

# Chapter 18

## Development finance: Encouraging sustainable water use by industry



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### 18.1 THE ROLE OF DEVELOPMENT FINANCE

Development finance serves as a catalyst to attract and mobilize other sources of private capital, in areas where a higher level of risk is inhibiting private investment. Development Finance Institutions (DFIs) such as the German Development Finance Institution (DEG) lower the burden and risk associated with businesses, in order to attract private investors. DEG provides private enterprises operating in developing and emerging markets countries with tailored solutions, including long-term financing, promotional programmes, and individual advice. One special focus is small and medium-sized enterprises (SMEs) in those countries.

SMEs are valuable drivers of innovation, employment, and growth, but their financial needs are often too large for traditional lenders, such as local banks. Large banks tend to bypass the SME market due to the amount of administrative work required in order to work effectively with them, the limited information available from SMEs to allow thorough due diligence on the risk associated with the investment, and uncertainty regarding their credit risk. In many developing countries, long-term bond markets and other alternatives for innovation funding are not available as potential sources of funding.

DFIs such as DEG provide options to bridge these gaps, drawing on low risk capital from their own financial base. In doing so, they have a great responsibility towards their stakeholders as well as an opportunity to act based on best practices for sustainable use of water. The compliance with international

environmental and social standards and supporting the clients in achieving sustainable business practices is part of the cooperation with the companies. DEG has to ensure that investments are consistent with sustainable development and DEG's Environmental and Social Standards that are based on internationally agreed on principles and standards.

DEG aspires to not only support but also act upon latest principles and practices for sustainable investment – 'walk the talk' so to speak, as an insurance and credibility mechanism for their clients and with stakeholders respectively.

## 18.2 SUSTAINABILITY IS RISK MITIGATION

Given their characteristics (see box), DEG is well equipped to attract higher risk and long-term investments with businesses that are prepared to change and willing to practice innovation and improvement, envisioning the opportunity to strengthen and building resilience for their businesses and become more attractive to private investors in their own region in the medium and long term. DEG can strengthen companies that are crucial in the supply chain of German businesses. Customer success stories show that DEG is 'walking the talk' on sustainable investment, producing results that can be multiplied and scaled.



DEG (<https://www.deginvest.de/International-financing/DEG/>) is one of the major development finance institutions for private companies. DEG is a wholly owned subsidiary of KfW Group, the German development bank for reconstruction. What today is called DEG was founded as the 'German Association for Economic Cooperation' in 1962. It provides companies in developing and emerging markets with long-term investment capital in form of loans or equity and advice and works with customers to create investments and companies professionally, efficiently, and sustainably. Further, DEG provides funding to financial institutions and funds that provide small and medium-sized enterprises with reliable access to debt and equity financing.

DEG, through KfW, operates as a signatory to the United Nations Principles of Responsible Investment (UN PRI), with the Investment Exclusion criteria of the Exclusion list, integration of ESG-criteria (Environmental, Social, Governance) and promotes their programmes with companies in the developing and emerging-market countries. Due to these institutional commitments, the sustainable use of water by client companies is a key factor of success that encourages development of successful models that can be replicated by others (Further information on the United Nations Principles of Responsible Investment is available at program is available at <https://www.unpri.org/pri/an-introduction-to-responsible-investment/what-are-the-principles-for-responsible-investment>).

In addition to two investment cases presented in the main text, DEG has provided Business Support Services (BBS) funding and continues to provide expertise to co-develop a water risk assessment tool for businesses, the WWF-DEG Water Risk Filter launched in 2012 (described in Section III of this book). This tool has subsequently been applied to operations and asset and production portfolios by DEG, their clients, and many other businesses and organizations. In addition, the tool is used directly with clients as a business support, water risk mitigation tool, and decision-support-system.

DEG is engaged specifically on water-related topics with various clients around the world, providing financing solutions for improvement measures, business support services, and staff training.

DEG in particular and DFIs more broadly have various tools at hand that can be put into action in order to achieve impact, which include the following:

**Lending:** the activity of lending money to people and organizations which they pay back with interest (Cambridge Dictionary, 2020);

**Promotion:** activity of promoting best practices and state-of-the-art thinking on environmental, social, and governance issues;

**Training support:** activity in providing financial, content advice, establishing networks, or direct training to (prospect) clients and client stakeholder groups in sustainable practices;

**Due diligence practices:** the detailed examination of a company and its financial records, done before becoming involved in a business arrangement with it (Cambridge Dictionary, 2020) – in particular including sustainability elements on environmental, social, and governance issues; and

**Technical assistance/business support services.** For example, DEG offers non-repayable co-financing and conceptual assistance for eligible projects that help companies (prospective and existing customers) to improve their performance, growth, and developmental impact. DEG connects companies with external experts to realize tailor-made advisory solutions and help customers to design coherent development projects. Measures that support investments contribute to advancing developmental broad-based and structural effects and help further professionalization.

