YOUNG WATER PROFESSIONALS GERMANY

the international water association

DWA

Klare Konzepte. Saubere Umwelt.

Challenges of water projects in financial cooperation

INTERNATIONAL Project Implementation

Young Water Professionals meet

Dirk Vallerien - KfW Development Bank

23 July 2021, 1.30pm (CEST, Berlin)

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Participate in the poll!

LINK VOXR: https://voxr.com/dwa

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IWA YWP GERMANY | JUNGE DWA – International Roundtables

INTERNATIONAL ROUNDTABLES Facilitated by YWPGER and the Young DWA (JUNGE DWA)

- Roundtables with Germany's geographical neighbours ("D-A-CH Stammtisch", "DE-NL-Stammtisch")
- **IWA Building Bridges** Online Event Series as regular get-together connecting YWP across the globe in bilateral dialogue
- Newly created events to introduce **Examples for international Project Implementation**

NATIONAL & INTERNATIONAL ROUNDTABLES

In-person networking and
as virtual events

GET IN TOUCH!

JUNGE DWA (YOUNG DWA)

++ Connect ++
++ Exchange ++
++ Grow ++

https://en.dwa.de/en/jungedwa.html

international@junge-dwa.de

XING-Gruppe > JungeDWA

YWP GERMANY (YWPGER)

Connecting young water professionals in Germany with the world, and the world with Germany.

https://ywp-germany.com

info@ywp-germany.com

https://www.linkedin.com/company/ywp-germany/

@YWP_Germany

INTERNATIONAL PROJECT IMPLEMENTATION

The new International Roundtable series besides the IWA Building Bridges Event

- Idea created in the JDWA Networking Circle
- Aiming at raising awareness and interest of young water professionals (YWP) for international water projects and their implementation (e.g. challenges, problems, successes)
- Introducing institutions active in the field to YWP
- Providing a platform for discussing international project aspects
- Within the next sessions of the series show different perspectives of international project implementation from different actors (e.g. donors, planners, NGOs, etc.)
- The new series is supposed to take place about every 3 months in between the existing IWA Building Bridges series

INTERNATIONAL PROJECT IMPLEMENTATION

INTRODUCING OUR GUEST SPEAKER!

Dirk Vallerien

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JDWA

International Project Implementation

Challenges of Water Projects in Financial Cooperation

Dipl.-Ing. MBA Dirk Vallerien

July 2021

Bank aus Verantwortung

KFW

Agenda

1. Introducing KfW
2. Financial Cooperation – Water Portfolio
3. Challenges
4. Conclusion

Introducing KfW

Challenges posed by megatrends

Climate change & environment

Digitalisation & innovation

Globalisation

Social change

Climate change and the environment, globalisation, digitalisation and social change – we face great challenges today. KfW is one of the world's leading promotional banks. It applies its decades of experience on behalf of the German Federal Government and the federal states to improve the economic, social and ecological living conditions around the world.

Domestic and International Promotion

Business sectors

We promote Germany			We support the German and the European economy	We promote development	
SME Bank & Private Clients	**Customised Finance & Public Clients**	**KfW Capital**	**KfW IPEX-Bank**	**KfW Entwicklungsbank**	**DEG**
Digital mass business	Individual financing solutions and municipal finance	Venture capital fund investments	National / International export and project finance	Promotion of developing countries and emerging economies	Promotion of developing countries and emerging economies
					

KfW Development Bank at a glance

Task	Promotion of investments and reform processes in developing countries and emerging economies
 **Mandate by**	– German Federal Government (esp. BMZ, but also AA, BMU, BMBF) – EU Commission – Selected bilateral donors
 **Objectives**	– Sustainably improve economic and social living conditions – Poverty reduction – Climate and environmental protection
 **Partners**	Governmental institutions and, where appropriate, non-governmental organisations (e.g. UN, WBG, ADB, AIIB, AfDB, IDB)
 **Promotional business volume 2020**	EUR 11 billion

