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## Foreign country experiences

Afghanistan, Albania, Algeria, Antigua, Barbados, Belgium, Belize, Benin, Bolivia, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroun, Chile, China, Colombia, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, France, Georgia, Ghana, Grenada, Guatemala, Guyana, Haiti, Hungary, India, Indonesia, Ivory Coast, Jamaica, Jordan, Kenya, Kyrgyzstan, Kosovo, Kuwait, Lesotho, Luxembourg, Morocco, Mexico, Namibia, Netherlands, Nicaragua, Nigeria, North Macedonia, Oman, Pakistan, Palestine, Peru, Philippines, Republic of South Africa, Russian Federation, Rwanda, Senegal, Serbia, Slovenia, Somalia, Spain, Sri Lanka, St. Lucia, St. Vincent & the Grenadines, Syria, Suriname, Thailand, Togo, Trinidad & Tobago, Tunisia, Turkey, Uzbekistan, Vietnam

## Projects in foreign countries (1991 - 2022)

### Topics:

1. Environmental and Social Impact Assessment Studies (ESIA, IEE), Environmental and Social Management Plans (ESMP), Environmental and Social Framework (ESMF), Environmental and Social Due Diligence (ESDD), Resettlement Plans
2. Water quality, drinking water and wastewater treatment
3. Waste management, waste treatment and disposal; contaminated sites
4. Energy efficiency, renewable energy and climate change
5. Environmental protection in industry, Industrial audits
6. Environmental financing and Credit Funds (industrial environmental protection/energy efficiency)
7. Project preparation, appraisal, evaluation and monitoring
8. Capacity Building and Institutional Strengthening
9. Laboratory consultancies and analytical quality assurance (AQA)
10. Agriculture and plant protection consultancies
11. Other activities
12. Projects in Germany (selection, 1988 - 1995)

### **1. Environmental and Social Impact Assessment Studies (ESIA, IESE), Environmental and Social Management Plans (ESMP), Environmental and Social Framework (ESMF), Environmental and Social Due Diligence (ESDD), Resettlement Plans**

#### **2022**

**Kyrgyzstan:** Preparation of two Environmental and Social Scoping Studies concerning the construction of two perinatal hospital centres in the cities of Osh and Talas, Bishkek, KfW Development Bank, Frankfurt

**Africa (SIFA countries):** Preparation of an Environmental and Social Management Plan (ESMP) based on project phases including IFC Performance Standards for construction projects to be realised in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

**Senegal:** Technical review of an Environmental and Social scoping study (EIES préliminaire) and application of WB ESS Standards in the frame of the feasibility study “Construction et équipement d’un Institut Supérieur d’Enseignement Professionnel (ISEP) à Mbacké”; KfW Development Bank, Frankfurt (home office)

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## 2021

**Somalia:** Review of the prequalification document for construction works at training centres in Somalia; Prof Adow TVET Centre, Galkayo (WB/IFC ESHS Guidelines/ESS Standards) in the frame of the project “Strengthening Employability through Technical and Vocational Education and Training - Building of a Network of TVET + Service Hubs in Somalia”; Yme Foundation, Mogadishu; KfW Development Bank, Frankfurt (home office)

**Africa (SIFA countries)** Preparation of an Environmental and Social Management Plan (ESMP) for projects in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

**Somalia:** Environmental and Social Due Diligence (ESDD) and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the rehabilitation and construction of a training college/TVET (Prof Adow TVET Centre, Galkayo) in the frame of the project “Strengthening Employability through Technical and Vocational Education and Training - Building of a Network of TVET + Service Hubs in Somalia”; Yme Foundation, Mogadishu; KfW Development Bank, Frankfurt (home office)

**Somalia:** Revision of the Environmental and Social Management Framework (ESMF) in the project: “Strengthening Employability through Technical and Vocational Education and Training - Building of a Network of TVET + Service Hubs in Somalia”; Yme Foundation, Mogadishu; KfW Development Bank, Frankfurt (home office)

**Togo:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of a training centre in a national college/TVET (FORMATEC Lomé, Sokodé) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

**North Macedonia:** Inspection of the 110 km alignment of a 400 kV overhead transmission line from Bitola to the Albanian border concerning possible environmental and social impacts resulting from construction of the OHTL taking into consideration the ESAP. Preparation of an ESAP Implementation Plan, MEPSO, Skopje; EBRD, London

**Ghana:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of a training centre in a national college/TVET (Design and Technology Institute (DTI), Accra) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

**Ethiopia:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of a training centre in a national college/TVET (ATVET Mizan College) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

## 2020

**Ethiopia:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of a training centre in a national college/TVET (Dire Dawa) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

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- Kosovo:** Preparation of the Inception Report in the project “Gjilan Wastewater Development Project“, Implementation of the Environmental and Social Action Plan (ESAP) and ESHS, Hidromorava, Gjilan/Pristina (home office)
- Ghana:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of a training centre in a national college/TVET (Accra) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)
- Morocco:** Preparation of the Environmental and Social Scoping Study for the erection of a university hospital, a medical faculty and a student dormitory in the project “Étude de Faisabilité: Hôpitaux verts III - CH Béni Mellal“, Béni Mellal, Morocco; KfW Development Bank, Frankfurt (home office)
- Tunisia:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of two training centres in national colleges/TVET (Tunis, Teboulba/Jemmel) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)
- Cameroun:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of two training centres in national colleges/TVET (Douala, Pitoa) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)
- Republic of South Africa:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of two training centres in national colleges/TVET (Polokwane, Bushbuckridge) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)
- Kenya:** Environmental and Social Due Diligence and Environmental and Social Scoping including (evaluation and assessment of impacts; ESHS, IFC-PS) concerning the construction and operation of two training centres in national colleges/TVET (Kisumu County and Kisii County) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)
- Morocco:** Evaluation of documents and preparation of an Environmental and Social Scoping Study for the erection of a university hospital, a medical faculty and a student dormitory in the project “Étude de Faisabilité: Hôpitaux verts III - CH Béni Mellal“, Béni Mellal, Morocco; KfW Development Bank, Frankfurt (home office)
- North Macedonia:** Evaluation of documents (ESIA, ESAP, SEP, ESHS) relevant for the implementation of the Environmental and Social Management Plan (ESMP) and ESHS in the frame of the project “MEPSO: Macedonia – Albania Transmission Phase 1“, MEPSO, Skopje; EBRD, London (home office)
- Kenya, Nigeria:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts) concerning renovation and rehabilitation of training workshops in vocational colleges (TVET)(Mombasa County, Ijebu Ode) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

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## 2019

**Tunisia:** Progress evaluation concerning the preparation of an Environmental and Social Impact Assessment study including ESMP/ESHS for the construction of a dam for drinking water abstraction in the project “Construction of Barrage Rarai”, Ministry of Agriculture, Jendouba, Tunis; KfW Development Bank, Frankfurt

**Tunisia; Republic of South Africa, Cameroun:** Environmental and Social Due Diligence and Environmental and Social Scoping (evaluation and assessment of impacts) concerning renovation and rehabilitation of training workshops in vocational colleges (TVET)(Sfax, Kempton Park, City of Yaoundé) in the frame of the project “Skills Initiative for Africa - Financing Facility for Skills Development - SIFA“, AUDA/NEPAD (African Union Development Agency), Midrand, South Africa; KfW Development Bank, Frankfurt (home office)

