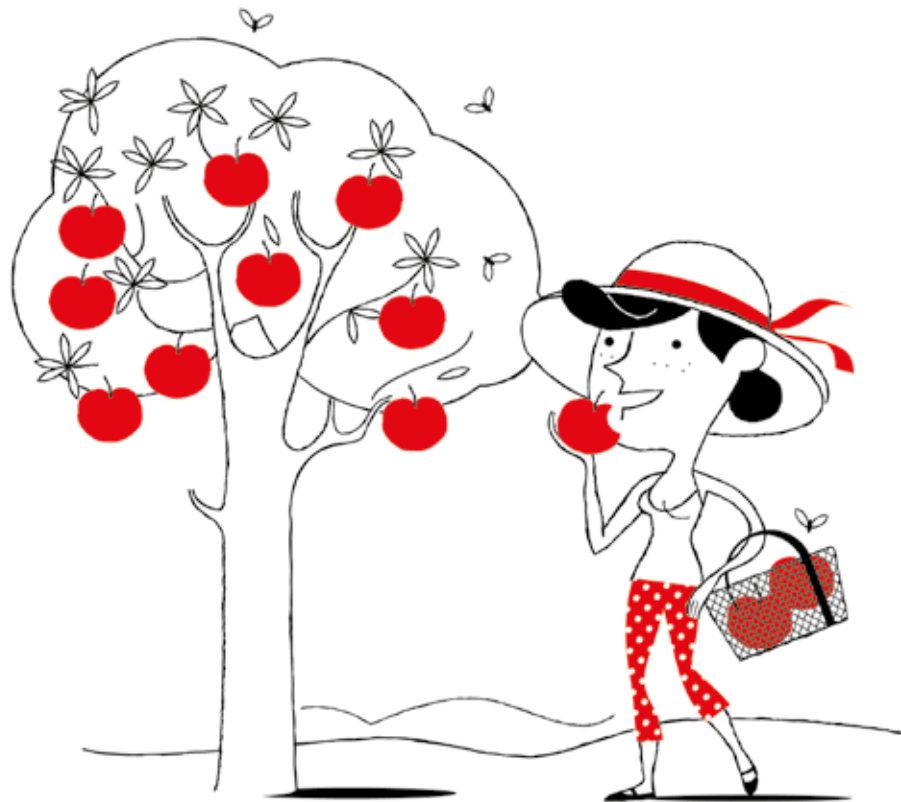
construction of water production plants and wastewater networks, not forgetting education, as a hygiene solution,” analyzes Thierry Vandeveld. Entirely in line with this conviction, Dr. Bompangue states that, “this crisis shows more than ever the need to work in depth on its structural reasons.” ■

1- Epidemiology is a scientific discipline that studies the frequency of diseases and their distribution, risk factors and mortality. (Source: FuturaSanté).
 2- Didier Bompangue, “Dynamique des épidémies de choléra dans la région des grands lacs africains : cas de la République démocratique du Congo.” Ecology, Environment. Franche-Comté University, 2009
 3- Out of the DRC’s 515 health zones. Source: National Sanitary Development Plan PND5 2011-2015.
 4- Source: Veolia foundation, find out more: www.fondation.veolia.com/en
 5 – 2013 data.

DECEMBER 12, 2017, PARIS (FRANCE)
INTERNATIONAL CLIMATE "PROGRESS" SUMMIT

MOBILIZING PUBLIC AND PRIVATE
FUNDING TO COMBAT CLIMATE CHANGE

CO-ORGANIZED WITH THE WORLD BANK AND THE UNITED NATIONS, THIS SUMMIT IS AN OPPORTUNITY TO PRESENT "12 TRANSFORMATIVE PROJECTS" FOR CLIMATE ACTION. THE FOLLOWING THEMES IN PARTICULAR WILL BE ADDRESSED: PUBLIC FUNDING, THE GREENING OF PRIVATE FUNDING, ACTIONS BY CITIES AND REGIONS, AND PUBLIC POLICIES TO ACCELERATE THE ECOLOGICAL TRANSITION.





Cap Sicié France



Artificial reefs to revive the marine environment

The Remora project aims to help marine biodiversity re-establish itself in areas where it had disappeared due to pollution. A pilot ecological recovery operation that is proving extremely promising.*

*Remora: ecological ocean environment restoration with artificial reefs.

Sometimes nature needs a helping hand. Especially when it has been damaged due to humanity's actions in the past. Helping biodiversity reassert itself is the aim of the Remora project launched in 2011 by several partners including the Veolia foundation, the Rhone-Mediterranean and Corsica Water Agency and the Paul Ricard Oceanography Institute (IOPR). The initial results are extremely

encouraging. Since the 1990s, the quality of coastal waters has made huge progress. At the time, the city's wastewater was discharged directly into the sea with heavy environmental consequences. The introduction of a wastewater system has made it possible to considerably limit this pollution and restore highly satisfactory water quality. However, as the marine environment had been destroyed, seaweed, fish and crustaceans had

disappeared. Hence the idea of recreating a habitat conducive to the reappearance of biodiversity.

Artificial reefs

The experiment was conducted at Cap Sicié in Toulon harbor (Var department, France). This area enjoys very good quality water thanks to the Amphitria wastewater



Issue at stake

› Successfully bring about the ecological recovery of formerly polluted areas.

Objective

› Bring back flora and fauna in areas where life had disappeared following pollution.

Veolia solution

› Immerse artificial reefs so that they serve as a habitat, larder and growth area for young fish.