Financial Cooperation – Water Portfolio

KfW Development Bank and Water Portfolio

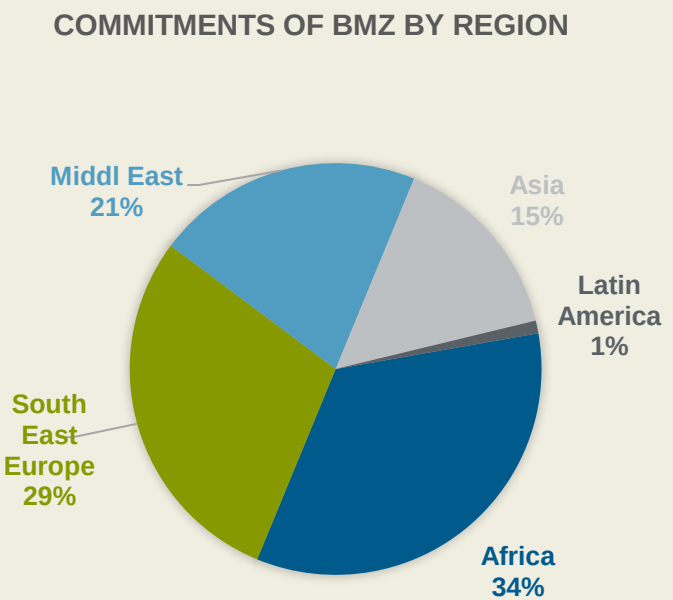
Increasing Commitments

KfW Development Bank

The total amount for 2020 was **10.983.759.209 €**

Water Sector:
ca. € 1.1 billion p.a
new commitments

Water Sector incl. Waste



Achievements and country distribution of the water sector

Figures and achievements 2020

Achievements

10,9 Mio. Accesses and capacities for drinking water supply

1,8 Mio. Accesses and capacities for sanitation and sewage supply

2,1 Mio. People protecting from flooding

179.784 to CO^2 equivalents saved

75,000 people with access to regulated municipal waste disposal

Figures

The Water Portfolio of KfW

Our strengths

Municipal water supply and wastewater disposal

Expansion, extension and renewal of centralised piped systems

> 80% of the portfolio

System optimisation

Improve environmental, technical and economic sustainability. Climate adaptation and greenhouse gas mitigation

- ✓ Demand management incl. loss reduction
- ✓ Energy efficiency (pumping systems)

Impressions

The Water Portfolio of KfW

Additional approaches

Stormwater management / Urban drainage

Increasing resilience through improved use of resources and protection against natural disasters

Innovative technical solutions

- ✓ Front-end technologies for drinking water: seawater desalination, reuse
- ✓ Wastewater and sewage sludge treatment: mono-sludge incineration, etc.
- ✓ Digital technologies for planning, implementation and operation (Water 4.0)

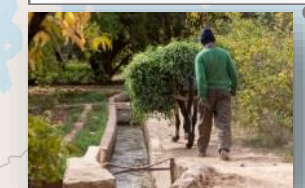
Impressions

FC-Portfolio in the water sector

International approaches/projects

DIGITALISATION
A large proportion of water/wastewater utilities already use ICT applications. Computer simulations for project preparation, EMSR technology (electrical, instrumentation and control technology) that continuously checks functionality or ICT-supported asset management systems are examples that are already being used in FC.

MOROCCO: Integrated Water Resources Management (IWRM)
In the Tensift region, urban water management and irrigated agriculture work hand in hand. In this way, increasing water scarcity and the challenges of climate change can be countered and conflicts avoided.



ALBANIA: Rewarding own efforts
In close cooperation with the Albanian government, KfW has rehabilitated the water infrastructure in 11 cities. A "performance-based" approach is being pursued, linking financing to the efforts of the participating partners.

GEORGIA: Rainwater management in Ajaria
Increasing extreme weather events and rising sea levels pose challenges for the population of the coastal city of Batumi. FC is financing an expansion of the stormwater drainage system and thus helping to reduce flooding.

BRAZIL: Energy from sewage sludge
In Minas Gerais, increasing water pollution is a major problem. FC and the Brazilian government are addressing the problem with energy-optimised sewage treatment plants - biogas is produced from the sewage sludge, thus covering part of the energy needs of a financed plant.

PERU: Reducing water losses
The cities of Chimbole and Tacna on the Pacific coast are experiencing water shortages. This is exacerbated by leakages and careless water use. Volume-based water billing and intelligent water loss detection systems are designed to address this problem.

NAMIBIA: Recycling and sustainable use of water
Through FC support, the population of Windhoek is to be supplied with sufficient drinking water even in extreme drought situations. Domestic wastewater is treated and mixed with groundwater to produce safe, tasty drinking water.

