



# People. Innovating. Sanitation.

BORDA e.V. is an expert NGO specialising in full-cycle decentralised sanitation. Together with our international network of more than 100 local partner organisations, we work in low-income communities and crisis areas worldwide to enable disadvantaged populations to access basic municipal services.

At the heart of our work stands the essential public services that are the prerequisites for creating and developing sustainable, liveable communities: water, wastewater, solid waste, basic sanitation and energy.

Supported by the



Federal Ministry  
for Economic Cooperation  
and Development

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# On a base of trust, the shape of the future

It was an ordinary-seeming meeting, yet it signifies like no other occasion in 2018 just how extensive our work has become after 40 years of practice. On 18 August in our headquarters in Bremen, I had the pleasure of welcoming a small delegation from South Africa led by Ednick Msweli, Head of eThekweni Water and Sanitation (EWS), the municipal utility serving Durban and surrounding towns.



Since 2010 we have been collaborating with EWS and the University of KwaZulu-Natal (UKZN) at the Newlands Mashu Research Site on the outskirts of Durban. There, we are testing designs for decentralised wastewater treatment systems (DEWATS) that can serve densely populated residential areas and generate reusable wastewater that meets high standards for horticultural and agricultural use. As a living lab, the facility also serves as a training ground for dozens of aspiring water experts from all over the world. In 2019, we are applying the knowledge gained at Newlands Mashu in an exciting first for Durban: DEWATS integrated into a new social housing development. This could be a turning point for sanitation services in the three-million-strong Durban metro area - and a model for DEWATS in urban planning as highlighted in the UN's World Water Development Report 2019. The Newlands Mashu research collaboration is embedded in an active Bremen-Durban sister city partnership that also includes fruitful exchange of know-how and training opportunities between EWS and



hanseWasser, Bremen's water and sewage company. Scientific cooperation, advice on designing regulatory frameworks, capacity building, planning for decentralised systems as part of inclusive citywide sanitation services, designing and building thousands of decentralised treatment facilities around the world, helping cities become more climate-resilient, close and trusting civil society partnerships, development of operator partnerships - these are all elements of our engagement in Durban and they are also what defines our work around the world.

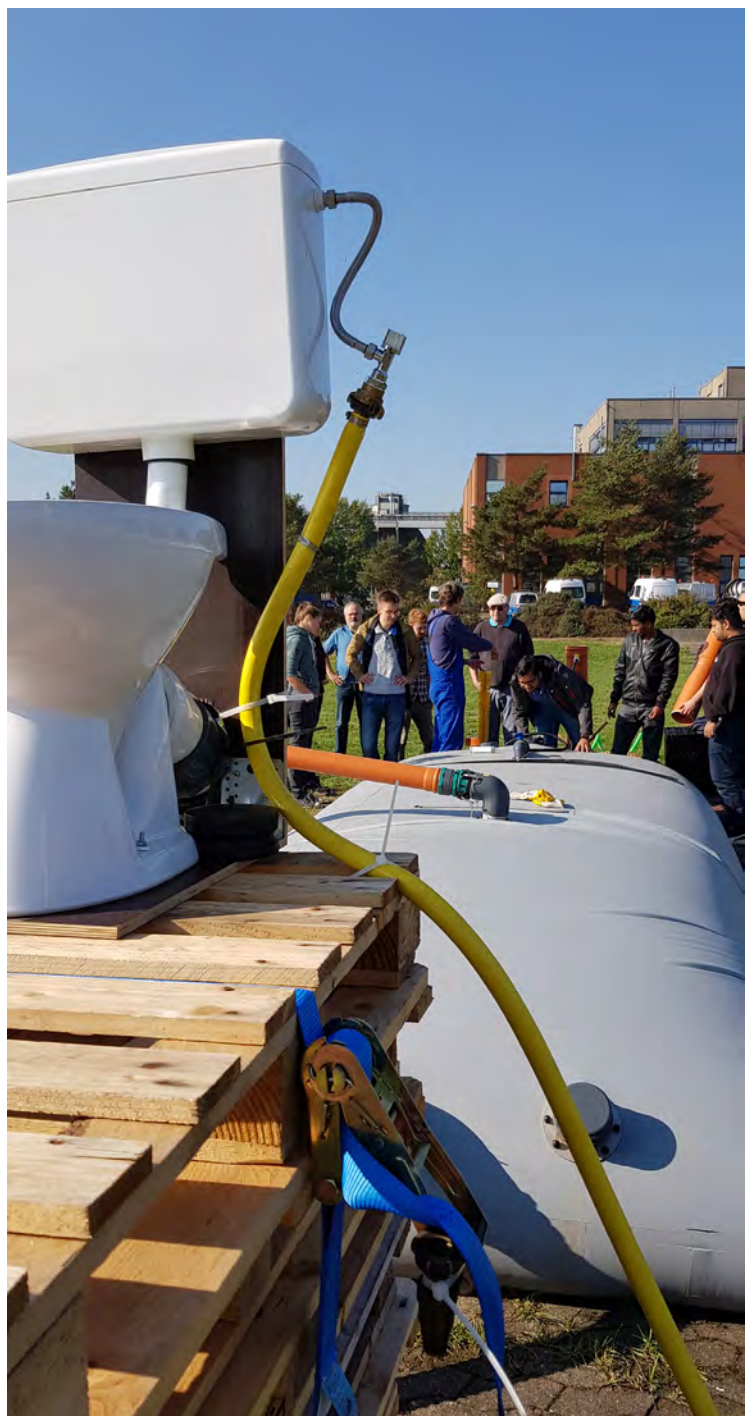
EWS Delegation visiting  
a construction site  
of Bremen's wastewater  
company hanseWasser



Our work serves the realisation of the UN Sustainable Development Goals, in particular Goal 6: ensuring availability and sustainable management of water and sanitation services. In this annual report, we would like to offer you a glimpse of exemplary projects in all of our regions. In 2017, we launched with local partners an alliance of eight medium-sized Southeast Asian cities and one Jordanian city dedicated to working jointly towards implementing integrated, inclusive sanitation services. In India (South Asia), we have expanded our work into urban water management encompassing the rehabilitation of canals and lakes. In Jordan (West and Central Asia), we have begun a multi-year project financed by the Swiss Agency for Development and Cooperation to put in place innovative solutions for wastewater reuse in arid regions. In Zambia (Africa), we took active part in the first-ever national sanitation summit and are not only implementing DEWATS there but also conceptualising multiple FSM systems. In Cuba, Mexico and Nicaragua (Las Américas), we have embarked with several partners on ambitious projects that can bring palpable improvements to sanitation services and watershed environments for a million people.

#### ***Sustainability happens locally...***

The scope of our current activities is also reflected in the theme of the second symposium we held in April 2018 at the Bremen State Representation in Berlin. Titled “Bringing the Sustainable Development Goals (SDGs) and The New Urban Agenda to the local level: innovative concepts for the management of urban waters and the provision of essential public services in rapidly growing cities”, the two-day event was well attended by a range of specialists from across the sanitation sector. Eight international experts presented their studies for discussion with the audience – we plan to publish these soon in a post-symposium reader. We were also pleased to welcome representatives of Germany's national political parties to a public panel discussion, where it was clear that there is a cross-party willingness to make realising the SDGs a higher priority in German politics.





### *...but the impact is global*

As in previous years, we presented our key themes and concepts at several prominent international events including Africa Water Week (February 2018 in Bamako), the world's largest trade fair for environmental technologies IFAT (May 2018 in Munich), and World Water Week (August 2018 in Stockholm). Generating remarkable media interest at the end of 2018 was the Septic Bag, developed by BORDA for use in emergency situations and publicly unveiled at hanseWasser on World Toilet Day (19 November). The Septic Bag is a foldable, pre-fabricated wastewater treatment unit that

is easy to store and transport and quick to set up – making it exceptionally well suited to deployment in refugee camps. In our comprehensive Media Review, you can see how national and international media have reported on BORDA's work. A good overview of our global portfolio is available on our new website [borda.org](http://borda.org), and numerous ongoing projects are featured on our five completely redesigned regional websites.