## 2018

**Burkina Faso:** Preparation of an Initial Environmental and Social Impact Assessment including ESMP/ESHS for the city of Houndé in the project “Projet d’Approvisionnement en Eau Potable et Assainissement dans les petites et moyennes villes dans les régions de Boucle du Mouhoun, des Cascades, des Hauts-Bassins et du Sud-Ouest (AEPA-4R)“, Bobo Dioulasso, ONEA, KfW Development Bank, Frankfurt

**Jordan:** Preparation of an Environmental and Social Impact Assessment study including ESMP and ESHS for the construction of a sewer network and an integrated reed-bed wetland for the Municipality of Azraq, BORDA Wesca

**Tunisia:** Preliminary assessments for the preparation of an Environmental and Social Impact Assessment study including ESMP and ESHS for the construction of a dam for drinking water abstraction in the project “Barrage Rarai”, Ministry of Agriculture, Jendouba, Tunis; KfW Development Bank, Frankfurt

**Jordan:** Preliminary assessments for the preparation of an Environmental and Social Impact Assessment study including ESMP for the construction of a sewer network and an integrated reed-bed wetland for the Municipality of Azraq, BORDA Wesca

**Burkina Faso:** Preparation of two Initial Environmental and Social Assessments including ESMP and ESHS for the cities of Niangoloko and Houndé in the project “Projet d’Approvisionnement en Eau Potable et Assainissement dans les petites et moyennes villes dans les régions de Boucle du Mouhoun, des Cascades, des Hauts-Bassins et du Sud-Ouest (AEPA-4R)“, Bobo Dioulasso, ONEA, KfW Development Bank, Frankfurt

## 2017

**Burkina Faso:** Preparation of two Initial Environmental and Social Assessments including ESMP and ESHS for the cities of Banfora and Bérégadougou in the project “Projet d’Approvisionnement en Eau Potable et Assainissement dans les petites et moyennes villes dans les régions de Boucle du Mouhoun, des Cascades, des Hauts-Bassins et du Sud-Ouest (AEPA-4R)“, Bobo Dioulasso, ONEA, KfW Development Bank, Frankfurt

**Indonesia:** Environmental and social scoping study including ESMP of a site foreseen for the construction of a wastewater treatment plant as well as the sewerage system of the city of Bogor, Jakarta, Bogor; French Development Agency, AFD, Paris

## 2015

**Tunisia:** Environmental and social impact assessment including ESMP of the municipal slaughterhouse of the City of Kairouan, Ministry of Agriculture, Tunis; GIZ, Eschborn

## 2012 - 2015

Evaluation of 19 ESIA studies including ESMPs (photovoltaic and thermo-solar power plants, wind power plant, hydro power plants, heavy fuel power plant, transmission lines, transformer stations, plastic production, construction of clinker plant, chipboard plant and petro-chemical

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complex, social housing complex, wastewater treatment plants) following KfW criteria for project finance (Singapore, Republic of South Africa, Saudi Arabia, Togo, Burundi, Tunisia, Mexico, Abu Dhabi, Pakistan, Brasilia, Albania, Armenia, Turkey, Russia); KfW Development Bank and KfW IPEX-Bank, Frankfurt (home office)

### 2013

**Tunisia:** Preparation of an Environmental and Social Impact Assessment Studies (ESIA) including ESMPs and ESHS for the construction of common wastewater treatment plants in six industrial zones (Lot 2); ONAS, Tunis; KfW Development Bank, Frankfurt (intermittent)

**Serbia:** Environmental and Social Due Diligence Mission concerning the project: “Change of the ash transport in the thermal power plant Nikola Tesla A“, Preparation of a detailed Environmental and Social Impact and Climate Assessment including ESHS, Electric Power Industry of Serbia (EPS), Belgrade/Obrenovac; KfW Development Bank, Frankfurt

### 2012

**Vietnam:** Preparation of six environmental, social and climate change evaluations and impact assessments for four wastewater treatment plants, one waterworks and one solid waste disposal site in Vietnam (home office); KfW Development Bank, Frankfurt

**Tunisia:** Initial assessments for the preparation of an Environmental and Social Impact Assessment Study including ESMP/ESHs for the construction of common wastewater treatment plants for six Industrial Zones in North Tunisia, ONAS, Tunis; KfW Development Bank, Frankfurt

**Kenya:** Evaluation of the up-dated Resettlement Action Plan (RAP) for relocation of 105 Massai families in the frame of the geo-thermal power plant project Olkaria I/IV, Naivasha, Nairobi; KenGen, Nairobi; KfW Development Bank, Frankfurt

### 2011

**Kenya:** Evaluation of the Resettlement Action Plan (RAP)/including RAP up-date (social expert) and resettlement process for relocation of 105 Massai families in the frame of the geo-thermal power plant project Olkaria I/IV, Naivasha, Nairobi; KenGen, Nairobi; KfW Development Bank, Frankfurt

**Vietnam:** Risk assessment of biogas plants and preparation of mid-term report including ESHS in the frame of the Technical Assistance for the Vietnamese Bio-Gas Program “PPTA Strengthening Project Management and Developing Strategies and Options for Biogas Development Program Extension”, Hanoi, MARD; ADB, Manila

**Vietnam:** Application of criteria concerning environmental and social impacts of bio-gas plants including ESHS and evaluation of these impacts in the Vietnamese bio-gas Program “PPTA Strengthening Project Management and Developing Strategies and Options for Biogas Development Program Extension”, Hanoi, MARD; ADB, Manila

**Costa Rica:** Revision of an Environmental and Social Impact study including ESMP concerning the construction of a hydro-electrical power plant (36 MW; Proyecto Hidroeléctrico Balsa Inferior); KfW Development Bank, Frankfurt

**Brazil:** Evaluation environmental and social impacts including ESMP concerning the construction of a hydro-electrical power plant (23 MW; Hidroelétrica Barra Da Paciência, Minas Gerais); KfW Development Bank, Frankfurt

**Thailand:** Continuation of December 2011 assignment: Support concerning the preparation of environmental e-learning programs for use at university level, Bangkok, ComCon International Co., Ltd., Bangkok

**Vietnam:** Development of criteria concerning environmental and social impacts of bio-gas plants in the frame of the Vietnamese Bio-Gas Program “PPTA Strengthening Project Management and Developing Strategies and Options for Biogas Development Program Extension”, Hanoi, MARD; ADB, Manila

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## 2010

**Brazil:** Evaluation of environmental and social impacts including ESMP concerning the construction of a new multifunctional container terminal in the harbour of Santos (34 ha)(home office); KfW Development Bank, Frankfurt

**Thailand:** Support concerning the preparation of environmental e-learning Programs for use at university level, Bangkok, ComCon International Co., Ltd., Bangkok

**Vietnam:** Preparation of the inception report concerning environmental and social impacts of bio-gas plants in the Vietnamese Bio-Gas Program “PPTA Strengthening Project Management and Developing Strategies and Options for Biogas Development Program Extension”, Hanoi, MARD; ADB, Manila

**Vietnam:** Evaluation of an Environmental Impact Assessment including ESMP and preparation of a fact finding mission (KfW/ADB) concerning the construction of the Thermal Power Plant O Mon IV/Can Tho; KfW Development Bank, Frankfurt

**Kosovo:** Revision of the Environmental and Social Impact Assessment study (ESIA) including ESMP on the open pit Sibovc South West lignite mine following requirements of KfW concerning ESIA studies, Pristina; KfW Development Bank, Frankfurt

## 2009

**Benin:** Evaluation of environmental and social impacts including ESMP resulting from the construction of a 310 km transmission line (161 kV) in the project „Extension of the net infrastructure in Benin in the context of the West African Power Pools (WAPP)“; KfW Development Bank, Frankfurt

