



## **Looking back at the Belgian development cooperation in the water sector in Benin over the past 10 years**

Last update: June 2020

### **Status of SDG6**

A few charts on the status of water resources and on SDG6 in Benin are in Figure 1 to Figure 4. More detailed and updated information can be found on the [Benin's country snapshot](#) provided in the [UN-Water SDG6 data portal](#), and the WHO – UNICEF Joint Monitoring Program's [Benin's country file](#).

### **Belgian and international ODA to water sector**

Based on the database reporting the Belgian ODA, 18.200.000 EUR have been allocated to the water sector in Benin between 2008 and 2019, which corresponds to 2.5% of the total Belgian ODA to water sector through bilateral aids (Figure 5), and to 7.1% of the total Belgian ODA to the country (Figure 6). Main contractors have been Enabel, Join for Water and to a lesser extent ARES and Croix Rouge – Communauté francophone (Figure 7). Projects and programs have mainly been implemented in basic and large water infrastructures and agricultural water. The list of water program and projects are in Table 2. According to OECD's Credit Reporting System, DAC countries giving more than 1million US\$ to Benin for the Water and Sanitation sector between 2014 and 2018 are Netherlands (83M US\$), Germany (49M US\$), Japan (12M US\$), France (5M US\$), and Belgium (4M US\$) (Table 1).

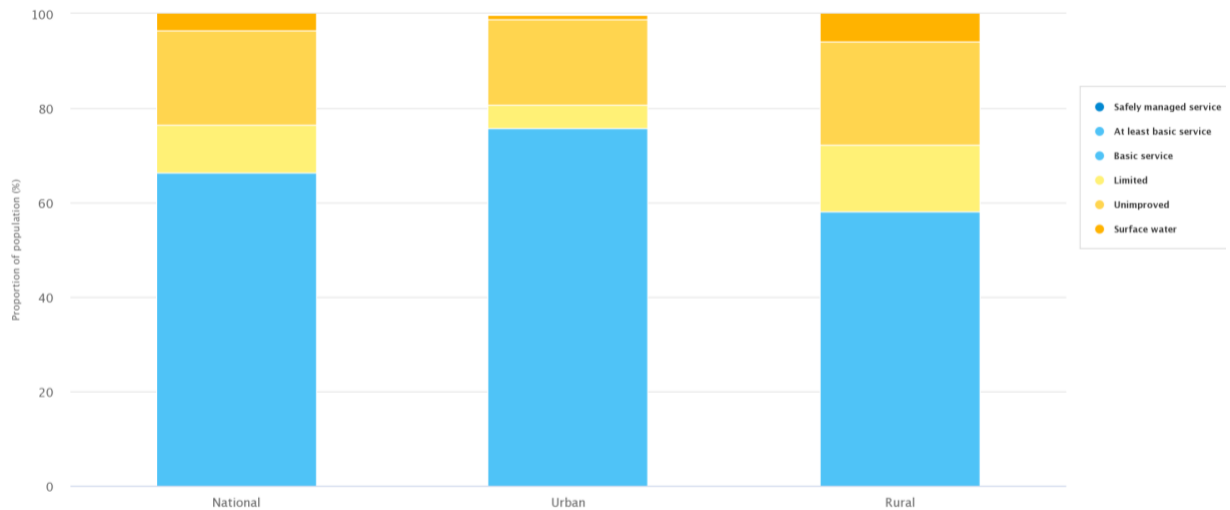
### **Belgian organisations with projects in Benin over the course of the past 10 years**

Thirty-three Belgian organisations having expertise in water have reported having been active in Benin between 2010 and 2019 (Table 3). Nine are NGOs, two are NPO or fourth pillar, five are from the private sector, three are public agencies, two public utilities, and twelve are research institutions.