Ecological recovery

The Remora project consisted in immersing two identical 360-m³ artificial reefs at a depth of 15 meters off the coast of Toulon in April 2015. Each composed of 18 modules of various shapes such as hedges, tepees and rollers, they were deliberately arranged in order to be able to assess the technical and operational feasibility of a restoration action. The first was placed under the influence of the 60,000 m³ of treated wastewater – rich in organic matter and therefore in nutrients for fauna – discharged every day by the Amphitria sanitation plant; the second, sheltered from the currents, is located at Cap Vieux. The aim is to compare the action of each reef on the return and development of fauna and flora. To date, Remora has entered the five-year active scientific monitoring phase.

Since spring 2016, the first scientific observations have been encouraging: the habitat is improving. The different modules seem to be playing their role of attracting a host of fish, crustaceans, and echinoderms – starfish, sea urchins, sea cucumbers, etc. Above all, pioneering species of seaweed such as coralligenous algae, which can exceed 10 centimeters in certain places, are beginning to colonize along the synthetic fibers. The program is also expanding its assessment mission to include these two reefs' surroundings, especially the neighboring Posidonia meadow, an invaluable ecosystem particularly for its ability to sequester and store carbon in underwater sediments.

This collaborative project, led by the Pôle Mer-Méditerranée hub and co-funded by the Rhone-Mediterranean and Corsica Water Agency and the Veolia foundation, also relies on the skills of water treatment and ocean environment professionals: the artificial reef designer DBS, the engineering company specializing in marine environments ERAMM, the Paul Ricard Oceanography Institute (IOPR), a local marine survey company (IXSurvey), and Veolia, which runs the Amphitria plant.

the same: recreating a habitat to encourage the repopulation of previously polluted areas," states Emmanuel Plessis, Veolia's Development Director in Provence. "We are moving from an R&D phase to its reproduction on a wider scale, involving the fishermen concerned." More generally, the

Group is going to provide a worldwide service supplementing its wastewater projects with an ecological restoration offering. "In Europe, the law of August 8, 2016 on biodiversity recovery holds great potential for us," concludes Emmanuel Plessis. ■

...

treatment plant operated by Veolia. In April 2015, two artificial reefs were installed at a depth of 15 meters, one near the discharge point for the treated water, the other slightly further away to be able to compare developments. These lightweight structures, which are relatively inexpensive to immerse, are formed of fiberglass and epoxy resin rods attached to concrete blocks. These reefs serve as a habitat, larder and even a nursery for the different species that find refuge there. Two years later, results have exceeded expectations. "We are pleasantly surprised by the reaction of the marine environment. We find lifecycles and certain animals – squid, cuttlefish, crustaceans and fish – are reproducing in these reefs," observes Pierre Boissery, an expert on the Mediterranean Sea and Coast at the Rhone-Mediterranean and Corsica Water Agency. "This is confirmation that water quality is no longer hindering a return to biodiversity."

Four-phase restoration

The experiment can therefore be reproduced, as long as the four phases necessary for successful restoration are followed: first of all, set aside remarkable spaces where biodiversity is preserved; then improve sanitation to restore the quality of the water discharged into the sea; next, set up integrated management, in which everyone works together to limit the impacts on the marine environment: hotels, technical services, yachtsmen, farmers, etc. It is only at this point that the ecological ocean environment restoration can begin. "The sea is a good girl: it is resilient if we avoid pollutants," highlights Patricia Ricard, President of the IOPR (see boxed text). The Remora project is already a success and it's only the beginning! Veolia has just won a call for tenders for a large-scale ecological restoration project near Cassis in the Bouches-du-Rhône department. "The technologies will be different, but the rationale remains

The IOPR, a key partner

The Remora project falls firmly within the Paul Ricard Oceanography Institute's long-standing mission: knowledge and protection of the ocean. The IOPR originally fought to improve water quality. "Forty years ago, there was no wastewater treatment plant and raw water was discharged directly into the sea," recalls Patricia Ricard, its president. Once this battle was won, it was logical for the IOPR to tackle the question of restoring biodiversity via the Remora project. "We have contributed our skills in terms of biology, our knowledge of nature and the depth of marine habitats. For its part, the Veolia foundation initiated the project and helped fund it with the Rhone-Mediterranean and Corsica Water Agency. It's great interdisciplinary work combining skills in microbiology, marine biology, engineering and chemistry." The results can be seen by all. In Port-Cros, for example, there were only four groupers left in 1963. Today there are over 700. "Environmental pollution is therefore not irrevocable, restoration is possible!" enthuses Patricia Ricard.



REMORA'S SCIENTIFIC MONITORING IN FIGURES

5 years' immersion of two artificial reefs

2 campaigns/year: at the end of winter for the materials' resistance and hold; in the spring and fall for monitoring the fixed biomass and fish.

1st results from the 2015 and 2016 campaigns:

- **water quality is no longer a factor** limiting the restoration of ecological functions;
- in a sandy environment where the Posidonia meadow had disappeared, **renewed growth of fauna and flora specific** to attached species in shallow coastal waters on the artificial reefs.



Interview

Pierre Boissery,

expert on the Mediterranean Sea and Coast at the Rhone-Mediterranean and Corsica Water Agency

Where did the idea for Remora come from?

If there is a good wastewater treatment plant, can the ecological functions that existed before the pollution be restored? We wanted to check this hypothesis that water quality is not the reason preventing biodiversity from returning.

The Water Agency worked on defining the objectives and concepts, then encouraged the creation of a round table with the stakeholders. We then defined and funded the operations together. This project required entering into different partnerships and getting the public and private sectors – the Veolia foundation, Pôle Méditerranée, the University of Toulon, the Paul Ricard Oceanography Institute, Ifremer, etc. – to work together on an innovative project.

What conclusions have you drawn?

Cap Sicié's rehabilitation is all the more exemplary given that ecological restoration is not a foregone conclusion. This operation illustrates the partners' desire to do something more for nature that is not compulsory by law.