Our work in more than 25 countries is possible thanks to funding from the German Federal Ministry for Economic Cooperation and Development (BMZ) for the majority of our projects. Significant funding also comes from the Bill & Melinda Gates Foundation, the Swiss Agency for Development Cooperation (SDC), and the Bremen Authorised Representative for Federal and European Affairs and Development Cooperation. I would like to take this opportunity to express our deep gratitude to you all, and to those who once again supported our work with personal donations.

Our many projects would not be successful without the high level of professionalism and personal commitment that our staff brings to work every day. For that, my special thanks goes out to the BORDA team in our headquarters and regional offices.

Incidentally, my meeting in August with Ednick Msweli ended with an agreement to continue our positive, trust-based cooperation over the next few years, sealed with a new contract. I am pleased that we can go on making a meaningful contribution to achieving the SDGs in South Africa and around the world.



Stefan Reuter  
Executive Director



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# Highlights

- ▶ Building on a 12-year presence in South Africa, BORDA South Africa was officially registered in 2018 as a non-profit company



- ▶ More than 6,300 DEWATS and DESWAM service package implementations and 9 cities applying integrated sanitation system solutions across Southeast Asia and Jordan

- ▶ More than 2.5 million litres of faecal sludge treated in Leh, India in 2018

- ▶ In Kabul, Afghanistan, a new neighbourhood sanitation plan will serve as a model for replication in other urban areas



- ▶ Public water and sanitation maps generated for the 11 communities in Mexico's San Juan River micro-watershed



# LAS AMÉRICAS

# Real-scale solutions for rural and urban areas

BORDA's programme in Latin America continues to focus on developing real-scale examples of integrated, decentralised water and sanitation solutions at three distinct levels: micro-watershed, city/settlement and household/institution/SME. The approach – smart nature-based solutions linked to a circular economy and easy operations and maintenance – is designed to make a significant contribution to a sustainable water and sanitation future that leaves no one behind.

**Baseline data and strategic planning for watersheds** – BORDA is carrying out ambitious baseline data surveys and strategic planning for water and sanitation in the watersheds of the San Juan River in Mexico (pop. 12,000), Wiwilí in Nicaragua (pop. 15,000) and Havana Bay in Cuba (pop. 900,000).

In Mexico's San Juan River basin, extensive data collection efforts came to fruition in 2018 with the completion of a baseline survey methodology and guidelines for developing integrated water and sanitation solutions at micro-watershed level. These milestones follow a total survey carried out in the watershed's 11 communities to generate the baseline for the current water and sanitation situation. The survey collected data on residential solid waste composition and handling, water sources and supply networks, sewerage systems, wastewater discharge points, land use, vegetation, soil stratification, and geology. The methodology included a geo-drone for high-definition aerial photographs, household surveys, field work and an automated meteorological station. With this data, we have been able to do digital thematic mapping – each of the 11 communities now has its own public water and sanitation map.

In Cuba, 2018 saw the official start of a project presented to Cuban ministries in 2016: developing a territorial plan for implementing integrated, decentralised water and sanitation solutions in the Havana Bay area. A key aspect here is cooperation between government





## Sustainable community kitchens: Building infrastructure for rural areas in Mexico

In remote, impoverished areas, sustainable community kitchens provide school children with proper nutrition and serve as community gathering spaces. The model combines buildings that maximise natural light and ventilation, eco-technological systems for rainwater harvesting and wastewater treatment, and simple, low-cost operation and maintenance (O&M) by trained community members. The pilot model has been running since November 2017, with O&M manuals developed in 2018 and two new kitchens completed in early 2019. 380 children get daily balanced meals, 1,400 people get a community meeting place, and regions get working models of sustainable infrastructure for basic services.

### Duration:

2017-2019 (7-9 months per unit)

**Donors:** German Federal Ministry for Economic Cooperation and Development (BMZ), ALSEA

**Budget:** 70,000 to 100,000 EUR per unit

**Partners:** Fondo para la Paz



bodies responsible for urban planning, water resources, provincial government, and communal services for urban waste management. In a kick-off workshop in Havana, participants from these institutions took a vital first step: determining a common approach to implementation. In another workshop on intersectoral planning and design, findings from field reconnaissance in multiple neighbourhoods provided the basis for focusing different disciplines on integrated, neighbourhood-level water and sanitation solutions.

**Real-scale demonstration projects** - In 2018 several demonstration projects kicked off or moved into next phases. It was a year of beneficiaries appreciating services and seeing what i-DELSA (integrated decentralised solutions for settlement hygiene and wastewater management) is capable of.

In Cuba, BORDA and GTE-BH began a pilot project to exemplify an integrated approach to local and decentralised resource management in the Havana Bay area. At the Tamara Bunke cooperative farm in San Miguel de Padron, the project has completed the execution plan for establishing sustainable production practices including local wastewater treatment and reuse, farm residue and sludge composting, biogas generation and use, rainwater harvesting and contour farming.

In Mexico, we are developing two new community kitchens (see box) and we have moved into the third phase of the infrastructure improvement project at the Miguel Hidalgo Elementary School in rural Camotepec, Puebla.

Following toilet construction, the second phase (completed in 2018) brought a decentralised wastewater treatment system that generates biogas for 2–3 hours of daily kitchen use. Coming in 2019: a rainwater harvesting system and a garden where treated water will be infiltrated subsurface. The school will be a living model where 450 children and staff along with their families can use the different solutions and realise the co-benefits of their linkages.

In Nicaragua, our project at the Leon slaughterhouse (treating and reusing organic slaughterhouse waste in agriculture) is evolving from demonstration to sustainable municipal service. The focus now: developing a business model and creating the institutional framework to support sustainable operation. In 2018 the municipality took the lead in this process, adding four staff at the slaughterhouse to run a new production unit that connected with new clients

and diversified product offerings to include fresh organic vegetables, ornamental plants and best-quality compost.

**Strengthening networks and building capacities** – Long-term success rests on a foundation of strong networks linking knowledgeable, capable people and institutions. In all three countries, BORDA is advancing national partner networks for integrated water and sanitation solutions. In Mexico in 2018 this included defining network objectives and conducting trainings for partners on acquiring public funds, project management methodologies, and policy developments. In Nicaragua the NPH project created new strategic alliances (see box), and in Cuba we facilitated two new international partners joining the Havana Bay cooperation and co-organised an international workshop on decentralised urban-environmental planning.



### United for childhood and adolescence: Laying the groundwork for learning in Nicaragua

Through a collaboration agreement with World Vision and NPH (Nuestros Pequeños Hermanos – Our Little Brothers and Sisters), BORDA is providing technical support for capacity building initiatives within the framework of a comprehensive water and sanitation project for an NPH children's home and school in Nicaragua. Strategic alliances with members of the Nicaraguan Water and Sanitation Network (RASNIC) present an opportunity to unite efforts, exchange knowledge and make a greater impact. This agreement will directly benefit more than 350 orphans and abandoned or disadvantaged children and adolescents.

**Duration:** 2017-2019

**Donors:** World Vision, German Federal Ministry for Economic Cooperation and Development (BMZ), World Vision

**Budget:** 160,000 EUR

**Partners:** World Vision, NPH, RASNIC



In 2018 we developed O&M manuals and social business plans for three different already-existing rural household WASH solutions, complemented by plans for local training on manufacturing and distribution. With these in hand, we can reach out to Mexican donors for support in scaling up the most successful solutions and improving WASH services for the most vulnerable rural populations.