### **Academic water research in Benin over the course of the past 10 years**

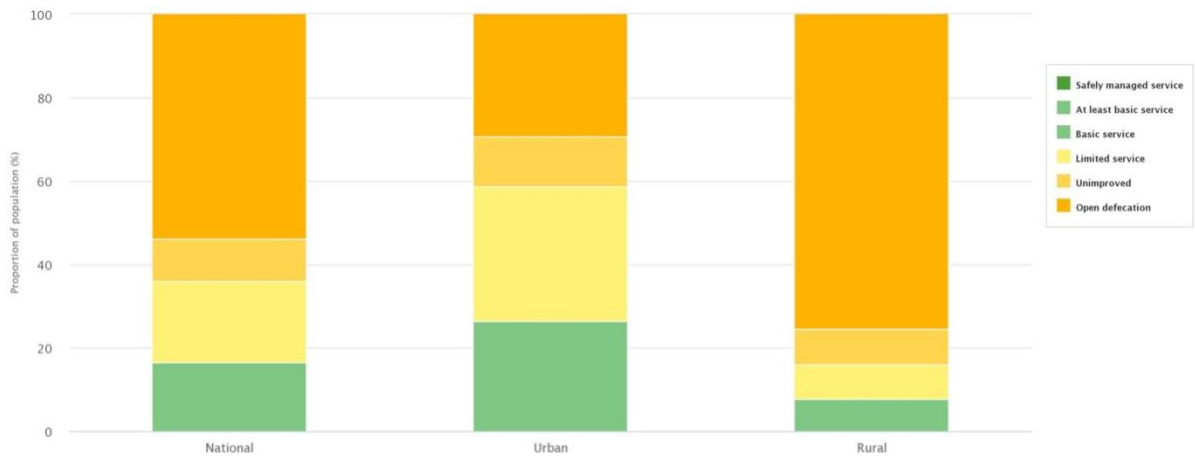
Five peer-reviewed papers have been published by research team including authors from Belgium and Benin. Research domains are in the fields of waterborne diseases, fish production and water availability in ecosystems (Table 4).

**Figure 1. Proportion of population using drinking water services in Benin, by service level and by location (SDG6.1.1, 2017).**



Data source: WHO, UNICEF  
Exported from UN-Water <https://www.sdg6data.org> on 11 May 2020

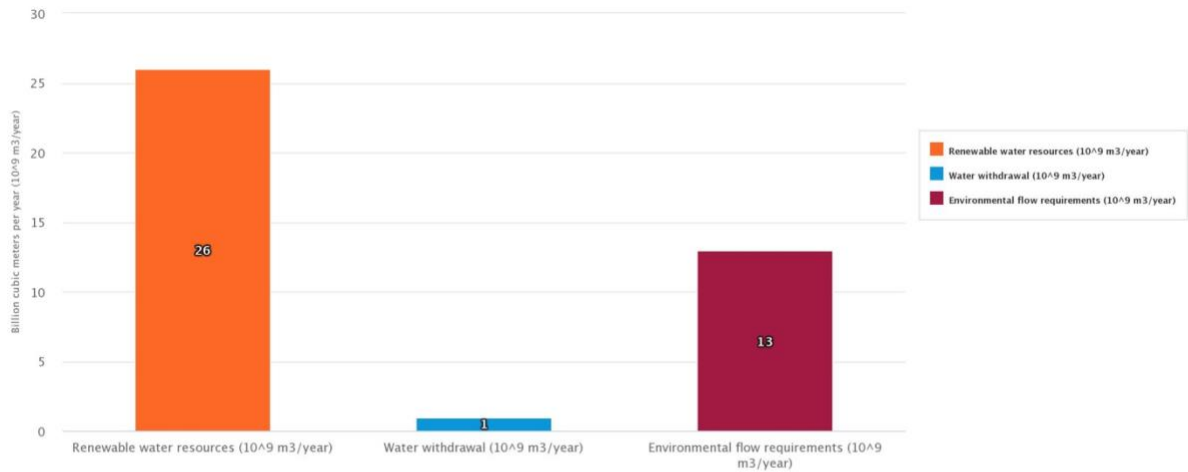
**Figure 2. Proportion of population using sanitation services in Benin, by service level and by location (SDG6.2.1a.;2017).**



Data source: WHO, UNICEF  
Exported from UN-Water <https://www.sdg6data.org> on 11 May 2020