Find out more:

- > www.fondationveolia.com/en
- > www.institut-paul-ricard.org/?Reconquete-d-un-milieu-degrade
- > www.polemermediterranee.com/Le-Pole-Mer-Mediterranee/Actualites/News/Essai-pilote-de-restauration-ecologique-en-milieu-marin-cotier-degrade-tel-est-l-objectif-du-projet-Remora

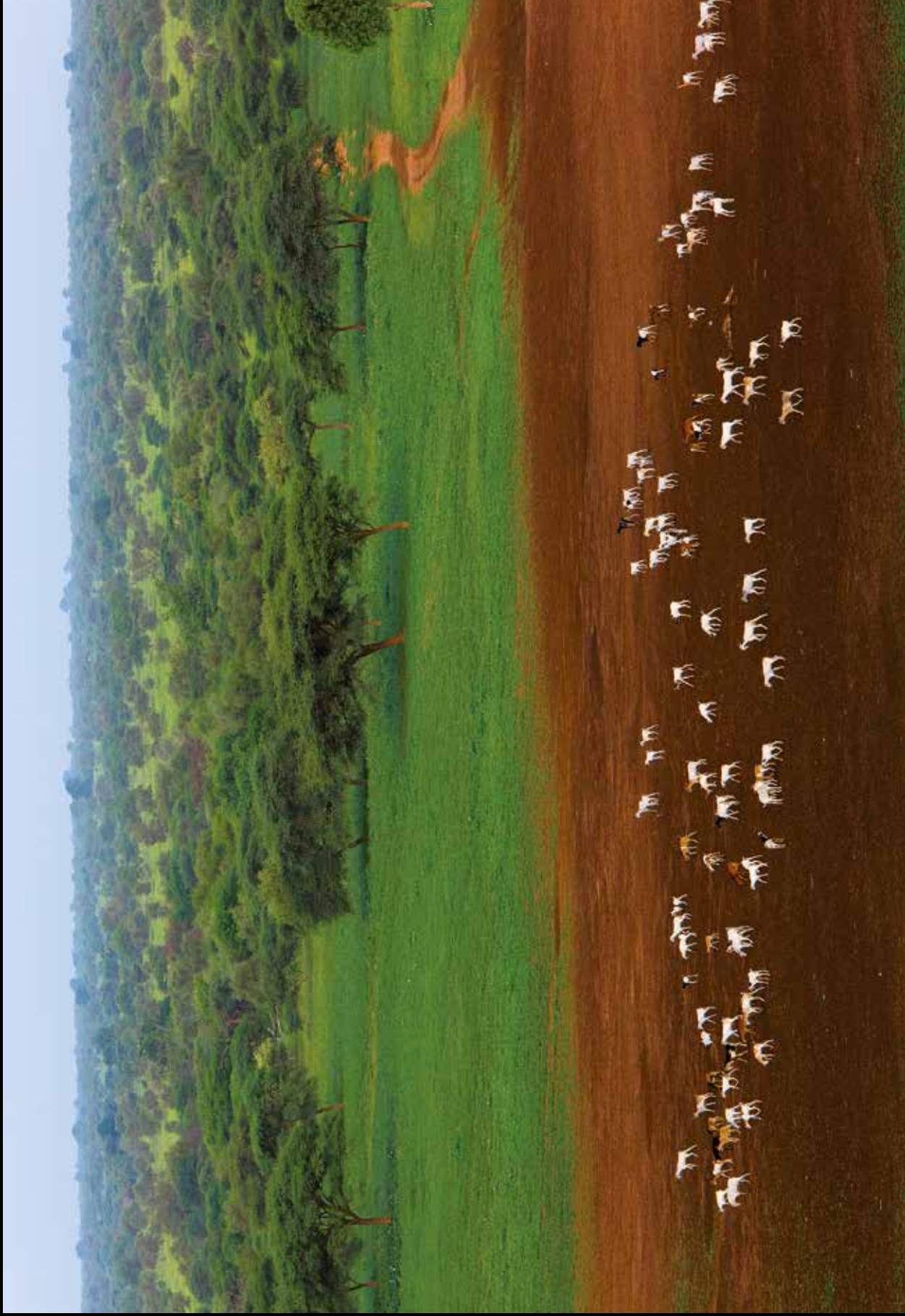
Green against the desert

Backing onto the Sahara, the Sahel is a fragile place. Under the effect of drought and the degradation of the natural environment, this extremely poor rural setting has been giving ground to desertification for many years. It is coming back to life thanks to the Great Green Wall. Launched on the initiative of eleven African states, this vast forest regeneration program is destined to stretch over more than 7,600 km, like an immense shrublike mosaic linking Dakar to Djibouti. A

“crazy project” but sensible enough to be closely studied by researchers from the OHMI Tèssékéré*, supported by the Veolia foundation. In the north of Senegal, a pilot area where the plantations began in 2008, botanists, anthropologists, geographers and doctors are analyzing the impacts of reforestation on the environment, the local economy and health. Little by little, efforts to regreen the Senegalese steppe are helping improve the everyday life of Fula communities.