# AFRICA



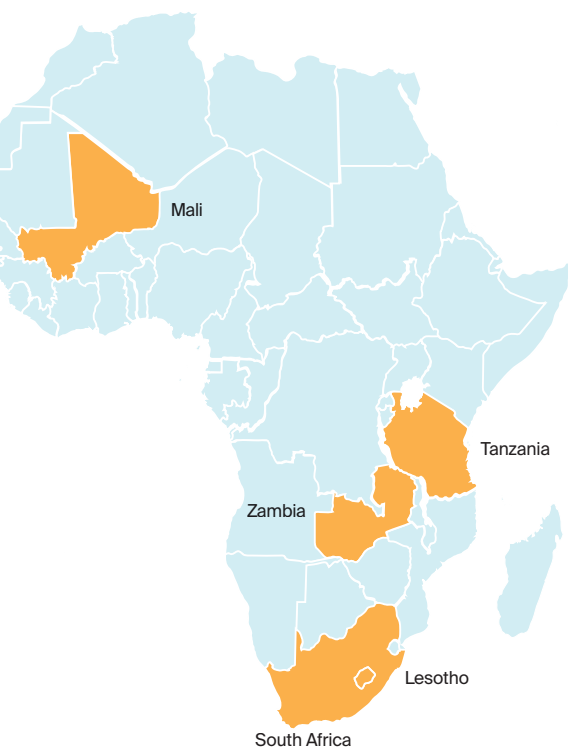
# Mainstreaming decentralised sanitation solutions

Successful pilot projects have laid a strong foundation for scaling up standards-compliant decentralised wastewater and faecal sludge management solutions. To help ensure that these solutions deliver real progress, we are heavily engaged in strengthening local capacities, building and exchanging knowledge, and helping to shape water and sanitation-related policy. We are also extending our sanitation experience into the broader realm of inclusive, water-sensitive urban planning.

**Scaling up decentralised solutions** – In Tanzania, as part of the DEWATS for Dar project sponsored by UK Aid and the Human Development Innovation Fund (HDIF), BORDA in 2018 designed and oversaw the construction of two faecal sludge treatment plants (FSTPs) in Dar es Salaam, developed a business model for sustainable operation of these FSTPs, and prepared and executed marketing campaigns for the associated latrine emptying services. The aim: empowering local entrepreneurs to solve community sanitation challenges in a financially sustainable way.

In South Africa, BORDA collaborated with a local consulting firm to complete DEWATS designs for upgrading two of Durban's informal settlements. Construction of two DEWATS in Banana City and two in KwaDabeka Unit A will begin in 2019.

To support further DEWATS replication in Tanzania, BORDA as part of a UNEP demonstration project in Dar es Salaam developed national guidelines for DEWATS design, construction, operation and maintenance. These guidelines were signed by Tanzania's Ministry of Water and disseminated. BORDA is also contributing to the revision of wastewater discharge standards led by the Tanzanian Bureau of Standards.



**Awareness, knowledge and capacity** – A 2018 highlight was the Three Cities Knowledge Exchange programme that brought together municipal stakeholders from Tanzania, Zambia and Uganda to study on-site sanitation and faecal sludge management (FSM) options (see box). In another significant development, BORDA South Africa was appointed to operate and maintain the Newlands Mashu (NLM) DEWATS demonstration and research site on behalf of eThekweni Water and Sanitation (Durban municipality). At NLM BORDA develops O&M

concepts for future DEWATS implementations in South Africa and supports the University of KwaZulu-Natal's Pollution Research Group (PRG).

2018 was also a year for communicating sanitation. In Zambia, BORDA went on national radio with a representative of the Lusaka Water & Sewerage Company (LWSC) to discuss FSM as a viable option for Lusaka's growing population. In South Africa our activities included a presentation on DEWATS to 500 attendees at the IMESA conference in Durban, a sanitation breakfast seminar on innovations in non-sewered sanitation, and a full-day workshop on innovating environmental sanitation. At the Water and Sanitation Innovation Exhibition in Johannesburg we had the opportunity to discuss the benefits of DEWATS with South Africa's Minister of Water and Sanitation, and in Cape Town meetings with high-level city officials laid the groundwork for future DEWATS projects.

In Mali, engagement with stakeholders is paving the way for improved urban sanitation services in Bamako. At the 2018 African Water Congress, BORDA held a workshop on liveable cities and contributed to a panel discussion between high-profile women on women's access to drinking water and sanitation. Other developments include a BORDA-initiated Community Forum on Sanitation to build a public cause in sanitation, a first-in-Mali workshop for manual desludgers aimed at legitimising sanitation workers and aired on national TV and radio, and a forum for municipal decision makers on how to mobilise resources and secure land for FSTPs.

**Holistic liveable city planning** – As part of the Tanzania Urban Resilience Programme sponsored by the World Bank and the UK Department for International Development, the Msimbazi Opportunity project aims to transform Dar es Salaam's flood-prone and polluted Msimbazi River basin, home to informal settlements of three million people, into a climate-resilient liveable place. In the first phase, BORDA together with our partners Nipe Fagio and Centre for Community Initiative (CCI) facilitated an innovative design-based "charrette"



### Three cities knowledge exchange (KEx) for on-site sanitation (OSS) and FSM

On behalf of the GIZ Climate Friendly Sanitation Project in Lusaka, BORDA facilitated the KEx programme for local authorities, commercial utilities and regulators from Lusaka, Dar es Salaam and Kampala. This capacity-building initiative created a shared knowledge base of existing OSS/FSM approaches, opportunities and challenges in the three cities. The aim: enabling collaboration and informed decision-making on OSS/FSM solutions. The programme comprises knowledge exchange trips to each city, post-exchange dissemination workshops for Zambian government authorities, and a final case study incorporating findings on FSM solutions in all three cities.

**Duration:** 19.9.2018 – 31.3.2019

**Donor:** GIZ

**Budget:** 101,642 EUR

**Partners:** Lusaka Water & Sewerage Company (LWSC), Lusaka City Council (LCC), Zambia National Water Supply and Sanitation Council (NWASCO), Zambia Environmental Management Agency (ZEMA)



participatory planning process to identify risks, challenges and potential solutions. The resulting development plan is to be implemented over a five-year period beginning in 2019.

Our work in Dar es Salaam also includes contributions to the INTERACT-Bio project bringing nature-based solutions into mainstream local and regional government functions. Led by the global network of municipalities ICLEI (Local Governments for Sustainability), the project aims to re-establish the connection between nature's benefits and everyday life in urban areas. At Dar Construction Expo 2018 and a sanitation exhibition in the city's Mburahati ward, BORDA demonstrated the value of trees in cities and organic waste as compost.

## Food security in Northern Mali



In water-scarce northern Mali, inter-communal violence increased as drought followed by floods led to heavy losses of livestock and crops. Restoring food and income sources is critical. With village communities and a farmer's association of 12 cooperatives, BORDA is working to restore irrigation systems and turn hundreds of hectares of floodplains into farmland for Bourgou, a high-yield forage crop that generates higher incomes with low investment costs. The current focus is on repairing and maintaining large, high-performance rice field pumps, procuring seeds, marketing, and providing solid advice to association members.

**Duration:** 2016–2022

**Donor:** BMZ One World No Hunger Programme

**Budget:** 1.5 million EUR

**Partners:** Association for the Development of Arid Zones (ADAZ), Harmonious Development in the Sahel (HDS), Network for Successful Decentralisation (RLD)





WEST AND  
CENTRAL ASIA

# Linking relief, rehabilitation and development

Our experience in Afghanistan, Iraq and Jordan enables us to link relief, rehabilitation and development to provide sanitation services in underserved areas across West and Central Asia.

***Neighbourhood and community sanitation planning*** – We work hand in hand with municipalities, engage in policy with governmental institutions, and survey local communities to determine their water and sanitation needs. In Kabul, Afghanistan we are working on a model neighbourhood sanitation plan (see box) that draws from and complements our ongoing

work in Afghanistan promoting faecal sludge management and decentralised wastewater management systems (DEWATS). Key elements include strengthening the implementation capacity of governments and small and medium enterprises (SMEs) in decentralised wastewater management (DWWM), and providing technical support for feasibility studies, design and implementation of sustainable wastewater treatment systems for cultural heritage sites, mosques, hospitals, institutions and housing complexes.