BANGLADESH: Climate adaptation in Barisal
Bangladesh is particularly affected by the consequences of climate change. Economic Climate Adaptation (ECA) offers the possibility to analyse climate-related risks. The resulting investments in infrastructure make the city more resilient to extreme weather events.

UGANDA: Creating access for returnees
Due to returning internally displaced persons, the supply situation with safe drinking water is worsening in the Gulu region. The first step is to improve access for the growing population through public standpipes. The necessary water resources are to be developed through the construction of a reprocessing plant on the Nile, 72 km away.

KfW implementing Water Projects on behalf of the German Government

Development potential of partner country → Country strategy / priority area strategy → Intergovernmental negotiations

Technical Challenges

Project/programm preparation, feasibility study → Project/programm appraisal → Financing decision → Financing and Loan agreement

Financial and institutional Challenges

Implementation, monitoring → Entry into operation, final inspection → Performance inspection, ex-post evaluation

Challenges

The Design Challenge

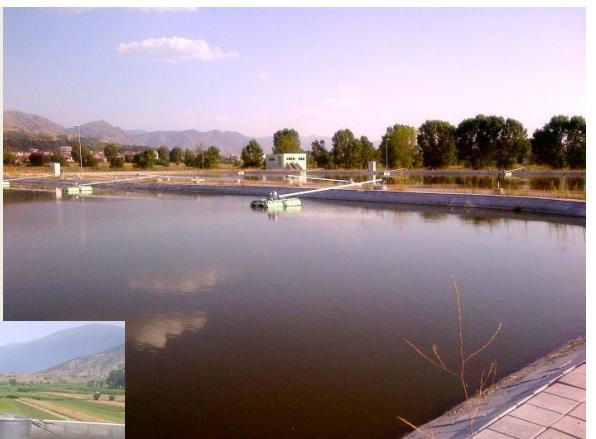
Applying appropriate standards and technologies

Appropriate technical solutions require:

- Reliable basic data and **realistic forecasts** (population, climate change, etc.)
- Intelligent definition of system boundaries (WWTP)
- Adequate **design standards**: national / internat.
- Consideration of **affordability** for the population
- Consideration of **operational aspects**
- Partners demanding state of the art technology

➢ Choosing **appropriate technologies, standards and areas of intervention**
➢ Implementation **in stages**

Impressions



The Implementation Challenge

Assisting partners and moving them on the driver seat

Communitaction and Training

- Institutions on **local and national level** need to be adressed for the benefit of local population development of water sector on national level
- Lack of customer orientation and lack of strategic planning
- **Political influence is often more important than professional management** (qualification of director, overstaffing, decision taking)

- provision of assistance and training to water utilities and support of strategic planning (e.g. national masterplan) / sector dialogue
- **benchmarking** and setting of **milestones** (performanced based approach)
- strengthening of ownership and provision of incentives

Impressions

The Implementation Challenge

Taking local conditions and regulations into account

Permits, access to site and contractors required

- weak local and uninterested international contractors
- Time intensive procurement processes and inefficient **unexperienced administration**, political influence and prevention of corruption
- Delays during construction works and legal issues regarding subcontracting, safety equipment, …
- Provision of **building permits** in time
- Land ownership issues and **access to site**
- Lack of propper contract management

- **Structuring of works and supplies** according to national market
- Contracting only when **building permits** and **access to site** are available
- Assisstance in contract administration

Impressions

The Challenge of Operation and Maintenance

Subheadline

- Limited **experience and knowledge** for new technologies
- Lack of vocational training
- Lack of repairs or **preventive maintenance**
- Lack of funding for spare parts
- Lack of operation and safety equipment
- Lack of funds for covering operation cost
- WWTP: **sludge disposal or reuse concept**

- **Intitial operation by contractor** (e.g. WWTP)
- Provision of **training** and support
- Preparation for **sludge** disposal or reuse
- focus on **financial sustainability**

Impressions

The Challenge of Financial Sustainability

Increasing awareness for covering costs

Opinion: Water is for free

Revenues < < < Operation | Full Cost

- **Unregistered customers** (water theft)
- **Insufficient collection** of water bills
- Avoiding tariff increases
- Unreliable subsidies from state budget
- High physical losses
- High electricity costs
- Inappropriate costs for personnel (overstaffing)