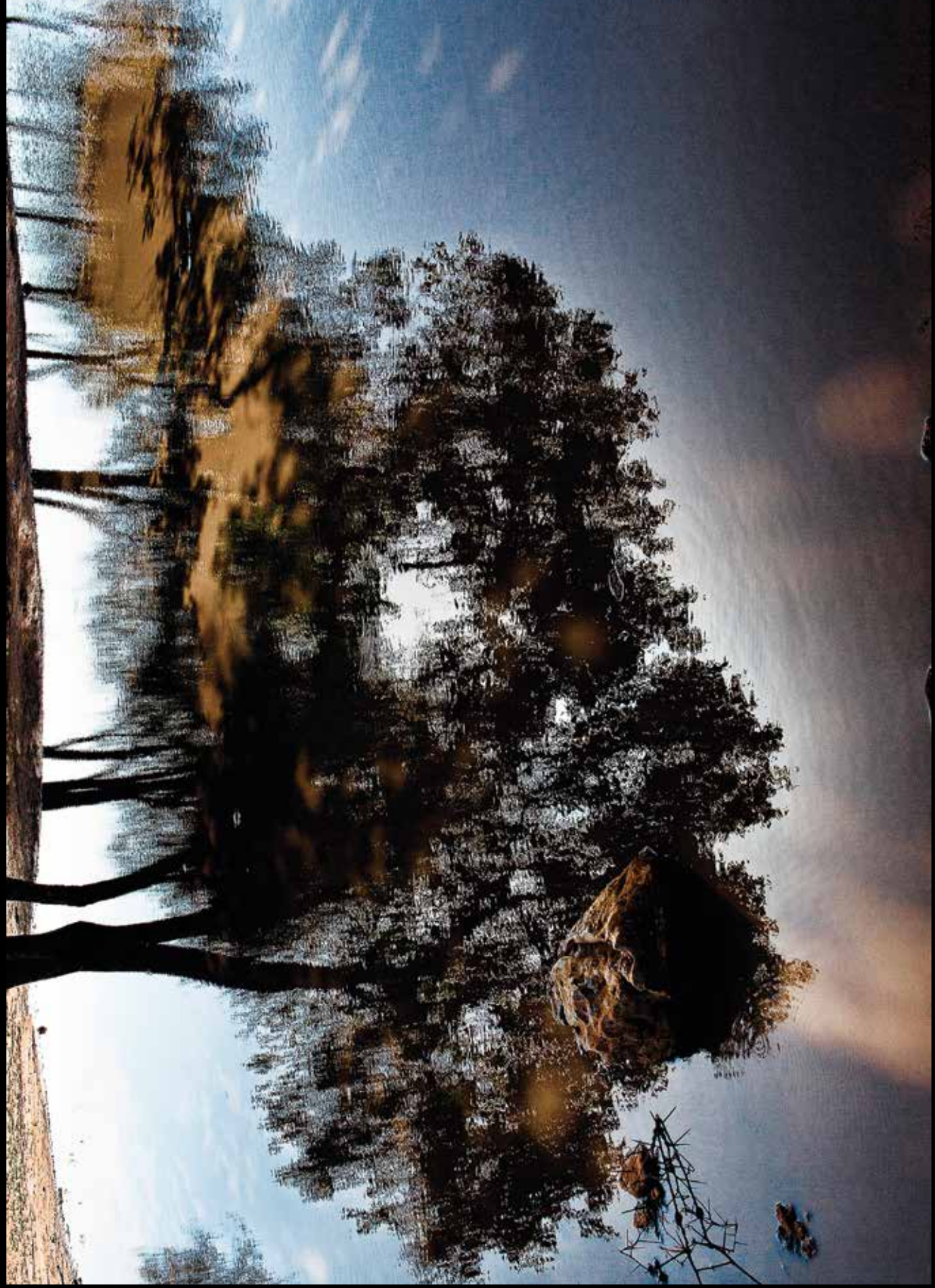
Arnaud Späni's images bear witness to these changes: hope is being reborn, in the shade of the acacias and desert date palms.

** A human-environment observatory (OHM) is an interdisciplinary structure focused on studying the effects of strong human action on an environment. The OHMI (for international) Tèssékéré is run jointly by the CNRS and the University of Dakar, in synergy with the National Senegalese Agency for the Great Green Wall.*



Vision of the future: not far from the Great Green Wall, the savannah is flourishing in the wet season. The landscape gives an idea of the project, which ultimately aims to increase the density of the Sahelian vegetation twentyfold.

In the **Ferlo region** in northern Senegal, the rainy season marks a return to life around the backwaters, temporary ponds that meet the water needs of men, herds and local fauna.





In the dry season, boreholes take over. They also supply “versatile gardens” where fruit and vegetables are grown by women to enrich their diet and generate income.

Nothing goes to waste with the balanites, or desert date palm, a tree reintroduced both for its resistance to drought and its benefits for the population. Its fruit has medicinal properties and provides an edible or cosmetic oil, while its leaves are a source of protein.





Joint effort. Like every participant in the project, this student from the University of Dakar is contributing to reforestation. In 2016, 40,000 hectares were planted out of the 80,000 planned for the Senegalese section of the Great Green Wall.

The Great Wall is expanding. Given the wide range of situations in the countries concerned, the project is advancing to various degrees. In 2017, Cameroon formalized the launch of its reforestation program, while in Niger major soil regeneration efforts are already being made by farmers. (Sources: mediaterre.org, cnn.com)





Long, patient growth... The 75% success rate of the plantations demonstrates that desertification is not irreversible. In the long term, the work of the OHMI's researchers in Senegal may serve as a benchmark for carrying out reforestation in the other member countries.