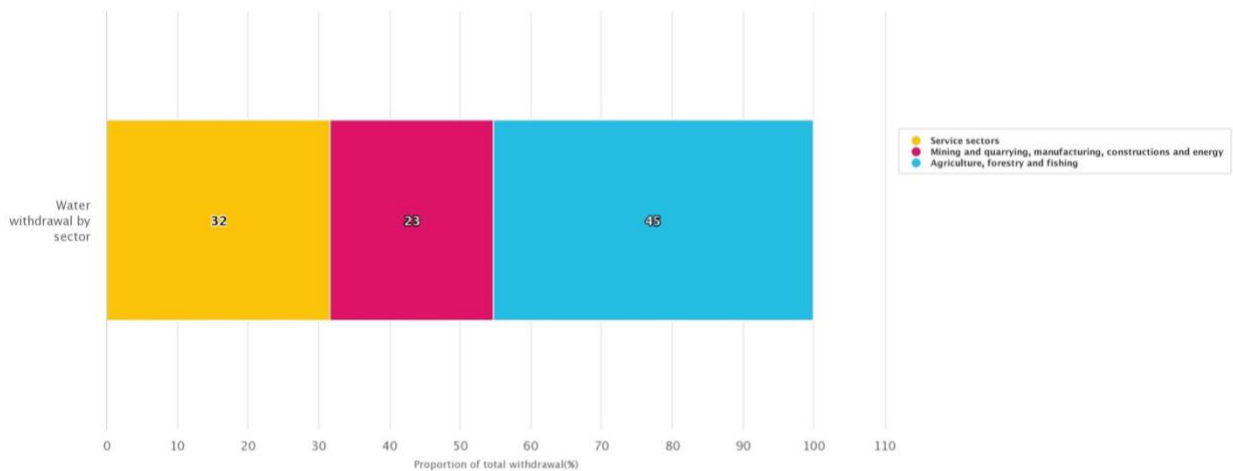
**Figure 3. Water resources and withdrawal in Benin, per capita and by source.**

- Long-term average annual precipitation in depth: 1,039 (mm/year) (2017)
- Renewable water resources: 2,361 m<sup>3</sup> per capita (2017)
- Water withdrawal: 18 m<sup>3</sup> per capita (2001)
- Environmental flow requirements: 49 % of the renewable water resources (2017)



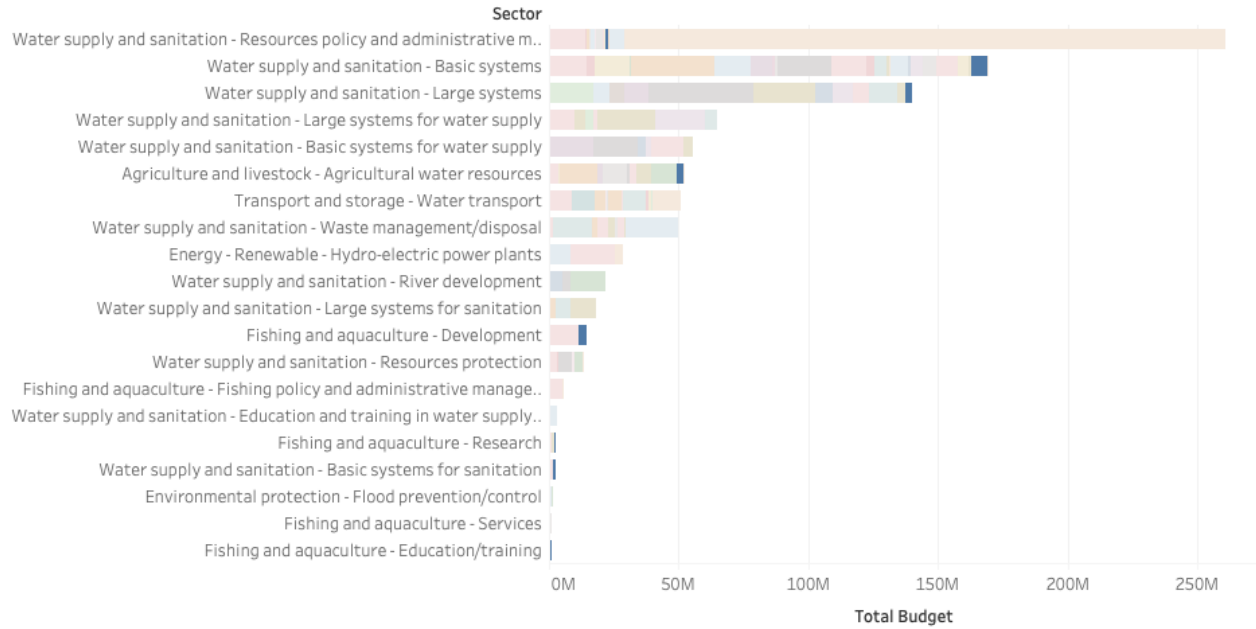
Data source: FAO  
Exported from UN-Water <https://www.sdg6data.org> on 11 May 2020