**Kosovo:** Consultancy for the consultant firm responsible for the preparation of an environmental and social impact study including ESMP on an open pit lignite mine (Sibovc South West lignite mine) following the KfW requirements for such a study, Pristina; KfW Development Bank, Frankfurt

## 2008

**Kosovo:** Preparation of Terms of Reference for launching a tender for an Environmental and Social Impact Assessment study including ESMP for an open pit lignite mine, KEK, Pristina; KfW Development Bank, Frankfurt

**China:** Development of Terms of Reference (ToR) for an Environmental and Social Impact Assessment including ESMP to be carried out for the wastewater treatment sludge disposal in the project: Hebei Urban Environment Project/Shijiazhuang Sewage Treatment Component, Shijiazhuang; World Bank, Washington

## 2006

**Macedonia:** Revision of the Environmental and Social Impact Assessment including ESMP carried out for the opening of the open pit coal mine in Bitola; ELEM, Skopje

**Albania:** Environmental and Social Scoping Study for a wastewater treatment plant as well as estimation of the risk of groundwater contamination for the northern well field, Shkodra/Tirana; KfW Development Bank, Frankfurt

**Albania:** Feasibility Study “Water and Wastewater Project/Shkodra”: Environmental evaluation of locations for the construction of a wastewater treatment plant, Shkodra; KfW Development Bank, Frankfurt

**Georgia:** Feasibility Study “Adjara Solid Waste Management Project” financed by the ‘Black Sea Investment Facility’: Environmental and Social Impact Assessment for a new sanitary landfill and closure of two existing dump sites for solid municipal waste, Tbilisi/Batumi; EU Commission, Brussels/EU Delegation Ukraine

## 2002

**Oman:** Environmental and Social Impact Study including ESMP on a new municipal solid waste disposal site for the Muscat region; Fichtner Stuttgart; Muscat Municipality

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## 2001

**Uzbekistan:** Environmental and Social Impact Assessment on the electrification of the Uzbek transport corridor Tashkent – Fergana (railway, road) for transport of crude oil and oil products, Tashkent, Fergana; KfW Development Bank, Frankfurt

## 2000

**Burundi:** Initial environmental and social analysis on existing installations for production of drinking water and energy (power stations) foreseen for rehabilitation or extension, Bujumbura and various other cities; World Bank, Washington

**Albania:** Environmental and Social Scoping Study and ESMP on rehabilitation and extension of the motorway Elbasan – Librazhd Project, Tirana; European Bank for Reconstruction and Development (EBRD), London

**Haiti:** Environmental and Social Impact Assessment (ESIA) including ESMP on wastewater treatment plants solid waste disposal sites and drainage in six provincial cities, Port-au-Prince, Ministry of Public Works; Interamerican Development Bank (IDB), Washington

## 1999

**Pakistan:** Preparation of Environmental and Social Impact Assessments (EISA) including ESMP for additional water supply (dams), wastewater treatment, solid waste disposal and drainage and flood control in the “Quetta Water Supply and Environmental Improvement Project“, Quetta; Asian Development Bank (ADB), Manila, Philippines

**Haiti:** Start preparation of an Environmental and Social Assessment study including ESMP in the field of wastewater treatment, drainage of rainwater, and solid waste disposal Port-au-Prince; Interamerican Development Bank (IDB), Washington

**Pakistan:** Preparation of Initial Environmental Examinations (IEE) including ESMP on wastewater treatment and solid waste disposal as well as estimation of water quality in the “Quetta Water Supply and Environmental Improvement Project“, Quetta; Asian Development Bank (ADB), Manila, Philippines

## 1998

**Burundi:** Environmental and Social Impact study for extension of the drinking water supply of the city of Bujumbura, REGIDESO, Bujumbura; World Bank, Washington

## 2. Water quality, drinking water and wastewater treatment

### 2019

**Burkina Faso:** Accompaniment of a Burundian delegation during a training workshop in the fields of drinking water treatment and maintenance of the distribution network at ONEA in Ouagadougou, REGIDESO, Bujumbura; GIZ- Burundi, Bujumbura

**Burundi:** Evaluation of the central laboratory of REGIDESO and water sampling points to check the drinking water quality for the city of Bujumbura, REGIDESO, Bujumbura; GIZ, Eschborn

### 2018

**Burundi:** Revision of a manual for the self-inspection and self-control of waterworks and the quality of drinking water for all water quality laboratories of REGIDESO, REGIDESO, Bujumbura; GIZ, Eschborn (home office)

### 2017

**Kyrgyzstan:** Assessment of the wastewater/drinking water/grey water management system in the municipalities of An-Oston and Bokonbaev; investment proposals to improve the current status, Bishkek; BORDA-Wesca, Amman

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**Jordan:** Assessment of the wastewater/grey water management system in the old city of Sahab, investment proposals to improve the current status, Sahab, Amman, Sahab Municipality, BORDA-Wesca, Amman

**Palestine:** Assessment of the wastewater sewerage system in the Palestinian refugee camp Arroub, investment proposals to improve the current status, West Bank, Jerusalem; United Nations Relief and Works Agency for Palestine Refugees in the Near East, Jerusalem, BORDA-Wesca, Amman

## 2016

**Republic of South Africa:** Preparation of a Policy to introduce Decentralised Wastewater Treatment Systems for informal settlements in the Municipality of eThekweni; BORDA, Bremen

**India:** Revision of 55 abstracts to be presented at the Faecal Sludge Management Conference in Chennai/India (FSM 4, February 2017), home office; BORDA-India, Bangalore

**Peru:** Preparation of a study concerning sulfate toxicology, sewer corrosion by sulfates and removal of sulfates in industrial wastewater to derive a limit value for sulfates in the Peruvian Wastewater Standard (indirect discharge), Ministry of Housing, Construction and Rehabilitation, Lima; GIZ, Eschborn

## 2015

**Tunisia:** Support of ONAS (National Wastewater Office) in execution of the “Plan Directeur Régional de Gestion des Boues des Stations d’Épuration” (Masterplan on the valorisation of wastewater treatment sludge) Lot 1 to Lot 4, Tunis, KfW Development Bank

**Vietnam:** Introduction of DEWATS wastewater treatment systems into the Province Bac Ninh, BORDA Bremen

## 2014

**Tunisia:** Support of ONAS (National Wastewater Office) in execution of the “Plan Directeur Régional de Gestion des Boues des Stations d’Épuration” (Masterplan on the valorisation of wastewater treatment sludge) Lot 1 to Lot 4, Tunis, KfW Development Bank

## 2013

**Lesotho:** Preparation of legal-binding national standards on drinking water quality and industrial wastewater from indirect discharge to public sewers, Final workshop Department of Water Affairs Maseru; World Bank, Washington

## 2012

**Lesotho:** Preparation of legal-binding national standards on drinking water quality and industrial wastewater from indirect discharge to public sewers, Department of Water Affairs Maseru; World Bank, Washington

**Morocco:** Evaluation of the technical dossier for the construction of a wastewater treatment plant for the Société Raffineries Sucreries du Tadla (SUTA); KfW Development Bank, Frankfurt

## 2011

**Thailand:** Project preparation concerning the EU project „Quality Water – Photo-catalytic Disinfection in Microscopic Reactors - Photocatalytic materials for depollution”, Tecon Ltd., Bangkok

## 2008

**China:** Development of Terms of Reference (ToR) for an Environmental Impact Assessment to be carried out for the sludge disposal of a wastewater treatment plant in the project: Hebei Urban Environment Project/Shijiazhuang Sewage Treatment Component, Shijiazhuang; World Bank, Washington