Arnaud Späni, close focus

Arnaud Späni is a discreet observer, attentive to detail and concerned with authenticity. Camera in hand, he remains true to this stance, which runs through his reports, especially those on Africa, of which he has an in-depth knowledge. Assigned to do a piece on the Great Green Wall, the photographer was keen to follow the beginnings of this extraordinary project in Senegal. It took him more than one stay in the Ferlo

of these communities and the hierarchical structures in their villages. Speaking a few words of their language allowed me to meet lots of people.” Arnaud has shot an intimate portrait of the pastoral lifestyle of these tribes. His images also suggest the unexpected vitality of this environment. For in a semi-arid environment, “often just a little water and a little shade are all that’s needed for nature to reassert itself,” he states.

region to capture the slow rhythm of the plantation campaigns, from preparing the seedlings to planting them in the rainy season. “I was fortunate to also be able to follow the scientific investigations and the activities of the Senegalese army, in charge of protecting the planted plots,” explains Arnaud. It was also an opportunity for him to be part of the everyday life of the Fula, farming people with whom he is familiar, who live throughout the Sahel. “I was interested in the social and family organization

Bio

Born in Bangui (Central African Republic), Arnaud Späni grew up on the African continent. A formative experience that gave him a thirst for travel and a desire for engagement. After getting involved in the international aid sector and setting up hydroelectric power plants around the world, he took up editorial photography. A globetrotting all-rounder, his lens sweeps from environmental conservation through aeronautics history to the appreciation of lands and cultures.



The aim of humanitarian action has always been to deal with exceptional critical situations. But nowadays crises last for longer. Emergencies turn into permanent problems. Searching for expertise, skills and innovation in the



THE FUTURE OF HUMANITARIAN AID WILL BE PARTNERSHIP-BASED

private sector has become a must for major humanitarian organizations faced with more numerous, more complex and more long-standing challenges.

Natural environment degradation and climate change are exacerbating the severity of droughts and associated famines and amplifying the violence of storms and floods. Rampant urbanization and the rapidly growing demographic in many developing countries are multiplying the dramatic consequences of these natural disasters, which directly affect 211 million people each year. According to the Office for the Coordination of Humanitarian Affairs¹, this amounts to five times the number of victims ●●

1. Arm of the UN Secretariat responsible for gathering humanitarian players to provide a coherent response to emergency situations.

••• of armed conflicts, even though this figure has seen no decline. Not forgetting the humanitarian consequences of certain countries' inability to financially support their populations' basic needs.

From emergencies to a perpetual state of emergency

It's a fact: the boundary between an emergency verging on a permanent problem and development support is becoming increasingly porous. Humanitarian organizations are therefore having to reinvent themselves to deal with this new situation, over and above the question of ensuring long-term funding. "Our priority is to be reactive," highlights Michel-Olivier Lacharité, Logistics Director for Doctors Without Borders (MSF). "Response plans are changing and situations becoming more complex, which means that a more technical approach is required. Take the hospitals that we establish... There are major constraints involved in setting them up: the need to treat water, waste and air. This growing need for expertise involves partnerships, like the one we have with the Veolia foundation." Alongside the traditional governmental, intergovernmental and non-governmental players, companies and foundations are gradually making their mark on the humanitarian landscape. The Veolia foundation has formed multiple partnerships, notably with the French Red Cross, UNICEF and the UN Refugee Agency (United Nations), Doctors

Without Borders and Solidarités International (see the interview opposite). Veolia's core business lines of water, wastewater and waste management are all essential services for populations in times of crisis, when they are sorely lacking. "Crises have become so much more violent that strengthened partnerships are key in order to meet the challenges. The time is past when everyone worked on their own. We have to share the emergency by relying on smaller, more mobile structures," highlights Thierry Vandevelde, Executive Officer of the Veolia foundation.

Urban challenges and skills

"NGOs are generally focused on community management or managing situations in a rural environment. However, with accelerating global urbanization, nowadays catastrophes are even more dramatic in regions where populations are concentrated. The skills-based partnership model is thus becoming indispensable, allowing NGOs to contemplate new, much more ambitious actions than those that they would be able to undertake alone," analyzes Thierry Vandevelde. Something that has struck a chord with Julien Temple, Head of UNICEF's Office of Emergency Programs in Geneva: the intergovernmental institution has made the Veolia foundation one of its – rare – stand-by partners from the private sector (see interview page 50).



Three questions for Alain Boinet, Founder of Solidarités International

Partnering with the private sector allows a change of scale

After forty years of humanitarian action, what changes are you seeing?

There is a lot of talk about perpetual states of emergency. Behind this observation, we are becoming aware of the length of certain conflicts and their consequences. Think of Angola, where the civil war lasted for twenty-seven years! Afghanistan, which is still at war, and the Democratic Republic of Congo (DRC) have also gone through or are still experiencing very long conflicts. Nowadays, crises are extremely "flammable"; conflict situations may have eased, but they can degenerate into deadly wars overnight. I'm also struck by the humanitarian consequences of climate change, even if the Sahel has always faced major droughts. Finally, we have a better understanding of the link between emergencies, reconstruction and development. The United Nations and international institutions are beginning to realize the importance of this link in crisis recovery management.

Have response plans changed in the light of this new awareness?

This emerging context is dictating new response plans. The gradual specialization and professionalization of humanitarian organizations are improving the response as a whole. The diversification of roles that we are observing in humanitarian organizations is clear. At the outset, we saw primarily doctors and then logisticians. These professions have been joined by regional managers, coordinators, administrators, agronomists, hydraulics engineers, etc. This increases efficiency. The resources available are changing, with an increase in humanitarian financial aid, making it possible to offer a more comprehensive solution to populations' basic needs, in collaboration with other players. In the 1980s, we thought about tackling the lack of drinking water through an educational approach among the populations, such as teaching them to boil water before drinking it. Nowadays, we are better equipped to provide drinking water to populations, raise their awareness regarding hygiene, and ensure the longevity of the facilities through community-based management. Knowledge is advancing. We know that dirty water kills.

NGOs are prioritizing multi-year partnerships with companies...

Is this a good response to emergency situations?