In Jordan, we have moved into the implementation phase of the Innovative Sanitation Solutions and Reuse in Arid Regions (ISSRAR) project, which uses wetlands for faecal sludge and wastewater treatment and produces reusable water for the local community. Funded by the Swiss Agency for Development & Cooperation (SDC), the project supports Jordan's National Water Strategy for minimising dependence on non-renewable water sources and maximising water reuse. In Azraq, an underserved “hotspot” above one of Jordan's largest freshwater aquifers, the project team spent 10 months consulting with community members to identify a suitable solution. After the 2018–2021 build-up of infrastructure and capacity, Azraq will serve as a model for scaling up the approach – saving precious drinking water and recovering water for agriculture across Western Asia.



Also in Jordan, we have completed the design of a wastewater treatment and biogas system for Feynan Ecolodge, located in a sensitive biosphere preserve. As part of the GIZ-sponsored Adaptation to Climate Change project, BORDA developed a sustainable low-maintenance solution that uses indigenous plants and local filter material. The system will ensure that the treated wastewater reaches local effluent requirements for safe reuse in irrigating native trees, helping to create a natural micro-climate around the lodge – a new approach in Jordan.



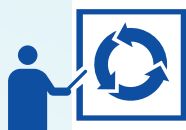
## Neighbourhood sanitation planning in Afghanistan

Over the past decade, cities in Afghanistan have received limited investment in sanitation and waste management. The main reasons for this include a lack of city sanitation planning and a lack of technical expertise among stakeholders. In the Kabul neighbourhood of Qalai Sultan Jan, BORDA created a model sanitation plan for 7,000 people which will guide the local government in replicating such plans in future. The project trained 40 engineers on neighbourhood sanitation planning processes while conducting awareness raising activities with the local community.

**Duration:** 2017 – 2018

**Donor:** BMZ (German Federal Ministry for Economic Cooperation and Development)

**Partners:** CDD Society (Consortium for DEWATS Dissemination), India Afghanistan Ministry of Urban Development and Land (MUDL), Kabul Municipality (KM), Afghanistan National Environmental Protection Agency (NEPA)



In Northern Iraq, October 2018 saw the official opening of the Healing Garden at the Jiyan Foundation's Trauma Therapy Centre in Chamchamal. The therapeutic garden is a safe space for women, children and youth who have experienced domestic abuse and violence. BORDA designed and built a DEWATS solution that not only treats the centre's wastewater, but also supplies the water needed for the garden to grow. For us, the Healing Garden project is a model of sustainable community development, and it is also grounds for hope that more comprehensive projects will be developed to simultaneously protect human rights and the environment.

**Improving living conditions in camps** – To address the immense sanitation challenges in refugee and IDP (internally displaced person) camps, BORDA designs and builds decentralised wastewater treatment systems (DEWATS) for emergency settings. Low-contaminated wastewater, such as water from showering, is pretreated and reused to irrigate crops. In addition to reducing the environmental pollution caused by temporary, dense human settlement, this reusable water improves living conditions for displaced people (see box) and increases positive interactions between refugees and host communities.

**Building up regional networks and capacity** – We are committed to building a community of professionals that advocates for access to improved and safely managed water and sanitation. To that end, BORDA WesCA has allocated funding and staff to support the new Sustainable Sanitation Alliance (SuSanA) West Asia and North Africa (WANA) regional chapter, established in late 2017 and managed from our office in Amman, Jordan.

In 2018, we initiated the “WE talk Water & Energy” series, which acts as a platform for different stakeholders (governments, NGOs, the private sector, practitioners, students) to discuss controversial topics around water and energy. So far, WE talk has addressed innovation, gender and entrepreneurship. Other activities included a SuSanA workshop for female

journalists covering water and sanitation issues in Jordan and Lebanon, and trainings in Iraq with cewas Middle East on sustainable sanitation and water management (SSWM).

***Extending our experience to more countries –***

We have been able to leverage lessons learned in Afghanistan, Iraq and Jordan for new projects elsewhere in the region. In Tajikistan, we are supporting OXFAM through an SDC-funded project to transfer knowledge we gathered in Afghanistan, accompanied by DEWATS implementations for two hospitals. In Pakistan, we are conducting capacity-building trainings and contributing options for school-based DEWATS through the GIZ Sanitation for Millions (S4M) programme. In Kyrgyzstan, the focus is on assessment of faecal sludge treatment plant (FSTP) potential in An-Oston along with local training on faecal sludge and wastewater management. In the Gaza Strip, we are working to improve living conditions by rehabilitating or constructing decentralised sanitation and sewage systems and building local capacity.

Kabul, Afghanistan



## The nexus of sanitation and agriculture in IDP camps in Northern Iraq

Located near the city of Erbil, the Baharka IDP (internally displaced persons) camp hosts 4,700 people from the city of Mosul and its surrounding areas. In 2018, BORDA built a treatment system designed to handle 20m<sup>3</sup> of greywater discharged daily from 298 caravans. The treated wastewater replaces 20m<sup>3</sup> of fresh water used to irrigate the camp's six greenhouses, and it contains important nutrients that work as natural fertiliser. The project seeks to provide displaced people with agricultural employment opportunities and produce enough vegetables to feed all camp residents.

**Duration:** 2017 – 2021

**Donor:** BMZ (German Federal Ministry for Economic Cooperation and Development)

**Budget:** 600,000 EUR

**Partners:** Erbil Sewerage Directorate, Erbil Joint Crisis Coordination Centre (EJCC), Barzani Bharity Foundation, Jiyan Foundation for Human Rights





SOUTH ASIA



# Clean towns, clean waterways – creating liveable spaces for all

In 2018, BORDA South Asia (SA) launched a new “Liveable Space” portfolio while not abandoning our old portfolio of water and sanitation, which will be carried forward by CDD Society and its network members.

Today, CDD Society is a fully self-sustaining team of about 80 professionals, assisting various cities and state governments in their policy formulation and field implementation of water and sanitation projects. CDD Society’s work has been recognised with various national and international citations and awards, the latest being the Spirit of Humanity Award 2018.

Following the approach for the implementation of our water and sanitation portfolio with CDD Society, we are working with a new organisation called Foundation for Inclusive and Sustainable Habitats (FISH) to implement the new “Liveable Space” portfolio.

A detailed understanding of the new portfolio is gradually taking shape around its key features: water-sensitive designs and integrated solutions determined through a city/town focused approach that is product agnostic and process oriented, with BORDA SA as a professional companion for city managers. With these features, the “Liveable Space” programme will contribute to achieving SDG 6 (clean water and sanitation) and SDG 11 (sustainable cities and communities). BORDA, the German Federal Ministry for Economic Cooperation and Development (BMZ) and the European Union support this new portfolio with ongoing activities in the Indian towns of Leh, Devanahalli and Alappuzha.



**Public-private partnership for rapid-response FSM (Leh):** 2018 was the second year of operations of the public-private partnership for faecal sludge management in Leh. 250 different customers were successfully served including households and commercial establishments. 800 collection trips were conducted with a total volume of more than 2.5 million litres of faecal sludge treated.

### The Devanahalli Model: 2018 Insights for Town-Scale Success

The Devanahalli model integrates a reuse-oriented, value-creating, robustly operated and maintained FSTP with collection services and toilet-building initiatives, underpinned by operational planning and the local government's social, financial and legal policy support. To ensure the success of the model and increase its impact, we are widening our focus in Devanahalli to encompass multiple aspects of overall improved sanitation: wastewater management, stormwater management, lake rejuvenation, and solid waste management.

For other towns, even those whose situations differ from Devanahalli, the model offers key insights into how the local government can proactively bring councillors and community members on board and demonstrates that:

- ▶ in water-stressed areas, there are options other than conventional sewerage and treatment systems;
- ▶ building on an already existing infrastructure of septic tanks and pits can help towns move up the sanitation ladder faster; and
- ▶ even in big cities, FSTPs can be a solution for areas without sewer network coverage.