**Figure 4. Water withdrawal by sector in Benin, as a percentage of total water withdrawal (2001).**



Data source: FAO  
Exported from UN-Water <https://www.sdg6data.org> on 11 May 2020

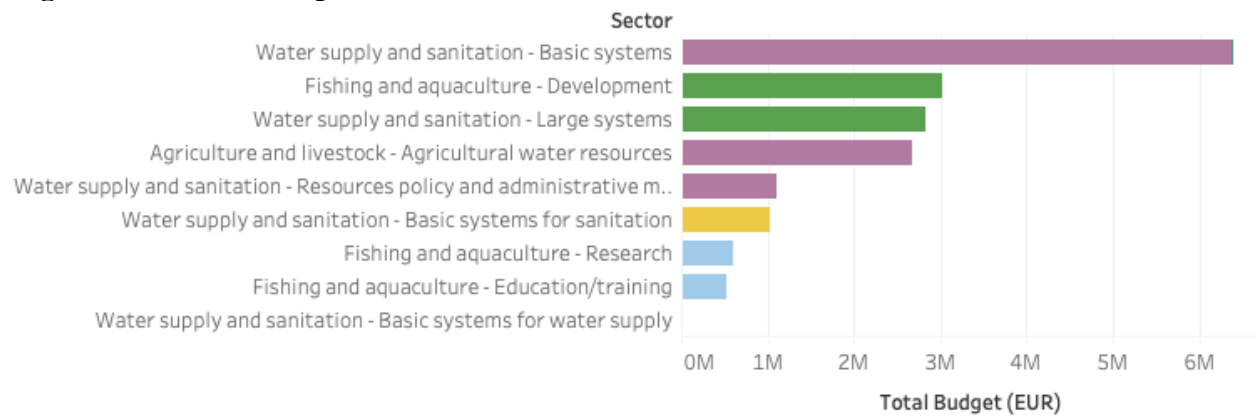
**Figure 5. Total Belgian ODA to water per sub-sectors, with the ODA to Benin highlighted in blue.**



**Figure 6. ODA to water (blue) in comparison to other sectors (grey) in Benin. The size of the circle is proportional to the budget.**



**Figure 7. Contractors per water sector.**



**Contractor**

- ARES - Académie de Recherche et d'Enseignement supérieur
- Enabel - the Belgian development agency
- INDIRECT BELGIUM general/not specified
- NGO Association pour l'Action de Développement Communautaire - AADC
- NGO Croix-Rouge de Belgique, Communauté francophone - Activités internationales
- NGO Défi Belgique Afrique
- NGO Join For Water (ex-Protos)
- Royal Museum for Central Africa in TERVUREN /MRAC/KMMA

**Table 1. ODA water supply and sanitation sector (ODA sector code 140) to Benin by DAC countries, cumulated between 2014 and 2018<sup>1</sup>.**

<b>DAC Countries</b>	<b>2014-2018 Commitment (Million 2018 US\$)</b>	
Netherlands	\$	83.03
Germany	\$	48.78
Japan	\$	11.93
France	\$	5.49
Belgium	\$	3.72
Canada	\$	1.58
Italy	\$	0.58
Switzerland	\$	0.42
United States	\$	0.40
Spain	\$	0.38
Australia	\$	-
Austria	\$	-
Denmark	\$	-
Finland	\$	-
New Zealand	\$	-
Norway	\$	-
Portugal	\$	-
Sweden	\$	-
United Kingdom	\$	-

<sup>1</sup> Source: OECD Credit Reporting System. <https://stats.oecd.org/>. Accessed June 2020.  
Belgian development cooperation in the water sector in Benin

**Table 2. List of water projects funded by Belgian ODA.**Typology: **B01**-Core support to NGOs, other private bodies, PPPs and research institutes; **C01**-Project-type interventions.