The humanitarian – and more generally, the development – world is thinking above all in terms of added value, efficiency and innovation to come to the aid of vulnerable populations in danger. Setting up partnerships with companies provides expertise to match the technical complexity. With the Veolia foundation, we can now mobilize mobile drinking water production units such as Aquaforce 500, as well as surveyors. In the DRC, we are working on more structural solutions intended to fight water-borne diseases in the long term. The partnership with the private sector allows us to change scale both technically and qualitatively, set up long-term programs and manage the move from an emergency situation to reconstruction, then from reconstruction to development, handing over the reins. It's crucial.



Humanitarian action and its funding

In late October 2017, the United Nations called for **23.6 billion dollars** in funding to meet the needs of some **101.2 million people – out of 141.1 million waiting for assistance in 37 countries** – affected by conflicts and natural disasters. It is the largest humanitarian fundraising appeal ever launched. To date, the response from backers has reached **11.3 billion dollars**, which covers 48% of needs. **12.3 billion dollars** still need to be found... Fundraising appeals have been rising steadily for several years and the sum requested by the UN for 2017 represents almost three times 2011's amount (7.9 billion dollars).

Source: "Global Humanitarian Overview 2017 – Status Report, June 2017," United Nations Office for the Coordination of Humanitarian Affairs, <https://www.unocha.org/about-us/who-we-are>



Research and action tested on the ground

Within the framework of the Innovation partnership between the Veolia foundation and MSF, a pilot solar power supply project was conducted in Southern Chad to provide an independent and reliable energy supply to the malaria prevention and treatment center in Moïssala. In Western Kenya, where MSF is conducting an HIV prevention program, the Veolia foundation provides an Aquaforce 500, a mobile water treatment unit, to supply the health center. In 2016, the two partners worked on dehydrating latrines destined for camps in Uganda and South Sudan. With its long-standing partner the French Red Cross, the Foundation set off in April 2017 for a camp located between Erbil and Mosul with the aim of training Iraqi Red Crescent volunteers how to use water supply solutions in emergencies.

••• So, far from merely providing financial support for its partners, the Veolia foundation is banking on an atypical partnership model that remains relatively underdeveloped, namely skills sharing: “From the outset, we wanted to recognize the Group’s members of staff,” summarizes Thierry Vandeveld. “Thanks to their technical skills and on-the-ground knowledge, we have been able to strengthen our emergency and development missions. Our foundation is active.” The Foundation relies on a network of volunteer staff, brought together in Veoliaforce, “which is perhaps not as powerful as an army in terms of numbers, but it’s an army of skills and expertise!” continues the Executive Officer.

A change of scale and new responses

On hand to ensure sanitary conditions after a disaster, such as after Hurricane Irma swept through the French West Indies (see page 22), the Veolia foundation also meets its partners’ other needs: it is involved in research and innovation projects linked to the Group’s areas of expertise: energy, waste, wastewater, and drinking water (see boxed text). The aim is to test original procedures and new equipment in a humanitarian aid situation. “We concentrate on areas where we deliver real added value,” states Thierry Vandeveld. “This strategy has won us international renown in certain domains, such as water-borne diseases.” The partnership with MSF perfectly illustrates the recent changes observed in how humanitarian organizations operate: the two players are involved in the fight against

Three questions for Julien Temple,
Head of UNICEF’s Office of Emergency Programs in Geneva

The Veolia foundation has become a humanitarian player

UNICEF has been tasked with leading the response coordination in the areas of water, sanitation, nutrition, education and child protection. Why?

Our programmatic presence in over 120 countries requires us to be there for the long term, before, during and after the emergency. This presence on behalf of the most destitute populations is our strength. It allows us to act in the areas of both prevention and reconstruction. We also take care to ensure the longevity of the solutions implemented through a resilience approach.

This is an ambitious aim. How do you hope to achieve it?

By creating extremely long-term partnerships that are devised at a very early stage. Because you don’t set up an emergency partnership right in the middle of an emergency. For over ten years, the Veolia foundation has been fostering a special cooperative relationship with our organization as a stand-by partner. This type of large-scale partnership with a private company remains rare at UNICEF, as only Ericsson in telecommunications enjoys this status. We reserve it for organizations capable of intervening in humanitarian emergency situations. In this respect, the Foundation is committed to mobilizing its network of volunteer staff from Veoliaforce at any time, as soon as a crisis arises. Veoliaforce was sent to the Philippines and Haiti to provide the necessary skills to supply drinking water to the impacted populations.

The private sector is a relatively recent arrival to UNICEF’s ecosystem. Is this shaking up your intergovernmental agency culture?

It is true that governments and local and international humanitarian NGOs have historically been our natural partners, through our system of logistics clusters (telecoms, etc.). Nonetheless, through UNICEF’s national committees such as the French committee, the private sector already represents a third of our financial resources. At the beginning, this wasn’t a given as our cultures are very different. Many companies hesitate to get involved in crisis situations. But we felt a real commitment on the part of the Veolia foundation, a desire to invest and bring added value to the humanitarian sector and, more lastingly, to the development sector, relying primarily on its professional expertise and the skills of its staff. To such an extent that it has become a fully-fledged humanitarian player!

cholera in the Kalemie region of the Democratic Republic of Congo (see article page 28), and in Uganda where they are rolling out and testing an emergency water treatment unit (Aquaforce 500) in refugee camps. In 2015, the two partners reached a milestone by committing to a vast research and action program. The

Foundation thus provides MSF with mobile water treatment units and logistical assistance with treating waste. It supports pilot projects to optimize and reduce the energy footprint, turning in particular to solutions for producing renewable energy (see boxed text page 49).