The above mentioned tools are all in the scope to achieve investments in/ with renewable energy, climate resilient agriculture, low-emission manufacturing and green lending at financial institutions and can also be derived from and/or founded on the Commitment and Principles for Responsible Investment (United Nations Principles of Responsible Investment), a set of aspirational investment principles that incorporate environmental, social, and governance (ESG) issues into investment practice.

### 18.2.1 How development finance helps encourage sustainable practices

This type of financing support is key to setting precedents in developing and emerging countries, helping to build confidence among SMEs that it is possible to build thriving businesses while using sustainable business practices, bringing opportunities and positive financial impacts to local economies in developing nations. DEG provides business support to its clients to co-finance improvement measures and sector initiatives to improve cooperation between the private and public sector.

Through DEG's long-term private sector investment with companies that share DEG's take on sustainability practices, the long-term capacity of companies is enhanced (e.g., through education, training, technology transfer, and know-how). This expands the value chain in the supply of goods in the community, contributing to the creation of decent local employment, government revenue, and foreign exchange earnings that can be invested into the community's infrastructure, education, and health – contributing to sustainable development.

For DEG, investing in local business in developing countries which are suppliers for German businesses has a ripple effect, ultimately strengthening German companies and German's economy as a whole, and improving their resilience and lowering economic risks.

### 18.2.2 Why water matters – a company's perspective

Water, lack thereof or over-abundance (e.g., flooding), is an important input as well as external factor. Lack of local infrastructure for water supply, distribution, and treatment is often a key issue in developing and emerging countries, as are water-related ecological issues.

Investment decisions are driven by prioritizations of sustainability issues to be addressed in each investment case. Having water that is sufficient in terms of both quantity and quality is key for production. There might be competing demands with other water users, paired with weak governance and/or enforcement. Even when water is quantitatively abundant, it may be insufficient due to quality problems, where it is not feasible or economically viable to treat the water to the quality parameters required. In many emerging and developing countries, more than 80% of water is returned untreated, and therefore polluted, into natural water bodies, causing water scarcity due to pollution.

If a company can prove economic impact in relation to their water management in their basin, it might influence stakeholders, in particular upstream, to change their habits on managing surface- and groundwater and environmental contaminants, such as chemicals. But how can the habits of upstream users be changed? A company needs to set an example by committing and investing in their own improvement. However, providing funding for such ventures can be difficult and a relatively high risk, particularly if funding does not come along with ongoing education and training so that the employees will have the motivation, knowledge, and skills to maintain new approaches, infrastructure, and technologies.

Some of the companies that DEG invests in and works with, produce goods for the import market of economically stronger countries. Consumer and customers in these countries, and therefore the retailers in the developed countries that import supplies, are becoming more conscious of sustainability issues, and increasingly likely to demand action based on sustainable principles at the origin of the product – SMEs in emerging and developing countries.

These exporting businesses feel the customer pressure and are aware of issues on the ground. With the right mindset, recognizing the value of more sustainable practices, they can benefit from development finance both financially as well as through knowledge building – growing their expertise and becoming more resilient. Success stories showcase the validity of the business case of long-term development to grow strength and resilience, both in the local market and in similar markets globally. Through these mechanisms DEG can encourage and ensure impact on industrial water use and water management practices.

## 18.3 CASE STUDIES

### 18.3.1 Agriculture in Latin America

Peruvian agriculture is active in a desert-like environment on the Pacific coastline; agriculture here depends on water from the Andes for irrigation. DEG supported the evaluation of the costs of water risks for Peruvian agricultural companies. These analyses highlighted the need for long-term investments in (1) preventive measures to reduce the impacts of extreme weather events (e.g., reservoirs as an emergency backup water supply); (2) collaborative action by all companies in the irrigation area to improve the catchment (e.g., reforestation); and (3) control of groundwater levels (e.g., more efficient drip irrigation techniques). Through more large-scale measures in the basin, new markets could be developed.

European importers/supermarket chains look into the water management of their suppliers. Some (e.g., EDEKA, the largest German grocery chain) strongly encourage or demand certification for sustainable water management (Alliance for Water Stewardship, AWS) from those suppliers located in areas which are 'red -flagged' as high risk in a Water Risk Filter Assessment. DEG is a financing partner for companies who look for a sustainable business model, including sustainable water management where investments are supported by business support services and knowledge transfer. For example, DEG supports conducting necessary training, in addition to financing water management measures for the client.

### 18.3.2 Two investment examples in Peru (AWS, 2017)

Danper Trujillo S.A.C. produces asparagus, artichokes, peppers, mango, and other fruits. DEG provides training through using certified training providers for employees on sustainable water management and water stewardship based on the principles of the Alliance for Water Stewardship. In 2017, Danper used this knowledge to become the first company in Peru that obtained the 'Alliance for Water Stewardship' Certification. This certification validated their sustainable water use practices, which supported their goal to export more of their products to Europe.

Virú Group (KFW, 2018) produces and buys fruits and vegetables from smallholders and processes the products at three processing plants. Through DEG's Business Support Services DEG co-financed and assisted Virú in implementing a water efficiency management system that included planning, construction, and operation of a state-of-the-art wastewater treatment plant; this plant enables the reuse of wastewater, reducing the water footprint of the company.