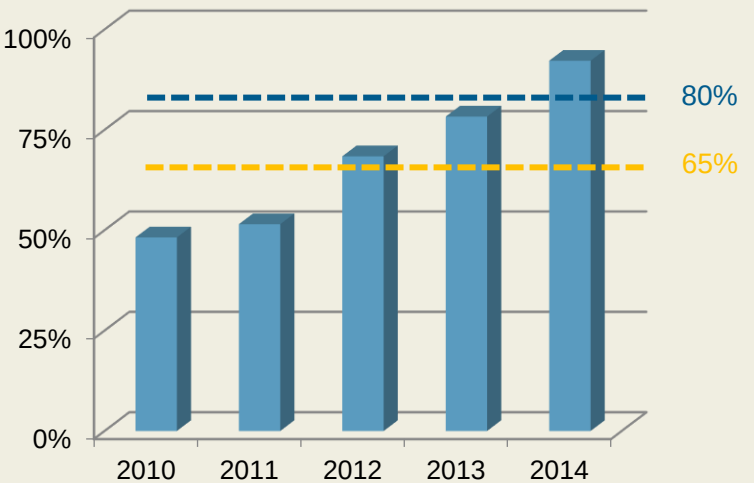
- Rising awareness for financial sustainability
- Sector Dialogue on reliable subsidy schemes

Impressions

The Challenge of Financial Sustainability

Example: Performance Based Approach Lezha, Albania

➢ **Linking performance to investments**
and providing assistance in utility management



› Business plan + tariff increase

› 65% operation cost coverage

› 80% operation cost coverage

Project appraisal | **1.** milestone | Consultant | **2.** milestone | Tendering | **3.** milestone | Contract works | Construction | Operation

Outlook

Outlook

How to ovecome the challenges in the water sector

Reasons for failure as results from ex-post evaluation:

- Sector conditions insufficient (regulation, budget priorities, sector planning)
- Weaknesses of the operator (staffing, spare parts, collection efficiency)
- Tariff system insufficient for cost recovery
- Irregular budget contributions

For achieving successful and sustainable results in the water sector and projects
in Financial Cooperation more engagement is necessary than only providing financing!

- **Intensive policy dialogue**
  Support to water utilities (incentives)
- **Focus on financial sustainability**
- **Attention on public subsidies (sufficient / in time)**

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Pictures

Front slide	KfW / Stephan Sperl
Slide 4:	Picture 1: KfW-Bildarchiv / Holger Peters (o.l.) Picture 2: Fotolia.com / Nataliya Hora (o.r.) Picture 3: KfW-Bildarchiv / Charlie Fawell (u.l.) Picture 4: KfW-Bildarchiv / photothek.net (u.r.)
Slide 5:	Picture 1,2 and 3: KfW Webpage/Bildarchiv
Slide 6:	Picture 1,2,3 and 4: www.pixabay.com
Slide 10:	Picture 1: Albanien / Dirk Vallerien, KfW Picture 2: Jordanien / KfW-Bildarchiv
Slide 11:	Picture 1: Albanien / Dirk Vallerien, KfW Picture 2: KfW-Bildarchiv
Slide 12:	Picture 1: Albanien / KfW-Bildarchiv / photothek.net Picture 2: Georgien / KfW-Bildarchiv Picture 3: Bangladesch / KfW Projektinformation / Dr. Silke Paulwitz Picture 4: Uganda / KfW-Bildarchiv / photothek.net Picture 5: Namibia / KfW-Bildarchiv / Pietro Sutera Picture 6: Nicaragua / KfW-Bildarchiv / Ruben Ortiz Picture 7: Brasilien / COPASA Picture 8 and 9: KfW-Bildarchiv
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Slide 20:	Picture 1: KfW-Bildarchiv Picture 2: KFW-Bildarchiv / Bernhard Schurian

Thank you!