Also the access distance to septic tanks was increased from 20 feet (6.1 metres) to more than 300 feet (91.4 metres) by implementing a double boosting system—an in-house development accomplished through the appropriation of existing technologies. In 2018 the operator achieved more stable demand and operations, serving a wider range of customers and moving partially towards scheduled desludging. The PPP is making a strong case for how smaller towns can work with private players to implement FSM services as a rapid response to public health concerns and sanitation challenges, while also generating revenue with a minimum allocation of resources.

**Model for town-scale improved sanitation (Devanahalli):** The faecal sludge treatment plant (FSTP) in the town of Devanahalli has been in operation for over three years, without any major technical or operational issues. As of January 2019, the FSTP has treated a cumulative 1,589,730 litres of sludge and generated 19,419 kg of compost used for agricultural application. In 2018 with the construction of 600 household toilets and conversion of 40 unsanitary toilets through the support of Swachh Bharat Mission (SBM), CDD Society and Oracle India, the town was declared Open Defecation Free+ (ODF+).

With its locally operated and maintained FSTP creating value for sludge treatment by-products, its operational plan for collection service drivers, and its ODF+ designation, Devanahalli is now a model town working consciously towards implementing wider aspects of the sanitation value chain and achieving first-in-India ODF++ status. Replication of the model across India could prevent 40 billion litres a day of untreated sewage from being dumped into the environment, saving 500,000 lives a year. The investment in Devanahalli has become even more clearly an investment in the environmental and economic health of the entire country.

***Rejuvenating a waterway network (Alappuzha):*** Often called the “Venice of the East”, the town of Alappuzha on the Arabian Sea coast is the oldest planned town in Kerala’s backwaters. With 900 kilometres of waterways, the backwaters—a network of five lakes linked by canals and fed by 38 rivers—were traditionally used as transport infrastructure connecting the Arabian Sea to Vembanad Lake (the longest in India). Alappuzha’s canals were once its nerve centre, but with the port losing its commercial importance and road networks gaining prominence, the canals lost their purpose. They have been reduced to waste dumping spaces that present aesthetic, environmental and human health concerns.

In late 2017, the local government in cooperation with the Kerala Institute of Local Administration (KILA) and the Indian Institute of Technology (IIT) Mumbai brought in CDD Society, BORDA SA, Inspiration Cochin, and Cochin University of Science and Technology (CUSAT) to develop a concept and methodology for revitalising Alappuzha’s waterways. The aim is to clean and rejuvenate the two major canals and 14 canal sheds, implement solid and liquid waste treatment systems for over 40,000 households and buildings, create over 10 km of green pedestrian walkways, and generate thousands of green jobs for skilled and unskilled workers.





# SOUTHEAST ASIA

# Practice-relevant solutions for municipalities

In Southeast Asia, BORDA's main strategic focus is on enabling municipalities to implement innovative, cross-sectoral water management solutions. Responding to the demands of the New Urban Agenda (NUA) and Sustainable Development Goals (SDGs), local and national governments across the region are increasingly aware of and calling for flexible polycentric models of urban development and water-related municipal services. BORDA's activities in 2018 manifest our commitment to answering that call.

*Demonstrating system solutions to realise the NUA and SDGs at the local level* - The Integrated Sanitation Approach, developed with our partners and applied in multiple cities, provides tailor-made system solutions for clusters of 5,000-10,000 households and businesses in underserved areas. Situating sanitation within urban water resource management, this approach connects polycentric planning processes, suitable technology and infrastructure, sustainable operations, and comprehensive capacity building. Local conditions are both starting points and ongoing references in the development of improved municipal services.

In early 2018 at World Urban Forum 9 in Kuala Lumpur, BORDA presented the first results of a joint research project to develop practical instruments that support Southeast Asia's rapidly growing cities in their implementations of polycentric urban development schemes and



integrated, cross-sectoral water management – thus enabling the localisation of Agenda 2030. Undertaken by cities and government agencies in Indonesia, Cambodia, Laos, the Philippines and Vietnam together with academic institutions and civil society organisations, the project is funded by the German Ministry of Education and Research (BMBF).



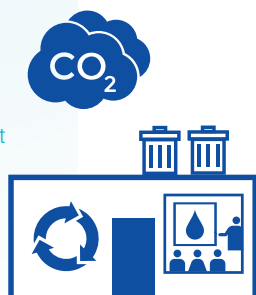
## Community Based Management of Solid Waste for Climate Change Mitigation

In Indonesia the KIPRAH VER (“we pro waste” Voluntary Emission Reduction) programme – registered since April 2014 under the Gold Standard scheme as the first emission reducing, community-based composting project worldwide – is in its third monitoring period with 19 materials recovery facilities (MRFs) in three provinces under evaluation. In the first two monitoring periods, KIPRAH VER was certified for the reduction of 2,334.6 and 2,523.5 tonnes of CO<sub>2</sub> emissions from aerobically composting 3,052.42 and 3,936.48 tonnes of organic waste. Through KIPRAH VER, low-income urban communities become active players in global climate change mitigation efforts.

**Duration:** ongoing since 2006

**Donor:** German Federal Ministry for Economic Cooperation and Development (BMZ)

**Partners:** Institute for Integrated Economic and Social Development (BEST) in Indonesia | Foundation for the Development of Rural Technologies (LPTP) in Indonesia supported by atmosfair



The international People-Sanitation-Cities alliance, established in late 2017 with eight city partners dedicated to progressive implementation of the Integrated Sanitation Approach, added one more Southeast Asian city in 2018. With alliance support, city partners have begun demonstrations of integrated system solutions

- ▶ interconnected components for planning, technology, management and capacity building
- ▶ that meet locally defined water and sanitation needs (see map on the right).

**Disseminating and evaluating proven solution components** – Together with our local partners, we continue to disseminate successfully up-scaled service packages. In 2018 our network implemented decentralised wastewater treatment systems (DEWATS) for 170 communities, three schools and six small to medium-sized enterprises (SMEs), and decentralised solid waste management (DESWAM) in four locations. These implementations have added to our partner network’s store of first-hand experience and know-how, and enabled us to build trust with stakeholders, decision makers, developers, policy makers and donors.

**Establishing cooperations to promote integrated sanitation solutions for municipal public services** – In 2018 we established a testing centre at the AIT-BORDA Regenerative Sanitation Hub at the Asian Institute of Technology (AIT) in Thailand. The Hub aims to certify proven decentralised wastewater treatment technologies and introduce them to decision makers, manufacturers and practitioners across Southeast Asia.

In 2018 BORDA and its partners in Southeast Asia played a significant role in shaping local, national and international agendas, innovating and implementing practice-relevant solutions and approaches, and facilitating global, regional and national exchange for strengthening the water and sanitation community of practice.



## Localised implementations of “Integrated Sanitation Management” programmes through the People-Sanitation-Cities alliance in 2018:



## Umbrella Programme: Sustainable Resource Management in Southeast Asia



This 10-year project aims to strengthen peri-urban areas by improving the provision of water-related public services and the management of national resources, thereby increasing climate resilience and enabling the creation of liveable urban spaces. Now in its final phase, the key features of this programme—essential public services for sanitation, faecal sludge and waste management—are being established as an integral part of urban modernisation strategies. In line with the principle of subsidiarity, the project supports new strategic partnerships between citizens, civil society, municipalities, city planners, service providers and community representatives.

**Duration:** 2009–2019, final phase 2017–2019

**Donor:** German Federal Ministry for Economic Cooperation and Development (BMZ)

**Estimated Budget:** 5.4 million EUR (final phase)

**Partners:** Environmental Sanitation Cambodia (ESC) | Association of Community Based Organisations on Sanitation in Indonesia (AKSANSI) | BEST | LPTP | Basic Needs Services (BNS) Philippines | Asian Institute of Technology (AIT) | Vietnam Academy for Water Resources (VAWR)

**Operating under cooperation agreements with:** Indonesia Ministry of Public Works | Laos Ministry of Public Works and Transport, Department of Urban Housing and Planning Myanmar Ministry of Construction, Department of Urban and Housing Development

## Bremen

# Advocating for a sustainable future

In Germany, we are working to raise awareness and acceptance of our activities in development cooperation as contributions to achieving the Sustainable Development Goals (SDGs) here at home.