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## 2007

**Cambodia:** Continuation of the Feasibility study to introduce decentralised wastewater treatment systems (DEWATS) in the country, Phnom Penh; BORDA, Bremen

**Thailand:** Consultant in the field of water reuse and wastewater management as well as in energy efficiency in northern Thailand saa paper industries, Bangkok, Nan, Chiang Rai, Chiang Mai; GTZ Eschborn

**Cambodia:** Feasibility study concerning the construction of decentralised wastewater treatment systems (DEWATS) in the country

## 2006

**Albania:** Feasibility Study "Water and Wastewater Project/Shkodra": Evaluation of the water quality of Lake Shkodra and of the drinking water abstraction well field of the city of Shkodra, Shkodra/Tirana; KfW Development Bank, Frankfurt

## 2005

**Syria:** Assessment of the drinking water treatment facilities and investigation of the raw and drinking water quality: problem analysis and evaluation of the effluents water quality from the wastewater treatment plant of the City of Aleppo foreseen for reuse; Water Establishment; KfW Development Bank, Frankfurt

## 2004

**Jordan:** Evaluation of treated wastewater quality for reuse in irrigated agriculture in the Jordan valley; reuse of WWTP sludge in agriculture, Ministry of Water and Irrigation, Amman/Irbid; KfW Development Bank, Frankfurt

## 2003

**Namibia:** Evaluation and investigation of effects of industrial effluents on the waste water treatment facilities and the water reclamation plant of the City of Windhoek; Preparation of an industrial inventory; KfW Development Bank, Frankfurt

## 1999

**Morocco:** Evaluation of base data for the dimensioning of a wastewater treatment plant for a distillery on behalf of the FODEP-Morocco, Rabat/Kenitra; Beller Consult, Freiburg

**Turkey:** Advice of the chamber of commerce in Bursa and the tannery cooperative in the field of treatment of organic sludge and production of biogas (sewage plant of the industrial zone of Bursa and new industrial zone for tanneries), Bursa; GTZ, Eschborn

## 1998

**Madagascar, Ivory Coast, Cameroon and Benin:** Training course in the field of water pollution in the project "Contaminated soils and water", Berlin; Carl Duisberg Gesellschaft (CDG), Berlin

## 1997

**Rwanda:** Development of a national strategy for the protection of drinking water quality in the project GTZ/DEA: "Consultancies for the Department of Water and Sanitation/MINITRAP, Kigali; GTZ, Eschborn

**Rwanda:** Consultation in the field of wastewater treatment and wastewater analyses in the project: Consultation for DEA/MINITRAP, Kigali; GTZ, Eschborn

## 1996 – 1997

**Indonesia:** Consultant in the project: Drinking water quality surveillance, Yogyakarta and Bali, Jakarta; GTZ, Eschborn

**Algeria:** Consultation in the field of "Conception of Training Programs" in the project: Support of the National Drinking Water and Waste Water Authority A.G.E.P. Phase 1a and 1b, Algiers; GTZ, Eschborn

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Consultant in the project: Overview of fora involved in the identification of substances hazardous for the aquatic environment; Eureco, **Luxembourg**; RIZA, **Netherlands**

**1995 - 1996**

Enforcement of a standard practice manual for the control of water quality and water production in waterworks, Algiers, Algeria; GTZ, Eschborn

**1995/97**

Consultant in the field of “water quality“ in the project: Support of the National Drinking Water and Waste Water Authority A.G.E.P. Phase 1a and 1b, Algiers, **Algeria**; GTZ, Eschborn

**1994**

Training course for Algerian water specialists in the field of “Water Quality Control”, A.G.E.P., Algiers, Algeria; GTZ, Eschborn

**1993**

**Pakistan:** Consultation on drinking water: Reorganisation of drinking water laboratory, drinking water monitoring, laboratory financial planning, Peshawar; GTZ, Eschborn

**Kuwait:** Drinking water and sea water contamination, oil-damage consultation, Kuwait-City; KISR

**3. Waste management, waste treatment and disposal; contaminated sites**

**2017**

**Jordan:** Assessment of the solid waste management system in the old city of Sahab, investment proposals to improve the current status, Sahab, Amman, Sahab Municipality, BORDA-Wesca, Amman

**Palestine:** Assessment of the solid waste management system in the Palestinian refugee camp Fawwar, investment proposals to improve the current status, West Bank, Jerusalem; United Nations Relief and Works Agency for Palestine Refugees in the Near East, Jerusalem, BORDA-Wesca, Amman

**2013**

**Vietnam:** Preparation of a Regulation on Solid Waste Management for the City of Bac Ninh and Bac Ninh Province and presentation of the regulation to the Bac Ninh People’s Committee, Bac Ninh City and the Departments of Environment and Construction, Hanoi/Bac Ninh City; GIZ Eschborn

**Vietnam:** Preparatory studies and fact finding for the preparation of a Regulation on Solid Waste Management for Bac Ninh City, Peoples’ Committee Bac Ninh/Hanoi, GIZ, Eschborn

**2006**

**Sri Lanka:** Consultation in the field of collection, transport and disposal of health care waste and development of a health care waste management plan for the Jaffna Teaching Hospital in the framework of the ‘Northern Rehabilitation Project’, Jaffna/Colombo; GTZ, Eschborn

**Georgia:** Start of the Feasibility Study “Adjara Solid Waste Management Project“ financed by the ‘Black Sea Investment Facility’ in the field of environmental impact assessment for a new sanitary landfill and closure of two existing dump sites for solid municipal waste, Tbilis/Batumi; EU Commission, Brussels/EU Delegation Ukraine

**2003**

Accompany of a group of **Argentinean** industrials in the fields of environmental industrial management and treatment of hazardous industrial waste, Frankfurt; Institute Fresenius, Taunusstein; GTZ, Eschborn

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## 2002

**Thailand:** Strategy for reduction of liquid waste (solvents) and disposal of pesticides and liquid waste from the Thai Pesticide Registration Authority (DOA/ATSD), Bangkok; GTZ, Eschborn

## 2001

**Tunisia:** Census on the production of industrial hazardous waste and its final disposal; Grand Tunis, Bizerte, El Kèf, Sousse, Monastir, Gabès; ANPE, Tunis; KfW Development Bank, Frankfurt

## 1999

Accompaniment of a **Moroccan** interministerial and industrial delegation in the field of hazardous waste management and its treatment, Ministry of Environment, **Morocco**; Institute Fresenius, Wiesbaden; GTZ, Eschborn

## 1998

**Bulgaria:** Evaluation of contaminated industrial sites within the privatisation process of industrial companies, Privatization Agency, Sofia; GTZ Eschborn

**Albania:** Technical report: Albania - Power Transmission and Distribution Project - PCB-Management Plan, Tirana; ECAT Tirana; World Bank, Washington

## 1997

**Ecuador:** Consultancy in the field of cut flower production for the districts of Pedro Moncayo and Cayambe (environmental impact, solid and liquid waste municipal directives); AME, Quito; GTZ, Eschborn

## 1996 - 1997

**Mexico:** Waste Management Consultant: analytical quality assurance in the project: "Strengthening of the Pan-American Network of Sanitary Waste Management", PAHO/ECO; GTZ, Eschborn

## 1995

Implementation of training course for Russian high school lectures and university professors in the field of "Rehabilitation of contaminated sites", **Russian Federation**; EU Commission, Brussels