Contractor	Type	Title	Effective Start Dt	Effective End Dt	Budget (EUR)
ARES - Académie de Recherche et d'Enseignement supérieur	B01	Programme Interuniversitaire ciblé 2013: Influence des pratiques phytosanitaires en milieu cotonnier sur l'agrosystème aquatique et la qualité sanitaire des poissons produits dans les retenues d'eau au nord Bénin (AquaTox-Bénin)	01-01-2013		597211,74
	B01	ARES CCD Programme PFS 2014-2019 - Benin	01-04-2014		523519,53
Enabel - the Belgian development agency	C01	PADEAR -ATACORA DONGA EAU POTABLE ET ASSAINISSEMENT (PADEAR)	05-05-2003	05-12-2007	2821083
	C01	Ontwikkeling van visvangstsector in Benin	20-12-2007	13-12-2011	3019402
INDIRECT BELGIUM general/not specified		Aid of province West-Vlaanderen			
	C01	Loterie Nationale -- OMD's Développement d'une entreprise de pêche au profit d'une communauté au sein du quartier d'Akpapa, Cotonou			
		Aid of province Vlaams-Brabant - Verbetering van de watervoorziening in ferme de Sokouno.			
NGO Association pour l'Action de Développement Communautaire - AADC	B01	Solar waterputten in 4 dorpen van Zou	01-03-2012	28-02-2014	
	B01	Les capacités de résilience des populations face aux risques de catastrophes et aux épidémies en améliorant la préparation aux catastrophes, les pratiques d'hygiène et l'accès durable des communautés aux infrastructures d'assainissement de base sont renforcées dans les zones lacustres des Aguégus,	01-01-2017		1036344
NGO Défi Belgique Afrique	B01	Verbetering van de toestand qua hygiëne en sanering	31-12-2001	31-12-2010	9378
	B01	Uitbreiden de toegang tot water en het gebruik van plaatsen om drinkbaar water te halen	31-12-2001	31-12-2010	1216

Contractor	Type	Title	Effective Start Dt	Effective End Dt	Budget (EUR)
NGO Join for Water (ex-Protos)	B01	Duurzaam toegang tot drinkwater en goed beheer van watervoorraden en hun ecosystemen in Benin	01-01-2011	31-12-2013	867117
		Aid of province Vlaams-Brabant - Multisectoriële ondersteuning aan de voedselzekerheid en voedselveiligheid in Atacora.			
	C01	Waterbouwkundige werken voor de landbouw in de departementen Mono/Couffo et Atacora/Donga - PAHA - Fase I	20-12-2006	19-12-2012	1429765
	C01	Aide de la province Flandre-Occidentale: gestion de l'eau durable			
	B01	NGO Protos - Programma 2014-2016 Benin: Toegang tot en beheer van water en sanitatie in Benin	01-01-2011	31-12-2016	1107376
	C01	Initiatives locales pour le gestion intégrale de l'eau	01-01-2008		115000
	C01	Lokaal waterbeheer ter verbetering van de toegang tot drinkwater in vijf gemeenschappen in Noord-Bénin (GLEauBe)	01-01-2009	31-12-2014	1789431
	C01	Improved access to and management of potable water and sanitation in Benin			
	C01	Initiatives locales concernant le gestion intégrale de l'eau	01-01-2006		
	C01	Appui à la maîtrise, à la gestion des aménagements et des ressources en eau agricole	01-09-2012	31-12-2015	1249868
	C01	Aide de la province Flandre-Occidentale: hygiène et sanitation			
	C01	Lokaal waterbeheer in het noorden van Benin (GLEAUBE) (Fase II)	01-09-2016	01-09-2019	203999
	B01	Duurzame toegang tot drinkwater en basissanitatatie en goed beheer	01-01-2008	31-12-2010	808261
	B01	Amélioration du service public et de la gouvernance de l'eau potable et de l'assainissement dans le Mono-Couffo, Bénin	01-01-2017		2460643
	C01	Improved access to and management of potable water and sanitation			130000
Royal Museum for Central Africa in TERVUREN /MRAC/KMMA	B01	NA	01-01-2019		



**Table 3. Belgian organisations in the water sector that reported having had projects in Benin over the course of the past 10 years.**

Source: [Water Nexus database of Water Actors](#). Might not be a comprehensive list.