Since 2017, BORDA has participated in the Germany-wide One World Promoter Programme as a specialist promoter for Environment, Climate and Water. Making the idea of “One World” real – a vision which stands at the heart of the UN’s Agenda 2030 and the SDGs – is not only about what happens in developing countries. It also requires a change of perspective and more concrete action in the Global North. As a One World Promoter, BORDA disseminates information on smart water management, the importance of sanitation for all, climate change adaptation and mitigation, and sustainable use of resources.

When it comes to water and sanitation, media around the world cover crisis situations, but barely report on the many effective projects that can deliver clean water and safe sanitation for all. In the emerging field of constructive journalism, where the focus is on progress and solutions through a critical but not negative lens, BORDA is now a sought-after partner for media training on water-related issues. Together with Berlin-based Media in Cooperation and Transition (MiCT) and the Swiss expert organisation cewas, we carried out several journalist training courses in the Middle East in 2017-2018 and developed an online “Water reporting” manual. In October 2018, BORDA head of PR Christoph Sodemann spoke at AMWAJ (A Mediterranean Water and Journalism Forum for Sustainable Development) in Barcelona, and at the end of 2018, we were commissioned by the Central Asian Environmental Center (CAREC) to conduct training on water issues for media and NGOs in the Uzbek capital Tashkent.





## One World Promoter Programme

Water and wastewater, climate change, energy production and resource consumption: these are the focus of BORDA's engagement as One World specialist promoter. Through informational campaigns, educational projects, PR events and advocacy work, we raise awareness, build capacities and strengthen networks. The aim: strengthening German commitment to global justice and sustainable development.

**Duration:** 2017-2019

**Donor:** German Federal Ministry for Economic Cooperation and Development (BMZ), Free Hanseatic City of Bremen

**Budget:** 174,750 EUR

**Partner:** Bremer entwicklungspolitisches Netzwerk e. V. (BeN), Arbeitsgemeinschaft Eine-Welt-Landesnetzwerke (agl)

## Development policy: awareness and public relations

In 2018, the focus of the project was on communication initiatives such as developing our new [borda.org](http://borda.org) website and participating in fairs, exhibitions and conferences. Together with [hanseWasser](http://hanseWasser.de), Bremen's local water and wastewater utility, we continued our series of "Water Dialogues" events, where participants discuss and publicise pertinent issues in the water and wastewater sectors. We are also looking at novel ways to generate financing and new alliances to realise SDG 6: water and sanitation for all.

**Duration:** 2018

**Donor:** Free Hanseatic City of Bremen

**Budget:** 35,500 EUR

**Partner:** Plenipotentiary of the Free Hanseatic City of Bremen for Europe and Development Cooperation



# Research & Development



## Global M&E Report 2017 – 2018: DEWATS Sustainability Performance Assessment

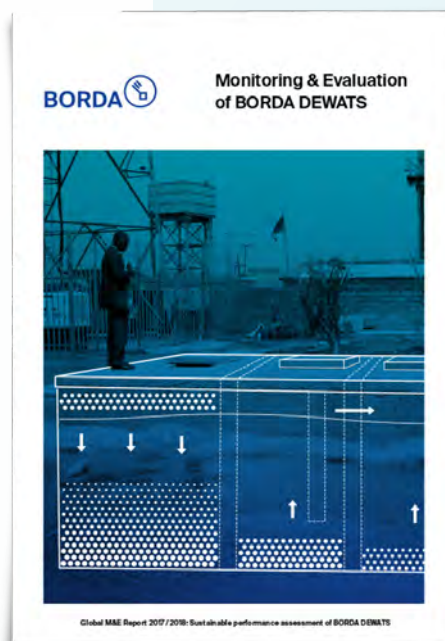
The objectives of the performance assessment are to highlight strengths and weaknesses of existing DEWATS projects, allow for evidence-based global (programmatic) and local corrective action, motivate cross-regional learning, and identify topics for possible future in-depth analysis.

The assessment covered project outcomes and impacts in the areas of environmental health, improved living conditions in served communities, project-specific impact, functioning technology, functioning maintenance, sufficient demand, effective management, sustainable financing, and quality of planning, design and construction.

The BORDA team assessed 140 systems (123 conventional, 14 prefab, 3 mixed) in 11 countries (Afghanistan, India, Nepal, Lesotho, Tanzania, Zambia, Cambodia, Indonesia, Laos, Philippines and Vietnam).

**Duration:** April 2017 – March 2018

**Donor:** German Federal Ministry for Economic Cooperation and Development (BMZ)





## DEWATS Design Tool: 2018 Update

DEWATS design and implementation is an integral part of the work that BORDA and its partner network engage in around the world. To create an MS Excel DEWATS design tool, BORDA and its partners reviewed and revised DEWATS design steps as well as the existing Excel-based tools used by the engineering teams.

The project team also developed supplementary materials including detailed guidelines on the process of designing DEWATS, a data analysis and recommendations document that can serve as a reference for understanding the design formulae and coefficients, and a video tutorial series to walk practitioners through using the tool.

**Duration:** June 2017 – October 2018

**Donors:** Bill & Melinda Gates Foundation

German Federal Ministry for Economic Cooperation and Development (BMZ)

**Budget:** 25,600 EUR

**Partner:** Consortium for DEWATS Dissemination (CDD) Society, India

## Small-Scale Sanitation Scaling-Up in South Asia (4S)

Reaching completion after three years, the 4S project has delivered a systematic assessment of small-scale sanitation systems (SSS) in South Asia. The evaluation covers the technical performance and sustainability of systems as well as the governance of small-scale sanitation.

The main recommendations are on reaching adequate treatment performance, arranging for sludge management, standardising handover, operator training and documentation, improving monitoring through a centralised database, creating SSS management units, developing clear policies and design standards, integrating SSS in strategic planning, encouraging water reuse, and incentivising affordable quality systems.

**Duration:** 2016–2019

**Donors:** Bill & Melinda Gates Foundation  
German Federal Ministry for Economic Cooperation and Development (BMZ)

**Budget:** 1713.925,00 USD

**Partners:** Swiss Federal Institute of Aquatic Science and Technology (Eawag),  
Indian Institute of Technology (IIT) Madras



## Septic Bag for Emergency Sanitation

Rapidly established and fast-growing refugee camps require a quick sanitation solution. The usual systems require labour-intensive construction and significant maintenance work. In cooperation with OXFAM, BORDA has developed a new sanitation system for rapid deployment in refugee camps.

The Septic Bag is made from a flexible membrane that can be easily stored and transported. Set-up takes non-specialists less than a day (even less than 60 minutes in a test with Technisches Hilfswerk in Bremen), and maintenance requirements are low. Using the Septic Bag in place of the usual solutions can extend servicing intervals from every week to every 3 – 6 months.

After intensive testing in Germany, the Septic Bag system will be sent to Bangladesh and Iraq for further field testing in existing camps. The results will be used to make further improvements before series production begins.

**Duration:** Oct 2017 – Oct 2018  
(first phase: development and testing)

**Donors:** OXFAM

**Budget:** 40,000 EUR





### **INNOQUA – an innovative bio-based sanitation system**

The INNOQUA project is to develop a modular wastewater treatment solution and bring it to market. The innovative technology relies on the purifying capacity of earthworms and other biological organisms. INNOQUA provides decentralised bio-based water sanitation systems for rural communities as well as for agricultural operations and sustainable home builders in Europe and developing countries – making it possible to bring ecological, safe and affordable sanitation systems where they are most needed.

As part of the INNOQUA consortium – BORDA's first EU project – we are working with 19 partners, mainly universities and research institutes. Within the framework of this four-year project, BORDA will build two demonstration-sites in India and Tanzania and is also responsible for the communication of the entire project.