Conception of a training program in the field of "Rehabilitation of Contaminated (Military) Sites" for Russian high school lecturers and university professors, **Russian Federation**; EU Commission, Brussels

## 1994

**Hungary:** Reformulation of the Terms of Reference (TOR) and evaluation of tender documents for the implementation of the Hungarian Municipal Solid Waste-Law, Budapest; Delegation of EU in Budapest

## 1992

**Spain:** Waste consultation concerning a waste dump site enlargement, Bilbao; City of Bilbao

## 1991 - 1992

**France:** Waste consultation for a metal-working facility, Le Creusot; Creusot-Loire

## 4. Energy efficiency, renewable energy and climate change

### 2015

**Thailand:** Preparation of an offer concerning biogas plants in urban areas (e.g. wastewater treatment plants) and preparation of the international Fair on Renewable Energy and Energy Efficiency/BITEC', Bangkok; ReTech Energy

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## 2013

Preparation of 21 **sustainability analyses for purchase of carbon certificates** for renewable energy and energy efficient projects using the KfW climate fund (wind power, hydro power, biomass power plants, landfill gas recovery, traffic system change) in India, Sri Lanka, Mexico, Honduras, Nicaragua, Colombia, Brazil, Chile, China; KfW Development Bank, Frankfurt

**Thailand:** Participation on the fair: Renewable Energy Asia/Entech and Thai Water, Bangkok, UBS Bonn

## 2012

Preparation of 6 **sustainability analyses for purchase of carbon certificates** for renewable energy and energy efficient projects using the KfW climate fund (hydro power, biomass power plants, central heating, landfill gas recovery) in India, Sri Lanka, Brazil, China, Tanzania, Vietnam; KfW Development Bank, Frankfurt

## 2011

**Thailand:** Participation on the fair: Renewable Energy Asia and Entech, Bangkok, UBS Bonn

## 2009

**Thailand:** Participation on the fair: Renewable Energy Asia and Entech and presentation of a short lecture on energy efficiency in the international cooperation, Bangkok, UBS/DENA

**Belize:** Consultation for the distillery Traveller's Ltd. in the field of biogas production generated from distillery wastewater in the programme "Integrated Development Program for the Caribbean Rum Sector", Belmopan; EU Delegation, Barbados, European Commission, Brussels

## 2008

**Philippines:** Fact-finding mission for the introduction of a credit line for energy efficiency and climate protection in the Philippines, Manila, Landbank of the Philippines; KfW Development Bank, Frankfurt

## El Salvador:

Proposals for the execution of the 2<sup>nd</sup> phase of the credit line for industrial environmental protection and energy efficiency; BMI, San Salvador, KfW Development Bank, Frankfurt

## 2007

**Haiti:** Consultation for the distillery Barbancourt in the field of co-generation in the programme "Integrated Development Program for the Caribbean Rum Sector" Port au Prince; EU Delegation, Barbados, European Commission, Brussels

## 2007 - 2008

**Jamaica:** Consultation for the distillery John Wray & Nephew in the field of biogas production generated from distillery wastewater in the programme "Integrated Development Program for the Caribbean Rum Sector", Kingston; EU Delegation, Barbados, European Commission, Brussels

**Thailand:** Consultant in the field of energy efficiency in northern Thailand saa paper industries, Bangkok, Nan, Chiang Rai, Chiang Mai; GTZ Eschborn

## 2006

**Belize:** Consultation for the distillery Traveller's Ltd. in the field of biogas production generated from distillery wastewater in the programme "Integrated Development Program for the Caribbean Rum Sector", Kingston; EU Delegation, Barbados, European Commission, Brussels

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## 5. Environmental protection in industry, Industrial audits

### 2006

**Egypt:** Revise and review of ‘Post Completion Reports’ and execution of post completion visits after implementation of technical industrial investments (cleaner technologies, end-of-pipe measures) in the project „‘Environmental Facility/Public Sector Industry‘“, Cairo, Alexandria, El Minia; KfW Development Bank, Frankfurt

### 2005

**Egypt:** Preparation of report on ‘Industrial Audits and Feasibility Studies’ and final report in the “Abu Qir Environmental Hot Spot Project”; RBO EEAA, Alexandria/Cairo; World Bank, Washington

**Egypt:** Preparation of the inception report in the “Abu Qir Environmental Hot Spots Project”, RBO EEAA, Alexandria, Cairo; World Bank, Washington

### 2003

Accompany of a group of Argentinean industrials in the fields of environmental industrial management and treatment of hazardous industrial waste, Frankfurt; Institute Fresenius, Taunusstein; GTZ, Eschborn

**Tunisia:** Pre-audit on environmental impacts of Tunisian enterprises (sector: leather and leather finishing) for introduction of an environmental management system, Tunis, Nabeul, Monastir, Sousse, Sfax; and discussion on introduction of an environmental component into the program “Mise à Niveau“; GTZ Eschborn

### 2002

**Tunisia:** Pre-audit on environmental impacts of Tunisian enterprises (sector: chemistry) for introduction of an environmental management system; Tunis, Sousse, Sfax; GTZ, Eschborn/Tunis

### 2001

**Tunisia:** Initial audit of Tunisian industrial enterprises and wastewater treatment plants for certification following ISO 14.001, Tunis; GTZ Eschborn

### 1999

**Tunisia:** Consultancies for ANPE in the field of integrated technical measures and development of an evaluation plan for consideration of these measures into the Industrial De-Pollution Fund (FODEP), Tunis; KfW Development Bank, Frankfurt

Development of a technical guide and an execution plan for taking into consideration “integrated technical measures“ in the Industrial De-Pollution Fund (FODEP) in **Tunisia**; KfW Development Bank, Frankfurt

### 1998

**Bulgaria:** Evaluation of contaminated industrial sites within the privatization process of industrial companies, Privatization Agency, Sofia; GTZ, Eschborn

Proposal for inclusion of integrated environmental technologies (cleaner production) into the Industrial De-Pollution Fund of **Tunisia**; KfW Development Bank, Frankfurt

### 1997

Integrated management for small and medium sized enterprises (SME) - Guideline for the first module; Bonn, GTZ/P3U

### 1995

**Ecuador:** Audit of the cut flower enterprise AGROFLORA in the field of environmental production, pesticide- and waste management, Tabacunda, Quito; Blütenpracht GmbH, Köln

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**1994**

**Colombia:** Consultation: "Clean Production" for the Association of Colombian Cut Flower Exporters, Bogotá; ASOCOLFLORES

## **6. Environmental financing and Credit Funds (industrial environmental protection)**

**2013**

**Vietnam:** Pre-appraisal mission and fact finding for introduction of a credit line for the Ho Chi Minh City Finance and Investment State Owned Company (HFIC); Preparation of the document concerning Environmental and Social Impact and Climate Assessment, Hanoi, Ho Chi Minh City; KfW Development Bank, Frankfurt

**2008**

**Philippines:** Fact-finding mission for the introduction of a credit line for energy efficiency and climate protection in the Philippines, Manila, Landbank of the Philippines; KfW Development Bank, Frankfurt

**2005**

**El Salvador:** Actualisation of the feasibility study to introduce a credit line for industrial environmental protection with special focus on 'cleaner technologies', San Salvador; KfW Development Bank, Frankfurt

**2004**

**Turkey:** Industrial environmental credit line: Proposals for the re-definition of the international consultant's accompanying measures; Istanbul, Ankara, Bursa; TSKB, Istanbul; KfW Development Bank, Frankfurt

**2000**

**Peru:** Pre-evaluation of the project: "Introduction of an Industrial De-Pollution Fund in technical and environmental points of view; COFIDE, Lima; KfW Development Bank, Frankfurt