Sector	Acronym	Name	Website	Keywords	Description
Government-recognised NGO	LC	Louvain Coopération	<a href="http://www.louvaincooperation.org">www.louvaincooperation.org</a>	Food Security-Economic Security-Health Care-Access to Health Care	/
	IDP	Iles de Paix	<a href="http://www.ilesdepaix.org">www.ilesdepaix.org</a>	Agriculture- Farmers	Iles de Paix appuie le secteur de l'agriculture familiale au niveau duquel l'amélioration de la gestion des ressources hydriques disponibles est fondamentale.
	Join For Water	Protos - Join For Water	<a href="http://www.joinforwater.ngo">www.joinforwater.ngo</a>	Sanitation Chain- Water Provision- Water Resource Management- Lobby- Participation- Capacity Building	Join For Water reinforces an equitable, sustainable and participatory water management and water use: our mission explains what we understand by this and how we wish to put this into practice.
	BRC	Belgian Red Cross	<a href="http://www.croix-rouge.be">www.croix-rouge.be</a>	Nutrition-Water	/
	AZV MSV	Artsen Zonder Vakantie Médecins Sans Vacances	<a href="http://www.azv.be">www.azv.be</a>	Medics- Hospitals- Medical Science	/
	CRB	Croix-Rouge de Belgique	<a href="http://www.croix-rouge.be">www.croix-rouge.be</a>	WASH-Réduction Des Risques De Catastrophes-Nutrition (Wash In Nut)	/
		Eclosio	<a href="http://www.eclosio.org">www.eclosio.org</a>	Access to irrigation-Gestion Participative De L'Irrigation-Communauté D'Agriculteurs Usagers De L'Eau-Système Irrigué Décentralisé-Développement Rural Et Péri-Urbain	Government-recognised NGO de l'Université de Liège - Gembloux
		GEOMOUN	<a href="https://www.geomoun.org/">https://www.geomoun.org/</a>	Optimisme-Militants-Enfance-Participatif -Communauté	GEOMOUN est une ONG qui soutient des projets d'initiatives locales en Haïti et au Pérou axés sur le respect des droits de l'enfant . Depuis 1ans et demi GEOMOUN est financé par la fondation Roi Baudouin afin d'inclure la problématique de l'accès à l'eau dans les écoles et des laterines.

Sector	Acronym	Name	Website	Keywords	Description
	DBA	Défi Belgique Afrique	<a href="https://ongdba.org/">https://ongdba.org/</a>	Agriculture Familiale -Ecms- Projets Sud -Sensibilisation	DBA est une ONG qui souhaite encourager et accompagner les citoyens de Belgique, en particulier les jeunes dans une prise de conscience des enjeux du monde contemporain. Nos projets se basent sur deux principaux axes : 1) L'éducation à la citoyenneté mondiale et solidaire 2) L'agriculture familiale. La problématique de l'eau est une de nos principales préoccupations pour les projets SUD.
NPO or 4th pillar organisation	MEMISA	Memisa Belgique Memisa België	<a href="http://www.memisa.be">www.memisa.be</a>	Universal Health Coverage- Primary Health Care- Medecins- Traaining- Health Insurance	/
	RIKOLTO	RIKOLTO ( ex- Vredeseilanden)	<a href="http://www.rikolto.org">www.rikolto.org</a>	Sustainable Agriculture- Harvesting- Smallholder Farmers- Building Bridges- Fair Trade	Empowerment and support for farmers.
Private sector organisation	W+B	Witteveen+Bos	<a href="https://www.witteveenbos.com/nl/belgie/">https://www.witteveenbos.com/nl/belgie/</a>	Engineering Projects- Sustainable Development Goals-Impact-Designing For The Future	As an engineering and consultancy firm, we advise and help clients all over the world in resolving today's complex challenges. With a network of 21 offices in 11 countries and some 1,100 engineers and consultants, we work on improving the human environment for everyone, today and for future generations. Together with our stakeholders, we contribute to social, ecological and economic progress, with the sustainable development goals of the United Nations serving as an inspirational guideline.
	Hydro-rdi	Hydro-R&D International	<a href="http://www.hydro-rdi.eu">www.hydro-rdi.eu</a>	/	/
		Sotrad Water	<a href="http://www.sotradwater.be">www.sotradwater.be</a>	Treatment- Pumps- Ultra Filtering- Stockage- Solar	/
		SHER	SHER Ingéneurs- Conseils s.a.	<a href="http://www.sher.be">www.sher.be</a>	Impact Research- Water Treatment- Alimentation- Potable Water- Irrigation- Hydroelectricity