### 18.3.3 Pulp and paper (P&P) in India (IFC, 2017)

India has a strong and growing pulp and paper market. A variety of different technological development levels exist within the sector in terms of water use and demand, chemicals used in processing and water treatment levels before using effluent as irrigation water (a common re-use of effluent from pulp and paper factories). Some plants in India are reported to use more than 200 cubic meters per metric ton of produced pulp and/ or paper, while global industrial best practice is in the range of 50 cubic meters per metric ton of produced pulp and/or paper (Figures 18.1 and 18.2).



**Figure 18.1** Asparagus field in Peru where DEG-sponsored training in irrigation methods helped this enterprise acquire 'Alliance for Water Stewardship' Certification. (Credit: DEG)



**Figure 18.2** Drip irrigation system for asparagus. (Credit: DEG)

DEG, in connection with the International Finance Corporation (IFC), a member of the World Bank Group, and other lenders, invested in pulp and paper production in India (e.g., JK Paper Limited), where sustainable water management practices are part of the improvement measures. JK Paper is a leading Indian producer of office papers, packaging boards, printing and writing papers, and specialty papers. They have a sustainable, Forest Stewardship Council (FSC) controlled wood management supply chain of more than 1000 km<sup>2</sup> of forest from independent farmers to meet their virgin pulp demand. This means that forest operators need to avoid negative impacts on water quality quantity, and act when problems occur (FSC, 2020). Farmers are supported with the company-run Farm Forestry Program. In their plants, JK Paper has established high environmental standards and systems, producing within global best practices exemplified by a 50 m<sup>3</sup> water usage for the production of one metric ton of pulp or paper. Further, they are treating all their effluent water (i.e., waste water) to quality standards, so it can be used for agricultural irrigation or can be safely returned as treated effluent into the local river.

DEG has invested in capacity and efficiency improvements, which have resulted in implementation of better technology, process innovation, recycling, reuse, and minimization of wastewater discharges. These measures have helped significantly to reduce freshwater consumption and effluent generation per metric ton of paper in recent years, which also led to operational cost savings. Treated sewage water is used as cooling water, and a significant portion of the treated effluent is supplied to nearby villages for agricultural irrigation, which improves harvests, the local groundwater balance, and the relationship with communities (Figures 18.3 and 18.4).

## 18.4 KEY CHALLENGES

While the focus of this chapter is on improving water management activities, it is important to understand that the water issues addressed in the case studies above were identified in a prioritization process for the presented investment case. To evaluate lending to customers, DEG cannot afford to only look at a single issue such as water management, but requires thorough due diligence on all sustainability topics. It then becomes a challenge to prioritize the sustainability issues that have been identified (e.g., biodiversity in the supply chain versus the sustainable management of water resources).



**Figure 18.3** Produced paper rolls at JK Paper plant in India where DEG in cooperation with IFC and others invested in Indian pulp and paper production. (Credit: DEG)

Often businesses, and particularly small and medium-sized enterprises, do not have sufficient information to identify, quantify, or compare the urgency of different sustainability issues. That makes it necessary to commission relevant intelligence – gathering activities to gain a full picture of



**Figure 18.4** Environmental parameters of treated effluent are displayed publicly at the entrance gate. (Credit: DEG)

circumstances and build a base to make investment decisions that reflect sound data and can withstand careful scrutiny. While water issues are often present, in some cases there may be even more pressing issues that should be addressed first.

Another challenge is to not only initiate changes by providing financing, but to ensure progress is made on an ongoing basis, working sequentially on the list of identified priorities, or even changing priorities when needed, based on new knowledge or events.

## 18.5 THE ROAD AHEAD

While work with companies is important to strengthen businesses and make them more attractive to private investors and improve their water management, scaling impact is imperative to ensure broader impact on economies and the environment. DEG recognizes that cooperation between the private and public sector will be required to achieve this scaling impact effect on investments.

Larger investments and funding are at stake when the public sector is not adequately involved. Public sector policy is the basis of private sector action. Both the private and the public sector can benefit from cooperation, building confidence in each other through partnership that will support bringing higher funding capacity to the economy.

Such public–private mechanisms are often used for infrastructure provisioning, such as water and sewerage systems. Clean water and sanitation services are often lacking in developing and emerging countries. We see examples of waste water being treated by a local company, fulfilling a service usually held by a local government entity.

Integrating better water specific approaches for sustainable business will show the business case for improvements to water balance; water quality; water governance; important water-related areas; and safe water, sanitation, and hygiene for all. These are all aspects of water stewardship, explained further in the chapter on the Alliance for Water Stewardship in Section III of this book. This water stewardship approach also shows the necessary upscaling from a facility to a river basin scale in order to spread the benefit of sustainable water use by industry to the wider community and the environment.

Water management improvement has to be integrated with other sustainability challenges and standards, such as climate change and land use. Since stakeholder-inclusive processes are at the base of many sustainability approaches, structures originally created to support more sustainable water management can be nurtured, further developed, and broadened to address additional United Nations Sustainable Development Goals, such as health and well-being, education, gender equality, and sustainable communities.

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