**Mexico:** Pre-evaluation of the project "Introduction of an Industrial De-Pollution Fund" in technical and financial points of view; Nafin, Mexico D.C.; KfW Development Bank, Frankfurt

**1999**

**Chile:** Pre-evaluation of a project for the introduction of a credit line to support investments in the field of industrial environmental protection, CORFO, Santiago de Chile/Concepción; Santiago; KfW Development Bank, Frankfurt

**El Salvador:** Preparatory mission for the introduction of an Industrial De-Pollution Fund in El Salvador, San Salvador; KfW Development Bank, Frankfurt

**1998**

Consultation in the field of integrated technologies for an environmental sound industrial production in the project "Industrial De-Pollution Fund", Tunis; KfW Development Bank, Frankfurt

**Morocco:** Industrial De-Pollution Fund I: Development of technical terms of reference, revise of eligibility criteria and evaluation of dossiers for allocation of credits and loans, Ministry of Environment of Morocco, Rabat; KfW Development Bank, Frankfurt

**1997**

**Morocco:** Industrial De-Pollution Fund I: Development of criteria for allocation of loans, Ministry of Environment, Rabat; KfW Development Bank, Frankfurt

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## 7. Project preparation, appraisal, evaluation and monitoring

### 2014

**Morocco:** Project closing control concerning the Industrial Depollution Fund (FODEP II/III), Rabat, Ministry of Environment; KfW Development Bank, Frankfurt

### 2012

**Kenya:** Appraisal mission to evaluate financing of geothermal field development for the Bogoria – Silali Block I (environmental and social issues) as well as progress control mission to evaluate the implementation of the Resettlement Action Plan (RAP) for Olkaria I/IV geothermal field, Nairobi, Naivasha, Bogoria; KfW Development Bank, Frankfurt

### 2010

**Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Lucia:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery up-grade, energy); Delegation of the EU in Barbados; European Commission, Brussels

### 2009

**Belize, Surinam, Dominican Republic:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery up-grade); Delegation of the EU in Barbados; European Commission, Brussels

### 2008

**Guyana, Jamaica, Barbados:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery up-grade); Delegation of the EU in Barbados; European Commission, Brussels

**Belize, Antigua, Dominica, Grenada, St. Lucia, St. Vincent, Barbados:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery up-grade); Delegation of the EU in Barbados; European Commission, Brussels

**El Salvador:** Evaluation of the 1<sup>st</sup> phase of the credit line for industrial environmental protection and energy efficiency and proposals for the execution of the 2<sup>nd</sup> phase; BMI, San Salvador, KfW Development Bank, Frankfurt

**Dominican Republic, Jamaica, Surinam, Guyana, Barbados:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery up-grade); Delegation of the EU in Barbados; European Commission, Brussels

### 2007

**Haiti, Jamaica, Barbados:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery up-grade); Delegation of the EU in Barbados; European Commission, Brussels

**Barbados, Trinidad, Jamaica, Dominica, Antigua, Surinam, St. Lucia Grenada, Dominican Republic:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery up-grade); Delegation of the EU in Barbados; European Commission, Brussels

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## 2006

**Barbados, Belize, Guyana, Haiti, St. Vincent:** Monitoring of investments in the “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery upgrade); Delegation of the EU in Barbados; European Commission, Brussels

**Tunisia:** Technical evaluation of environmental industrial investments in Tunisian industries in the framework of the 10-years (1995 – 2005) evaluation of the Industrial De-Pollution Fund (FODEP I-III), Tunis, Nabeul, Bizerte, Sousse; ANPE Tunis, KfW Development Bank, Frankfurt

**Belize, Guyana, Grenada, Barbados:** Monitoring of investments in the EU Program: “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions and in the field of modernisation of distilleries (industrial wastewater treatment, distillery upgrade); Delegation of the EU in Barbados; European Commission, Brussels

## 2005

**Barbados, Grenada, Trinidad, Jamaica:** Monitoring of investments in the EU Program: “Integrated Development Program for the Caribbean Rum Sector” to enhance the environmental conditions of the distilleries (industrial wastewater treatment); Delegation of the EU in Barbados; European Commission, Brussels

## 2005 - 2010

**Caribbean Region:** Participation on the monitoring of: Integrated Development Programme for the Caribbean Rum Sector Project (Monitoring of environmental and production relevant investments); EU Commission, Brussels

## 2003

**Indonesia:** Backstopping and preparation of the inception report in the Ex-Post evaluation of the GTZ “Area Development Project, ADP” in West Pasaman/ Indonesia, Jakarta; Federal Ministry for Economic Cooperation and Development (BMZ, Bonn)

**Namibia:** Evaluation of the outcome of the project “Capacity Building for Scientific Services Division of the City of Windhoek (Gammams Laboratory); Windhoek; KfW Development Bank, Frankfurt

**Thailand:** Pre-evaluation over the total runtime of 6.5 years of the project: Thai - German Plant Protection Project at Department of Agriculture (Ministry of Agriculture), Bangkok; GTZ Eschborn

## 2002

**Mexico, El Salvador, Nicaragua, Guatemala:** Evaluation of impact-monitoring-instruments in the German technical and financial cooperation, Mexico City, San Salvador, Managua, Guatemala City; Federal Ministry for Economic Cooperation and Development, Bonn/Berlin

## 2001

**Tunisia:** Evaluation of the project FODEP I/II and preparation of FODEP III/IV, ANPE Tunis; KfW Development Bank, Frankfurt

**India:** Evaluation of the GTZ project: “Central Pollution Control Board (CPCB”, New Delhi, Federal Ministry of Economic Cooperation and Development (BMZ), Bonn

## 2000

**El Salvador:** Evaluation of the project “Introduction of an Industrial De-Pollution Fund” in technical and financial points of view; BMI, San Salvador; KfW Development Bank, Frankfurt

**Tunisia:** Technical evaluation of installations financed by the De-Pollution Fund (FODEP) from the point of view of their technical sustainability, Tunis, Sousse, Sfax; KfW Development Bank, Frankfurt



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**1998**

**Tunisia:** Evaluation and project progress control of the project “Industrial De-Pollution Fund“, Tunis; KfW Development Bank, Frankfurt

**1996 - 1997**

**Indonesia:** Evaluation of the project: Drinking water quality surveillance Yogyakarta and Bali, Jakarta; GTZ, Eschborn

**1995 -1996**

**Turkey:** Project appraisal mission of the project "Environmental Protection Centre for Small and Medium Enterprises", Ankara, Bursa, Izmir; GTZ, Eschborn

## **8. Capacity Building and Institutional Strengthening**

**2017**

**Vietnam:** Valuation and selection of laboratory equipment for the vocational training of students in the field of wastewater analyses in the project: “Vocational Training Programme 2011 (VTP 2011) in Vietnam“, Hanoi, Ho Chi Minh City; KfW Development Bank, Frankfurt

**2011**

**Egypt:** Institutional Strengthening: Development of organisational structure, business plans and links between the HCWW’s General Departments: G.D. Reference Laboratory Drinking Water, G.D. Research and Development, G.D. Quality and Environmental Affairs and G.D. Reference Laboratory Wastewater, Cairo; GIZ, Eschborn

**2010**

**Egypt:** Institutional Strengthening: Development of Task List and Mandate for the Holding Company of Water and Wastewater’s General Department of Quality Control and Environmental Assessments, Cairo; GTZ, Eschborn