Working in the public interest

The Veolia foundation goes where the needs are, even if the Group is not active in the country. “We work in the public interest,” Thierry Vandeveld points out. “We therefore create a real sense of trust with our partners, including governmental agencies. They know that they can count on us, even and especially when everything is going wrong. These actions create positive press for the company given the coherence of our actions, which are closely linked to Veolia’s business lines.” From there, we are just a step away from confirming that traditional emergency response plans are obsolete. A step that Michel-Olivier Lacharité takes: “Even if our core activity is responding to the initial phases of emergencies, we must also consider more long-term solutions. It is important to innovate to find solutions capable of meeting new technical challenges, especially in an urban setting. This is even more important for an organization like MSF, for which acting professionally is a must. The partnership combining financial support and skills sharing allows us to be innovative on the ground.” This position is shared by Thierry Vandeveld: “In the light of the emergence of these huge-scale crises, the scale of the responses provided has changed: we need to become stronger and think strategically about our organization. Our technical patronage and responses on the ground are proving effective. It’s the right model to respond to humanitarian emergencies. And it’s also the right model for development aid.” ■

Community



Paagera is an opportunity to share our experience

The legendary city of Angkor, a jewel of UNESCO's world heritage, is seriously threatened by extreme climate episodes and the overuse of water resources. Through the Paagera¹ project, Veolia and the Bièvre Valley Intermunicipal Sanitation Authority (SIAVB), supported by the Veolia foundation, are combining their expertise to improve the management of the hydraulic system on which the site rests.

Angkor and its water: heritage in danger

In the Cambodian jungle, the capital of the former Khmer empire lies on an immense network of canals and basins that stopped functioning over the centuries. However, the floods that occurred in 2009 and 2011 have weakened this hydraulic system. Since 2013, the local authority responsible for preserving Angkor (APSARA) has invested in rehabilitating this environment, which has also been jeopardized by demographic pressure and mass tourism. A system for remotely managing the hydraulic structures had to be implemented to spread the flows of water across the year between the dry season and the

rainy season. This is one of the challenges of the French-Cambodian Paagera project, which relies on the expertise of water and sanitation players². The know-how developed by SIAVB and Veolia in hydraulic regulation in the Bièvre Valley provided an initial technical solution: the telemetry device deployed in 2014 now allows APSARA's teams to act more effectively, anticipating the network's regulation. In parallel, actions to promote better water and waste management will be developed in the villages around Angkor, which – just like this exceptional site – are exposed to the effects of climate change.

Thomas Joly,
President of SIAVB

"Veolia's expertise and the resources implemented have allowed us to deploy an unprecedented flood management scheme in Bièvre. It has been a success, as our region has not been flooded for 25 years. The Paagera project is an opportunity to share our experience, coming up with solutions tailored to Angkor's unique hydraulic system with our Cambodian partners. We are extremely proud to be assisting in this operation to restore water networks, in which not only environmental and heritage, but also sanitary, economic and tourism issues are at stake."

¹ Project to improve sanitation and water management in the Angkor region.

² The partnership brings together Apsara (Authority for the protection of the site and development of the Angkor region), Siem Reap province, AAA (Friends of Angkor Association), SIAVB and SIAAP (Greater Paris Interdepartmental Sanitation Authority).

Veoliaforce, the emergency logisticians

The Veolia foundation's role is to provide drinking water as quickly as possible to affected populations during major disasters. These emergency intervention operations rely on a network of volunteers among the Group's staff.

52-53

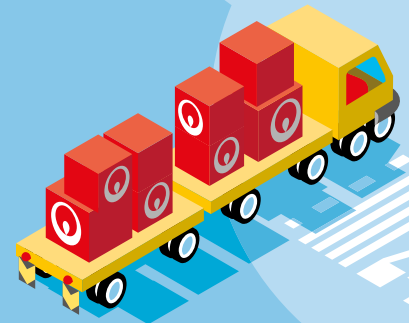
Cyclones, earthquakes, tsunamis... These are all disasters that are terrifying at the time, with visible long-term consequences. Vulnerable infrastructure includes drinking water production and distribution facilities, which are often damaged or even totally destroyed. Drinking water is a vital priority to avoid epidemics in the days following a disaster. This is why twenty years ago Veolia set up an emergency task force charged with supplying drinking water to affected populations until the infrastructure is back in service. It is called on to provide support by international humanitarian players such as the French Ministry of Foreign Affairs, the Red Cross, Doctors without Borders, Solidarités International, Première Urgence, Action contre la faim, Oxfam, UNICEF, etc., for whom the Foundation has become a key partner over time. As soon as the decision is made to

act, the operation is quickly set in motion. The Foundation's experts decide on the skills required to meet the needs and then contact the volunteers – Group staff members – who match the profile. “These volunteers are part of a network of 500 Veolia employees who have expressed the desire to use their skills in the service of humanitarian causes,” states Damien Machuel, Project Manager at the Veolia foundation. “They are trained in crisis situations and are ready to leave within 24 hours, in difficult contexts if the situation demands it.”

These volunteers leave for missions of up to three weeks maximum and alternate with each other on the ground until the water supply is restored. “I admire these volunteers who go straight back to their job in the company after three weeks on the ground giving 200% of their energy,” enthuses Damien Machuel. “Using their skills to help impacted populations also recharges their batteries!” ■

1 PREPARING FOR THE MISSION

- Request from institutional partners or NGOs.
- First assessment of needs and context.
- Scale of the material and human response determined by the Foundation.



A multifaceted operation



4 ORGANIZING WATER DISTRIBUTION

- In coordination with the local authorities, the treated water is distributed to the impacted populations (via tank trucks or distribution manifolds).