Sector	Acronym	Name	Website	Keywords	Description
	Antea Group	Antea Belgium NV	www.anteagroup.be	Numeric Modelling- Integrated Water Resources Management- Ecosystem Based Approach- Climate Change Adaption	As an international engineering and environmental consulting firm, Antea Group specializes in full-service solutions in the fields of water, environment, infrastructure, and urban planning. We combine strategic thinking and multidisciplinary perspectives with technical expertise and pragmatic action to effectively solve client challenges while delivering sustainable results for a better future.
Public agency	SPW - DEE	Service Public de Wallonie, Département Environnement et Eau		International Cooperation- Public Administration	/
	SPW-MI DGH	Service public de Wallonie Mobilité et Infrastructures - Direction de la Gestion hydrologique		Hydrology- Navigation- Flood Forecasting- Drought Forecasting- Risk Management- Water Management	/
	AWEX	Agence wallonne à l'Exportation et aux Investissements étranger	https://www.awex.be/	International funding-Mobilité- Investissement-Exportation	AWEX aide les entreprises wallonnes à investir à l'étranger à travers, notamment, des entreprises dans le secteur de l'eau.
Public utility / enterprise	SWDE	Société wallonne des eaux	www.swde.be	/	/
	VLIR-UOS	Vlaamse Interuniversitaire Raad - Universitaire Ontwikkelingssamenwerking	www.vliruos.be	Higher Education- Outreach	/
Research institute or team; Knowledge center	RBINS-CEBioS	Royal Belgian Institute of Natural Sciences	http://www.biodiv.be/cebios2/	Policy-Research-Capacity Building	Museum and research institute with a policy mandate.
		Ghent University		Integrated Water Management- Natural Risks-Climate Change Adaptation-River Morphology- Coastal Erosion	/

Sector	Acronym	Name	Website	Keywords	Description
Research institute or team; Knowledge center	LMFE - Uliège	Laboratoire de Morphologie Fonctionnelle et Evolutive	www.morfonct.uliege.be	Biodiversity- Acoustic Communication- Monitoring	Nous travaillons principalement sur la biodiversité piscicole.
	Aquapole	Aquapole ULiege	www.aquapole.ulg.ac.be	Hydrology- Hydrogeology- Modélisation- Quality- Integrated Management	/
	LOCI	University of Louvain (UCLouvain) Faculty of Architecture, Architectural Engineering and Urban Planning	www.uclouvain.be/en/faculties/loci	Urban Metabolism- Green Infrastructure Planning- Blue Infrastructure Planning- Ecosystem Services- Circular Economy	Studying water inflows and outflows as key flows in the urban metabolism approach, alongside other key resource flows.
	KU Leuven	Universiteit Leuven	www.ees.kuleuven.be/fnl/	/	/
	Uliege - UEE - HGE	ULiege, Urban and Environmental Engineering Research Unit, Hydrogeology and Environmental Geology	www.uee.uliege.be/cms/c_3680052/en/ueene w-hydrogeologie-et-geologie-de-l-environnement	Groundwater- Groundwater Quantity- Groundwater Quality- Hydrogeology- Groundwater Vulnerability	/
	ULiège - EED	Water, Environment & Development lab - Department of environmental sciences and management - University of Liège		Integrated Water Resources Management- Irrigation- Decision Support Tools- Remote Sensing- Food Security	/
	ULB - SERM	Université Libre de Bruxelles	www.ulb.ac.be/sciences/biocomplexity/	Ecosystems- Remote Sensing- Socio-Ecology- Ecology- Mangrove- Aquatic Biodiversity	/
		ULB - Systems Ecology & Resource Management Unit	https://www2.ulb.ac.be/sciences/biocomplexity/	Ecosystem Services Assessment-Biodiversity Conservation Research- Capacity Building-Mangroves- Coastal Resources Management-Impact Assessment	/