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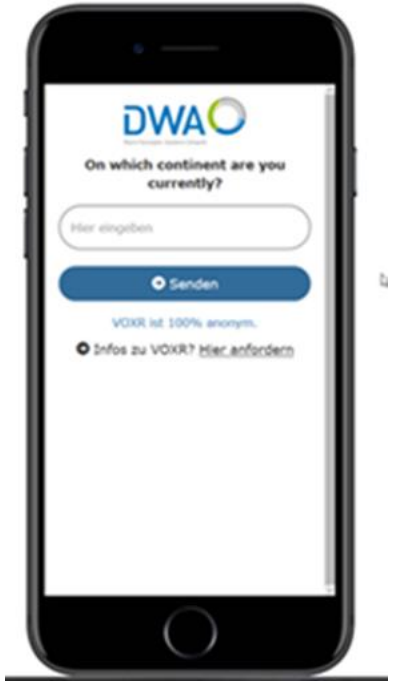
SESSION FEEDBACK

QUESTION 2

Presentations! Which word stuck with you the most?

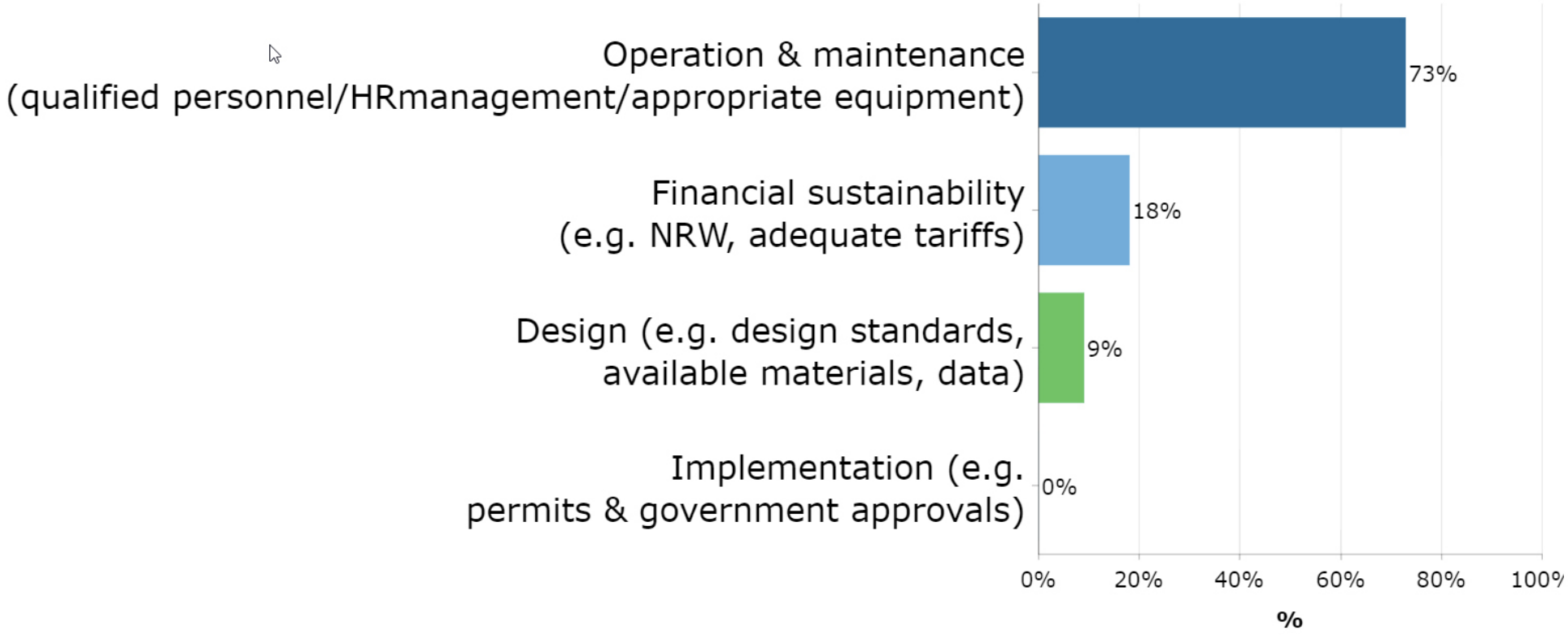


Link VOXR: https://voxr.com/dwa

INTERNATIONAL PROJECT IMPLEMENTATION

VOXR SESSION FEEDBACK

In your opinion: What is the biggest challenge to successfully implementing international water projects? Lack of...



INTERNATIONAL PROJECT IMPLEMENTATION

VOXR SESSION FEEDBACK