**2009**

**Egypt:** Proposal for the organisational structure, the objectives, the mandate and the ToR and tasks of the HCWW’s Reference Laboratory, Cairo; GTZ, Eschborn

**2008**

**Egypt:** Development of ToR and a call for Expression of Interest for the accreditation of HCWW’s Reference Laboratory and QWWC’s Central Laboratory, Cairo/Qena; GTZ, Eschborn

**2007 - 2008**

**Egypt:** Development of a Concept and Implementation Plan for the Improvement of Laboratory Management in HCWW and its affiliated companies within the "Water and Wastewater Management Program, Cairo; Development of training concepts for the HCWW Central Laboratories; GTZ Eschborn

**2002 - 2003**

**Namibia:** Capacity Building Program for Gammams drinking and wastewater laboratory of the City of Windhoek (team leader: chemical analyses, quality assurance, laboratory management), Windhoek; KfW Development Bank, Frankfurt

**2000**

**Tunisia:** Development of technical proposals for the introduction of a “Research and Development Department“ in the International Centre for Technology Transfer of Tunis; Tunis, Concept Ingénierie, Tunis

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## 1999

**Tunisia:** Consultancies for ANPE (Dep. FODEP) in the field of integrated Technical measures and development of an evaluation plan for consideration of these measures into the Industrial De-Pollution Fund (FODEP), Tunis; KfW Development Bank, Frankfurt

## 1998

**Bulgaria:** Consultant for the Bulgarian Privatisation Agency concerning contaminated industrial sites within the privatisation process of industrial companies, Sofia; GTZ, Eschborn

## 1997

**Morocco:** Industrial De-Pollution Fund I: Consultation in the field of development of criteria for allocation of loans, Ministry of Environment, Rabat; KfW Development Bank, Frankfurt

## 1997 - 1999

**Thailand:** Strengthening of Agriculture Toxic Substance Division (ATSD) in the (5 months) project: “Policy Reform, Regulatory and Supportive Measures for the Environmentally Sound Use of Pesticides“; Department of Agriculture (DOA); Bangkok; GTZ, Eschborn

## 9. Laboratory consultancies and analytical quality assurance (AQA)

### 2021

**Burundi:** Preparation of a manual for analytical quality control (AQA) in the central water quality laboratory of REGIDESO in Bujumbura, REGIDESO, Bujumbura; GIZ, Eschborn (home office)

**Burundi:** Development of a proposal for an independent financial budget for the central water quality laboratory of REGIDESO in Bujumbura, REGIDESO, Bujumbura; GIZ, Eschborn (home office)

**Burundi:** Development of a reporting system for the forwarding of data and the evaluation of analytical results for drinking water quality control in REGIDESO’s central laboratory in the project PROSECEAU phase III, Bujumbura; GIZ, Eschborn (home office)

**Burundi:** Preparation of job descriptions and responsibilities for the laboratory staff of REGIDESO’s central laboratory (head of laboratory, laboratory technician) in the project PROSECEAU phase III, Bujumbura; GIZ, Eschborn (home office)

### 2019

**Burundi:** Selection of new laboratory equipment, Training in Analytical Quality Assurance, Laboratory organisation, REGIDESO, Bujumbura; GIZ, Eschborn

**Burundi:** Evaluation of the central laboratory of REGIDESO inclusive water sampling points to check the drinking water quality for the city of Bujumbura as well as revision of the Guide of self-monitoring of the water quality for the laboratory, REGIDESO, Bujumbura; GIZ, Eschborn

### 2018

**Vietnam:** On the job training in the fields of chromatography (HPLC) and spectrophotometry in the project “Vocational Training Programme 2011 (VTP 2011) in Vietnam“, HVCT, Ho Chi Minh City; KfW Development Bank, Frankfurt

**Vietnam:** Check of delivery of laboratory equipment for the training of students in the field of wastewater analyses and laboratory organisation in the project: “Vocational Training Programme 2011 (VTP 2011) in Vietnam“, Ho Chi Minh City, HVCT; KfW Development Bank, Frankfurt

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## 2017

**Vietnam:** Valuation and selection of laboratory equipment for the vocational training of students in the field of wastewater analyses in the project: “Vocational Training Programme 2011 (VTP 2011) in Vietnam“, Hanoi, Ho Chi Minh City; KfW Development Bank, Frankfurt

## 2016

**Jordan:** Support of the Central Laboratory in the field of water analyses (drinking water/wastewater): New ToR for following assignments and sampling training, Water Authority of Jordan, Amman; EBRD, London

## 2013

**Afghanistan:** Sixth assignment to KSBU Drinking Water Test Laboratory, Evaluation of the laboratory training programme, AUWSSC, Kabul, WSIP, Kabul; GIZ Eschborn

**Afghanistan:** Fifth assignment to KSBU Drinking Water Test Laboratory, Introduction of the new laboratory trainer, AUWSSC, Kabul, WSIP, Kabul; GIZ Eschborn

**Afghanistan:** Fourth assignment to KSBU Drinking Water Test Laboratory, Up-grade and installation of new laboratory equipment, AUWSSC, Kabul, WSIP, Kabul; GIZ Eschborn

## 2011

**Afghanistan:** Third assignment for the equipping and implementation of drinking water quality laboratories in the cities of Kabul, Masar-e-Sharif and Herat; GIZ Eschborn

## 2010

**Afghanistan:** Second fact finding mission for the equipping and implementation of drinking water quality laboratories in the cities of Kabul and Masar e Sharif, AUWSSC, Kabul; GTZ Eschborn

**Afghanistan:** First fact finding mission for the equipping and implementation of drinking water quality laboratories in the cities of Kabul and Herat, AUWSSC, Kabul; GTZ Eschborn

**Tunisia:** Investigation of the capacities and workload of wastewater laboratories in the project “Support of the implementation of the project ONAS IV”, Tunis, Nabeul, Hammamet, Béja, ONAS, Tunis; European Investment Bank, Luxembourg

## 2009

**Egypt:** Participation on the ISO accreditation inception workshop and preparation of the task list for the HCWW’s General Department of Quality Control and Environmental Affairs, Cairo; GTZ Eschborn

## 2008

**Georgia:** Preparation of the national wine testing and control laboratory for accreditation following the ISO 17025; Tbilisi; GTZ. Eschborn

**Egypt:** Evaluation of the trainings carried out in Qena WWC and affiliated companies and preparation of a concept for accreditation following ISO 17025, Qena/Cairo; GTZ, Eschborn

**Egypt:** Development of curricula for training measures for the plant and central laboratories of the Qena Water & Wastewater Company as well as for Holding Company’s Water & Wastewater central laboratories; Cairo/Qena; GTZ, Eschborn

## 2007

**Egypt:** Development of a Training Concept to improve the performance of the HCWW and affiliated Companies laboratories, GTZ/WWM Programme, Cairo, Qena; GTZ, Eschborn

## 2004

**Georgia:** Expert in the field of laboratory consulting, laboratory organization and on-the-job training in the project: Introduction of a wine quality system in Georgia, Ministry of Agriculture, Tbilisi; GTZ, Eschborn

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## 2002

**Namibia:** Capacity Building Program for Gammams drinking and waste water Laboratory: Analytical quality assurance, method validation and Accreditation of the laboratory, City of Windhoek; KfW Development Bank, Frankfurt

**Namibia:** Laboratory consultancies for Gammams drinking and waste water laboratory of the City of Windhoek (team leader: chemical analyses, quality assurance, laboratory management), Windhoek; KfW Development Bank Frankfurt