Sector	Acronym	Name	Website	Keywords	Description
Research institute or team; Knowledge center	UCLouvain -ELI-GERU	UCLouvain, Earth and Life Institute	<a href="https://uclouvain.be/en/research-institutes/eli/eli">https://uclouvain.be/en/research-institutes/eli/eli</a>	Agro-Hydrology-Erosion and Land Conservation-Remote Sensing And Hydrogeophysics-Irrigation / Drainage -Soil Water Plant Relationships-Integrated Water Resources Management	ELI pioneers fundamental and applied research to understand the basic processes of the Earth & Life system. The Institute designs research-based solutions at different scales to meet the major challenges associated with the sustainable development of the Earth and Life System. ELI promotes and stimulates interdisciplinary interactions between scientists of complementary expertise that aims to understand the processes controlling the dynamics of the Earth and Life systems at spatial scales deriving from molecules to organisms populations up to global cycles, and time scales from sub-daily to millions of years; to identify drivers of change through quantitative monitoring of indicators and application of hierarchical models; and to innovate in technical management and regulation, both in natural and industrial processes and systems, including renewable resource development and agricultural policy.
	UAntwerp	University of Antwerp	<a href="https://www.uantwerp-en.be/en/centres/environment-sustainable-development/">https://www.uantwerp-en.be/en/centres/environment-sustainable-development/</a>	River Basin Management-Ecosystem Services-Water Technology-Water Governance-Toxicology	NA

**Table 4. Peer-reviewed, academic publications on water co-published with researchers from Belgium and Benin between 2010 and 2019.** Belgian authors are in bold font.

Authors	Belgian Insitutions	Title	Year	Journal	DOI
<b>Degbey C.</b> , Makoutode M., Ouendo E.-M., Fayomi B., <b>De Brouwer C.</b>	* Université libre de Bruxelles École de santé publique Unité de santé au travail et de toxicologie du milieu, Bruxelles, Belgique. * Université libre de Bruxelles École de santé publique Département de biostatistique, Bruxelles.	The quality of well water in the municipality of Abomey-Calavi in Benin [La qualité de l'eau de puits dans la commune d'Abomey-Calavi au Bénin].	2008	Environnement, Risques et Sante	<a href="https://doi.org/10.1684/ers.2008.0158">https://doi.org/10.1684/ers.2008.0158</a>
<b>Degbey C.</b> , Makoutode M., Agueh V., Dramaix M., <b>De Brouwer C.</b>	Bruxelles École de santé publique Département de biostatistique, Bruxelles.	Factors associated with the quality of well water and the prevalence of waterborne diseases in the municipality of Abomey-Calavi in Benin [Facteurs associés à la qualité de l'eau de puits et prévalence des maladies hydriques dans la commune d'Abomey-Calavi (Bénin)].	2011	Cahiers d'études et de recherches francophones / Santé	<a href="https://doi.org/10.1684/san.2011.0238">https://doi.org/10.1684/san.2011.0238</a>
Pèlèbè R.O.E., Imorou Toko I., Ouattara I.N., Attakpa E.Y., Montchowui E.H., <b>Kestemont P.</b>	Université de Namur, Unité de Recherche en Biologie Environnementale et Evolutive, Namur.	Fish production in cages and pens in the northern Benin water reservoirs [Pisciculture en cages et en enclos dans les retenues d'EAU du nord du Bénin].	2019	Livestock Research for Rural Development	<a href="https://doi.org/NA">https://doi.org/NA</a>
Zoumenou B.G.Y.M., Aïna M.P., Imorou Toko I., Igout A., Douny C., Brose F., Schiffers B., Gouda I., Chabi Sika K., <b>Kestemont P.</b> , Scippo M.-L.		Occurrence of Acetamiprid Residues in Water Reservoirs in the Cotton Basin of Northern Benin.	2019	Bulletin of Environmental Contamination and Toxicology	<a href="https://doi.org/10.1007/s00128-018-2476-4">https://doi.org/10.1007/s00128-018-2476-4</a>
Ago E.E., Agbossou E.K., Cohard J.-M., Galle S., <b>Aubinet M.</b>	Université de Liège, Centre de recherche TERRA, Liège.	Response of CO2 fluxes and productivity to water availability in two contrasting ecosystems in northern Benin (West Africa).	2016	Annals of Forest Science	<a href="https://doi.org/10.1007/s13595-016-0542-9">https://doi.org/10.1007/s13595-016-0542-9</a>