**Duration:** 2016 to 2020

**Budget:** 604,500 EUR

**Donor:** European Union Horizon 2020 Programme

**Regional Partners:** Coordination NOBATEK (France)

20 international companies, research institutions and universities

### **Floating Membrane for Faecal Sludge Treatment Lagoons**

BORDA has developed a new faecal sludge treatment lagoon system. Different to conventional lagoons, the new system is equipped with a floating membrane. This innovation prevents odours and reduces the risk of contact with faecal matter.

Since the sludge is kept in anaerobic conditions, it produces biogas that can be used for cooking or other purposes. In addition, the design includes a reservoir for harvesting rainwater, which can be utilised as process water in the treatment plant.

The system is also feasible for emergency situations and can be used to treat the sludge from Septic Bag systems. Due to the design, it is not necessary to remove the sedimented sludge for the first 4–6 months, which opens a longer time window for the construction of the secondary treatment system.

**Duration:** Nov 2018 – Feb 2019

**Donors:** OXFAM (BORDA Ltd. project)

**Budget:** 49,450 EUR

# Organisational Structure International

## General Assembly

### Members of Bremen Overseas Research and Development Association

(Bremer Arbeitsgemeinschaft für  
Überseeforschung und Entwicklung e.V.)



## Board

**Joachim Klaembt**  
Chairman

**Jens Bruns**  
Vice Chairman

**Dr. Dietrich Bostelmann**  
Treasurer

**Stefan Reuter**  
Executive Member

**Dr. Michael Stiller**  
Member

**Peter von Enden**  
Member



## Directorate Central / HQ

**Stefan Reuter**  
Executive Director

**Andreas Schmidt**  
Director Innovation

**Sören Bettex**  
Director Strategic  
Development (Interim)

## Directorate Regional

**Pedro Kraemer**  
Director Las Américas

**Fatoumata Diaw**  
Director West Africa

**Stanzin Tsephel**  
Director South Asia

**Jutta Camargo**  
Director Africa

**Alejandro Miller**  
Director West and  
Central Asia

**Frank Fladerer**  
Director Southeast Asia



## Administration

- ▶ Financial Planning & Reporting
- ▶ Human Resources
- ▶ Security, Safety, Infrastructure



## Innovation

- ▶ Research & Development
- ▶ Monitoring & Evaluation
- ▶ Knowledge Management



## Implementation

### **Politics / Communications**

- ▶ Advocacy
- ▶ Global development agenda
- ▶ Resource mobilisation
- ▶ Public relations

### **Consulting**

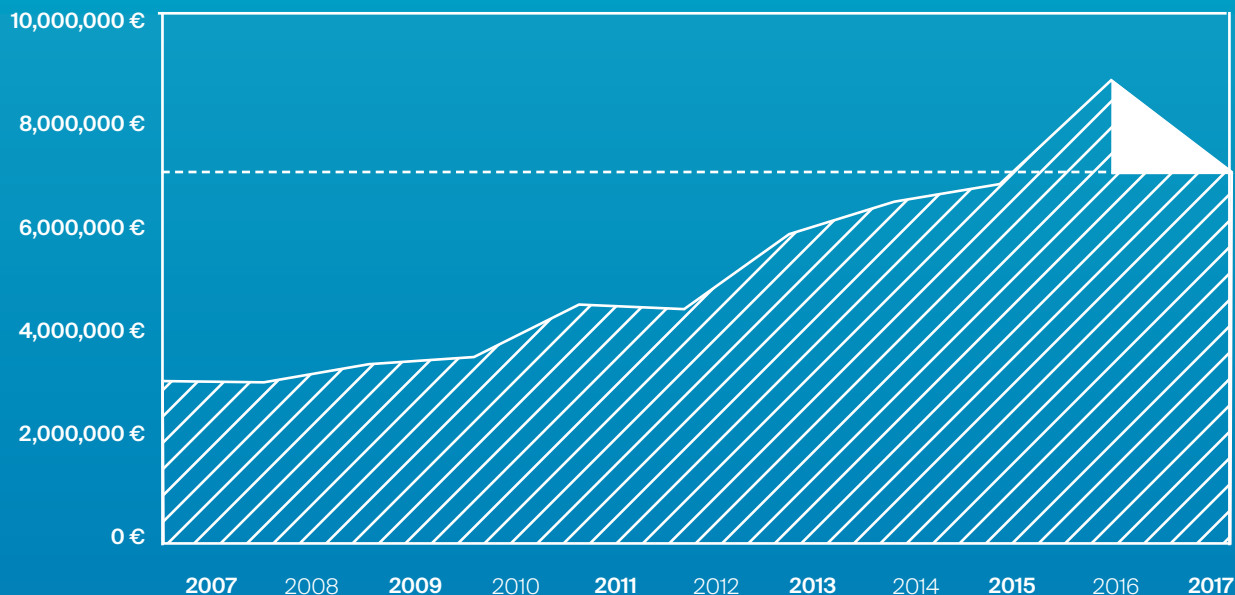
- ▶ Specific consultancy projects
- ▶ Commissioned works for commercial clients

### **Development Assistance**

- ▶ Policy advice
- ▶ Awareness creation
- ▶ Capacity development
- ▶ Pilot plants

# Facts and Figures 2017

## Change in Turnover 2007 – 2017



7,665,048 € -----  $\frac{2016}{2017}$  ↓ 15%

## Turnover by Donor

### Others

168,182 €

### SDC

8,639 €

### giz

32,032 €

### Free Hanseatic City of Bremen

85,000 €

Total 2017	Region
118	Southeast Asia
104	South Asia
48	West and Central Asia
21	Africa
44	Las Américas
38	Bremen
<b>373</b>	<b>Total</b>



## Turnover by Location



## Regional staff

Project management	Public relations	Knowledge management	Technical	Social	Support staff	City and partner liaison officers
14	3	6	44	13	22	16
11	4	6	52	16	15	-
4	4	9	17	2	12	-
8	-	-	9	4	-	-
12	2	5	22	3	-	-
8	6	2	10	-	11	1
57	19	28	154	38	60	17

7,209,135 €

# Balance Sheet for 2017

## Assets

	EUR	Financial Year EUR	Previous Year EUR
<b>A Assets</b>			
I. Intangible assets			
Advance payments		2,095.52	0.00
II. Tangible assets			
1. Land, land rights and buildings including buildings on leasehold land	47,676.00		53,640.00
2. Other plant, office furniture and business equipment	48,330.00	96,006.00	39,897.00
III. Financial assets			
Shares in affiliated companies		10.00	10.0
<b>B Current assets</b>			
I. Receivables and other assets			
1. Prepayments made for outstanding projects	11,606,420.59		9,479,921.21
2. Receivables from affiliated companies	1,870.68		0.00
3. Other assets	137,097.81	11,745,389.08	87,253.81
II. Cash in hand, cash at Bundesbank and at banks, and cheques		282,055.11	1,939,528.79
<b>C Prepaid expenses</b>			
		<b>12,128,532.71</b>	<b>11,603,818.21</b>

## Equity and Liabilities

<b>A. Equity</b>			
I. Profit carried forward		360,375.02	246,501.78
II. Net profit for the year		209,483.93	113,873.24
<b>B. Provisions</b>			
Other provisions		38,520.82	35,124.42
<b>C. Liabilities</b>			
1. Payments received for ongoing projects	11,490,208.20		10,618,181.59
2. Trade payables	52,515.76		0.00
3. Liabilities to affiliated companies	0.00		14,511.43
4. Liabilities for project services for the following year - not yet billable	312,266.94		527,943.18
5. Other liabilities	84,129.90	11,939,120.80	47,682.57
		<b>12,128,532.71</b>	<b>11,603,818.21</b>

# Income statement

	EUR	Financial Year EUR	Previous Year EUR
1. Project income		7,999,388.37	7,240,061.83
2. Other operating income		36,858.38	179,055.47
3. Expenditure on projects		<u>6,795,575.22</u>	<u>6,152,900.99</u>
<b>4. Gross Profit</b>		<b>1,240,671.53</b>	<b>1,266,216.31</b>
<hr/>			
5. Personnel expenses			
a) Wages and salaries	922,168.25		745,810.40
b) Social security and expenses for old-age pensions and support	<u>212,063.54</u>		<u>162,139.19</u>
		1,134,231.79	907,949.59
6. Depreciation / amortization of intangible assets and tangible assets		35,728.52	26,030.54
7. Other operating expenses		279,659.24	205,735.25
8. Other interest and similar income		0.49	1,658.94
9. Interest and similar expenses		<u>536.40</u>	<u>14,286.65</u>
<b>10. Result of ordinary business activity</b>		<b>209,483.93-</b>	<b>113,873.24</b>
<b>11. Net profit for the year</b>		<b>209,483.93-</b>	<b>113,873.24</b>

## Auditors' report

To Bremer Arbeitsgemeinschaft für Überseeforschung und Entwicklung (Bremen Overseas Research and Development Association) BORDA e. V.