## 2001

**Thailand:** Laboratory consultancies in the field of laboratory accreditation, analytical quality assurance and water sampling in the project TG - PPP; Bangkok; GTZ, Eschborn

## 1998

**Madagascar, Ivory Coast, Benin and Cameroon:** Training course in the field chemical analyses of water pollution in the project „Contaminated soils and water; Carl Duisberg Gesellschaft (CDG), Berlin

**Thailand:** On the job training in the laboratory of environmental impact analyses of the Agricultural Toxic Substance Division (ATSD)(sampling, HPLC, analytical quality assurance) of the Department of Agriculture, Bangkok; GTZ, Eschborn

## 1997

**Rwanda:** Consultation in the field of wastewater treatment and wastewater analyses in the project: Consultation for DEA/MINITRAP, Kigali; GTZ, Eschborn

Seminar in the field of chemical analyses of water and soil in the project “Contaminated soils and water“ with participants from **Benin, Cameroon, Guinea, Ivory Coast, Madagascar and Togo**, Carl Duisberg Gesellschaft, Berlin

## 1996 - 1997

**Mexico:** Consultant in the field of analytical quality assurance in the project: “Strengthening of the Pan-American Network of Sanitary Waste Management”; GTZ, Eschborn; PAHO/ECO

## 1995 - 1996

Enforcement of a questionnaire to prepare the Interamerican "round robin" in the field of quality control in the project "Analytical Quality Assurance and Quality Control for Metals in Latin America"; GTZ, Eschborn; OPS/ECO/ **Mexico-City**

**Brazil:** Leader of the Interamerican workshop "Analytical Quality Assurance and Quality Control for Metals in Latin America (10 participating states), Rio de Janeiro; GTZ, Eschborn; OPS/ECO, Mexico-City

## 1994

Training on the job on infrared spectroscopy (FTIR) for members of the drinking water agency EPEAI in Algiers, **Algeria**, Wiesbaden; GTZ, Eschborn

## 1993

**Pakistan:** Reorganization of drinking water laboratory, drinking water monitoring, laboratory financial planning, Peshawar; GTZ, Eschborn

**Algeria:** Laboratory consultation on waste water: Analysis of nitrogen and phosphorous compounds as well as TOC in waste water Project: Regional Environmental Laboratory, Algiers; GTZ, Eschborn

## 1992

**Bolivia:** Laboratory consulting: Extraction and purification of natural substances from tropical plants, St. Cruz de la Sierra; University of Heidelberg

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## 10. Agriculture and plant protection consultancies

### 2001

**Thailand:** Preparation of the second phase of the project: “Appropriate Regulatory Measures and Policy Reform for Pesticide Risk Reduction, Department of Agriculture, Bangkok; GTZ, Eschborn

### 1998

**Indonesia (Bali):** Consultancy in the field of pesticide application, Faculty of Plant Protection, University of Udayana, Denpasar, Bali; University of Udayana

### 1997

**Slovenia:** Consultancy for the Ministry of Agriculture in the “Slovenia Irrigation Project“ (agricultural sector overview), Ljubljana; World Bank, Washington

**Ecuador:** Consultancy in the field of cut flower production for the districts of Pedro Moncayo and Cayambe (environmental impact, labour protection, municipal directives); AME, Quito; GTZ, Eschborn

### 1997 - 1999

**Thailand:** Consultant in the fields of registration of pesticides, chemical analyses of pesticide residues, waste disposal and toxicology of pesticides in the project: “Policy Reform, Regulatory and Supportive Measures for the Environmentally Sound Use of Pesticides“; Ministry of Agriculture and Cooperatives (Department of Agriculture) (DOA), Bangkok; GTZ, Eschborn

### 1995

**Ecuador:** Environmental consultation in the cut flower enterprise AGROFLORA in the field of environmental production, pesticide- and waste management, Tabacunda, Quito; Blütenpracht GmbH, Köln

### 1994

**Colombia:** Consultation: Pesticide management and resource protection in the production of cut flowers, Sabana de Bogotá and Rio Negro, Bogotá/Medellin; Eco-Flor, various flower producers

## 11. Other activities

### 1996 - 1997

Revision and translation of ISO and CEN norms for standardization; DIN, Berlin; CEN, Brussels, **Belgium; Geneva, Switzerland**

### 1994

Training course: "German and European Environmental Legislation for Environmental Experts from Ivory Coast; TU, Berlin; Carl Duisberg Gesellschaft, Berlin

### 1993 - 1994

Determination of small contamination sources in the region of the German, **Netherlands** and **Belgium** border; various clients

## Projects in Germany (selection, 1989 - 1995)

### Risk assessment studies (RAS, Due Diligence) and environmental impact assessments (EIA)

- Registration and exploration of a former ammunition filling station near Bad Harzburg; Ministry of Environment of Lower Saxony, Hannover
- Toxicological estimation of ammunition residues in water and soil; IUP, Braunschweig
- Risk assessment of an abandoned polluted area, City of Braunschweig

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- Registration, exploration and EIA of a former military airbase of the National People's Army near Dresden; Financial Direction, Hannover
  - Registration and exploration of former military airbases near Gifhorn (Wesendorf, Dedeltstorf); Ministry of Environment of Lower Saxony, Hannover
  - Registration and exploration of a former air force tank depot; Ministry of Environment of Lower Saxony, Hannover
  - Toxicological assessment of an area contaminated with heavy metals; City of Braunschweig
  - Pre-investigation and EIA of a polluted abandoned ammunition area in the Harz; Ministry of Environment of Lower Saxony, Hannover
  - Sanitation investigation and EIA of an area polluted with heavy metals; City of Braunschweig
  - Risk assessment and EIA of a tank depot near Dresden; IUP, Braunschweig
  - Industrial historical research for the MZ motorcycle facility; MZ Motorradwerk, Zschopau; AHU, Bureau for Hydrogeology and Environment, Aachen

### **Other projects**

- Co-construction of an agriculturally used bio-gas unit; Farmer Hemme, Hemmingen
- Development of strategies for the reduction of pesticides in agricultural and cut flower production; Biologische Bundesanstalt, Braunschweig (Federal Biological Research Centre for Agriculture and Forestry)
- Consultation: Application of pesticides in agriculture; AG Landwirtschaft and Biologische Bundesanstalt, Braunschweig
- Development of chemical-analytical methods for the determination of nitroaromatics and nitrophenols in water from abandoned polluted areas and rain water analyses; Fraunhofer Institute, Hannover
- Investigation of leakage water for chlorophenols; City of Bielefeld, Fraunhofer-Institute, Hannover
- Laboratory consultation: Determination of pesticide residues in soft drinks; Beverage industry
- Preparation of dossiers for the Advisory Committee on Existing Chemicals of Environmental Relevance (BUA-reports); BUA, Tübingen, Fraunhofer Institute, Hannover
- Preparation of data sheets of elemental properties of existing chemicals; IUA, Initiative for existing chemicals of environmental relevance, Frankfurt, Fraunhofer Institute, Hannover
- Environmental industrial consultation in the new federal states; various clients
- Development of a study concept in the field of toxicology for the correspondence course "Ecological Assistant"; WBI/AFW, Bad Harzburg
- Scientific advising of the correspondence course "Ecological Assistant" in the fields of environmental chemistry, agriculture, waste, nature protection, environmental planning; IUP, Braunschweig
- Literature study: Rapid determination of explosives in water and soil; State Office for Ecology, Hildesheim, Fraunhofer Institute, Hannover
- Evaluation of technical reports and expert opinions on former city gas production sites (Treuhand-liegenschaften) in the new federal states; IUP, Braunschweig