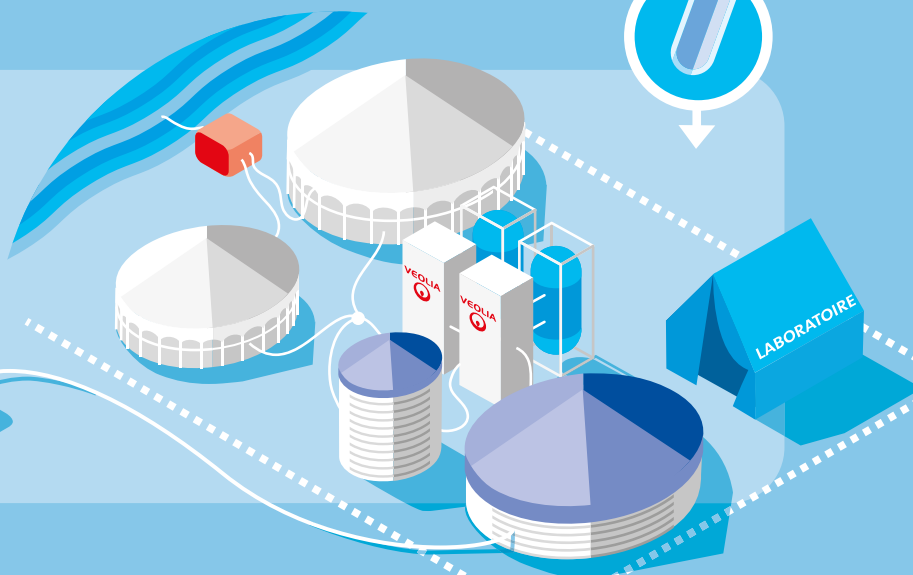
2 : SENDING EQUIPMENT AND VOLUNTEER TEAMS

Selection of volunteers according to the required skills.
Selection, crating and dispatch of the water treatment and distribution equipment from the Foundation's Emergency Logistics Platform.



3 : IDENTIFYING WATER RESOURCES, DEPLOYMENT AND QUALITY CONTROL

Volunteers and permanent members of the Foundation, in collaboration with local players, work to identify the resource to be treated. Mobile water treatment units (Aquaforce) are installed in a day. Start-up of production and quality control of the water produced using the laboratory included in the Aquaforce units.



5 : MONITORING OPERATIONS AND TRAINING

The volunteers from the Veolia foundation monitor water production and ensure the transfer of skills to the local partners who will use the equipment.

6 : END OF MISSION

Once the local personnel have been trained, the volunteers return home. The equipment remains in situ and is used until the crisis ends, before being stocked in anticipation of future crises.



Aquaforce 2000

- Capacity to treat 15 l of drinking water per person per day and serve 2,000 people
- Flow rate of 2 m³/hour
- 270 kg of equipment
- 2.5 m³ in volume
- 2 hours to assemble

Aquaforce 5000

- Capacity to treat 15 l of drinking water per person per day and serve 5,000 people
- Flow rate of 5 m³/hour
- 5,000 kg of equipment
- 17 m³ in volume
- 1 day to assemble

500

volunteer members of staff in the Veolia foundation's network from the Group's business lines.

Turnover of **3 weeks** maximum.

Futurist



Oakland EcoBlock A replicable eco-district

How can you create the district of the future from a city block from a bygone age?

This is the challenge facing the Oakland EcoBlock program. In other words, how to transform 28 dilapidated Californian homes into an energy-efficient district through the smart distribution of resources among its residents. According

to Anthony Nahas, a researcher at the University of Berkeley and coordinator of this ambitious renovation project, “the traditional American urban development model, based on the consumption of infinite resources, has to change in the light of climate change challenges.” These considerations, born of a dialogue

with NASA in 2013, are working the little gray cells of a group of academics, engineers, urban designers, social science experts, legal practitioners, private operators and NGOs. Supported by the city of Oakland and the State of California, they are testing an unprecedented renovation model on a residential development

scale. Sustainable and socially responsible down to its funding¹, EcoBlock is also noteworthy because of its reproducibility. By incorporating the decentralized production and local storage of solar energy, wastewater recycling, rainwater collection, along with shared electric vehicles and urban agriculture, EcoBlock is

an autonomous model that can be adapted anywhere – in California, other American states and, why not, elsewhere in the world. In Oakland alone, 3,500 blocks could be rehabilitated using this process. The pilot project is set to kick off in 2018.

¹ - In the form of green bond investments

A constructive vision

The Veolia foundation is supporting EcoBlock's development with Veolia's consulting firm 2EI, called upon for its expertise in sustainable

cities. “Renovating a district rather than an individual housing unit makes it possible to pool solutions with cost and efficiency savings,”

approves Julien Grimaud, 2EI Project Manager. “Our perspective as an operator on the urban services envisaged – especially in terms of

wastewater recovery – is combined with considerations regarding the viability of these solutions on the appropriate scale.”

JANUARY 23-26, 2018, DAVOS-KLOSTERS (SWITZERLAND)

event

48TH WORLD ECONOMIC FORUM

CREATING A SHARED FUTURE IN A FRACTURED WORLD

OVER 2,500 LEADERS FROM THE PUBLIC SPHERE, THE WORLDS OF BUSINESS AND ACADEMIA, CIVIL SOCIETY, THE MEDIA AND THE ARTS, ETC. ARE COMMITTED TO DEVELOPING NEW MODELS FOR COOPERATION IN THE INTERESTS OF HUMANITY AS A WHOLE.



WWW.WEFORUM.ORG/EVENTS/WORLD-ECONOMIC-FORUM-ANNUAL-MEETING-2018



Drinking water production



District heating



Waste sorting and recycling



Energy efficiency in buildings



Services for the oil and gas industry



Landfilling waste and biogas recovery



What Veolia does How and why at a glance



Seawater desalination



Cogeneration biomass

3D videos
designed to explain simply
our activities



Wastewater collection and treatment



The circular economy for the food and beverage industry



Veolia group channel



Environmental services for the mining industry



Drinking-water distribution systems