We have audited the annual financial statements, comprising the balance sheet and income statement, together with the bookkeeping system of Bremer Arbeitsgemeinschaft für Überseeforschung und Entwicklung (Bremen Overseas Research and Development Association) BORDA e. V., Bremen, for the business year from January 1 to December 31, 2017. The maintenance of the books and records and the preparation of the annual financial statements in accordance with German commercial law are the responsibility of the association's statutory representatives. Our responsibility is to express an opinion on the annual financial statements, together with the bookkeeping system, based on our audit.

We conducted our audit of the annual financial statements in accordance with Section 317 HGB [Handelsgesetzbuch – German Commercial Code] and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the annual financial statements in accordance with [German] principles of proper accounting are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Association and expectations as to

possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the books and records as well as the annual financial statements are examined primarily on a test basis within the framework of the audit. The audit includes assessing the accounting principles used and significant estimates made by the authorized representatives, as well as evaluating the overall presentation of the annual financial statements. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the annual financial statements comply with the legal requirements and give a true and fair view of the net assets, financial position and results of operations of the Association in accordance with [German] principles of proper accounting." The auditors' report reproduced above may not be used for any purposes outside this report except with our prior consent.

In cases in which this auditors' report is quoted or reference is made to our audit, the annual financial statements may only be published or disclosed in a form at variance to that for which this auditor's report has been issued (including but not limited to translation into another language) if it is resubmitted to us for auditing. Reference is made to Section 328 HGB in this respect.

Bremen, November 06, 2018  
Siemer + Partner, Partnerschaft mbB  
Wirtschaftsprüfungsgesellschaft  
Steuerberatungsgesellschaft

# Project overview

## Projects administered by headquarters - in chronological order

- ▶ Poverty alleviation and sustainable protection of natural resources in Latin America
- ▶ Training for small businesses in implementing decentralised basic sanitation and wastewater treatment projects
- ▶ Improving basic sanitation and supporting liveable and inclusive cities in Africa
- ▶ Promote sustainable food security in urban and rural areas in Mali
- ▶ Sustainable Resource Management in Southeast Asia
- ▶ Improving basic sanitation in refugee camps and neighbouring communities in Northern Iraq
- ▶ Regional project South Asia - Integrated management of urban waters as a core duty of public services in the general interest at local level
- ▶ Development policy education and public relations 2018
- ▶ DEWATS Durban 2018: Demonstration of decentralised sanitation in schools and poor residential areas of Durban and other South African cities
- ▶ SEI - Stockholm Environment Institute - Subgrant "SuSanA Phase III"
- ▶ INNOQUA: Innovative bio-based onsite sanitation system for water and resource savings
- ▶ Establishing a specialised technical support and field research center for FSM and non-sewered sanitation
- ▶ CEWAS Middle East Programme 2016-2018 - Capacity and Business Development
- ▶ FSM Compendium 2016 - 2018: Programme for the operationalisation of the German humanitarian WASH sector strategy
- ▶ 4S: Small-scale sanitation scaling up in South Asia
- ▶ One World Promoter Programme - Specialist Promoter (Environment, Climate, Water)
- ▶ Water Reporting - Communications and media training in the Middle East region
- ▶ Securing Water For Food - Year 1 WASTE
- ▶ Sanitation solutions for underserved communities in Jordan
- ▶ Modified Septic Tank for emergencies
- ▶ WASTE-SIDA: Planning grant for setting up an Impact Investment Fund in India
- ▶ New Venture Fund
- ▶ European Pact for Water
- ▶ KEx Knowledge Exchange Zambia
- ▶ Media Uzbekistan
- ▶ engagement global Gaza / Palestine
- ▶ S4M Pakistan
- ▶ Technical consulting for planning and construction of a faecal sludge treatment plant in Bamako, Mali
- ▶ Polyurbwater - Polycentric approaches to the management of urban water resources in Southeast Asia

Donor	Region / Country	Duration	Budget
BMZ	Las Américas	2015 – 2018	3.3 Mill. €
BMZ	West and Central Asia	2016 – 2018	6.7 Mill. €
BMZ	Africa	2016 – 2018	4.5 Mill. €
BMZ	Mali	2016 – 2021	1,6 Mill. €
BMZ	Southeast Asia	2017 – 2019	5.4 Mill. €
BMZ	Iraq	2017 – 2021	0.6 Mill. €
BMZ	South Asia	2018 – 2020	3.2 Mill. €
EZ Bremen	Germany	2018	35,500 €
EZ Bremen	South Africa	2018	45,500 €
SEI	Germany	2017 – 2019	121,500 €
EU Horizon 2020 / NOBATEK	EU	2016 – 2020	0.6 Mill. €
CDD (BMGF)	South Asia	2016 – 2019	4.0 Mill. US\$
CEWAS	West and Central Asia	2016 – 2018	0.44 Mill. € (in-kind)
GTO - Federal Foreign Office	Germany	2016 – 2018	24,900 €
BMGF	South Asia	2016 – 2019	1.7 Mill. US\$
BeN	Germany	2017 – 2019	0.2 Mill. €
SDC	Middle East	2017 – 2018	15,000 CHF
WASTE	India	2017 – 2018	9,195.00 US\$
SDC	Jordan	2017 – 2021	4,98 Mill. €
Oxfam	Global	2017 – 2018	40,000 €
SIDA	India	2017 – 2018	40,000 €
New Venture Fund	Tanzania	2018	100,000 US\$
giz	Europe	2018 – 2019	79,000 €
giz	Zambia	2018 – 2019	101,642 €
CAREC	Usbekistan	2018 – 2019	50,000 €
engagement global	Palestine	2018 – 2020	0.5 Mill. €
giz	Pakistan	2018	0.2 Mill. €
PROTOS-EU	Mali	2017 – 2019	50,000 €
BMBF	Southeast Asia	2017 – 2018	39,840 €

# Thank you to our donors

Thanks to our individual and corporate donors, we were able to improve the lives of thousands of people by providing them with access to clean water and adequate sanitation.

Your donation supports our work on the ground and helps ensure that we can continue contributing to significant change in disadvantaged communities around the world.

We look forward to your continued support in future.

## High-altitude faecal sludge management, with support from Hansa-Flex

Hansa-Flex AG, a Bremen-based international company specialising in fluid engineering, made a generous Christmas donation to our faecal sludge management (FSM) initiative in Leh. Situated in the Himalayas in the Ladakh region of northern India, Leh has a harsh desert climate and is one of the highest cities in the world. BORDA and its partner CDD Society designed a faecal sludge treatment plant, adapted to extreme climate conditions and high altitude, and initiated India's first public-private partnership for FSM. Blue Water Company, a private sanitation service company, provides end-to-end FSM services while the Leh municipality provides policy support.



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Fabio Nicoletti  
Christoph Sodemann

**Photos** All rights reserved  
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**Printing** Laserline, Berlin

**Paper** 115 g/qm Profibulk (FSC),  
300 g/qm Recycling Offset  
(Der Blaue Engel)

**Layout** gegenfeuer.net



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