Ministry of Foreign Affairs – (Investment Fund for Developing Countries, IFU & Department for Growth and Employment, VBE)

Meeting in the Council for Development Policy 26 March 2019

Agenda item 2

1. Overall purpose	For discussion and recommendation to the Minister
2. Title:	Danida Business Finance: Wastewater Treatment Plant, Faisalabad, Pakistan
3. Presentation for Programme Committee:	14 December 2017

Cover Page

Wastewater Treatment Plant Faisalabad

Key results:

- A fully operational wastewater treatment plant for the Channel no.4 sub-catchment (200,000 m3/day in 2025), that treat wastewater from 765,000 people and industrial and commercial units.
- Drainage Channel no. 4 covered and agricultural food products no longer exposed to health hazards from farmers' use of untreated sewerage water.
- Staff in Faisalabad Water and Sanitation Agency has adequate capacity to operate and maintain the wastewater treatment plant after having received five-year support and training.
- Treated effluent meeting required standards is channelled to irrigation canal (Gogera Branch) for both agricultural re-use and as contribution to raw water intake for a future drinking water treatment plant.
- Biogas produced based on incoming sludge will produce electricity and will contribute to reducing operational expenditure and to reducing emission of greenhouse gasses.

Justification for support:

- Faisalabad, the third largest city in Pakistan with a population totalling 3.2 million, has no adequate wastewater treatment system (less than 10% of produced wastewater is currently treated) and most wastewater is thus discharged untreated into the sewerage system and subsequently into rivers.
- Untreated wastewater is used illegally for irrigation purposes and adversely affects agricultural food produce and consequently basic health indicators of consumers.
- Improving sanitation in cities ranks high in the Government of Punjab policy and the project represent a crucial part in the implementation of a master plan for water supply, sewerage and drainage for Faisalabad city.

Major risks and challenges:

- Water Tariffs are not gradually increased sufficiently to cover O&M costs on a sustainable basis.
- The plant will not be able to produce the standards for effluent, if new industries are not established in the industry zone, but in Faisalbad city. Hence, pollution levels from production in Faisalbad city will increase.

File No.	F2:2017-23060					
Country	Pakistan					
Responsible Unit	Danida Business Finance					
Sector	Water and Sanitation					
Partner	Water and Sanitation Agency Faisalabad					
DKK mill.	**2019**	**2020**	**2021**	**2022**	**2023-2028**	**Tota**
Commitment						
Projected ann. disb.	5.0	135.0	131.9	131.9	32.0	435.8
Duration	36 months for construction and 5 years of O&M support					
Previous grants						
Finance Act code	06.38.01.13					
Head of unit	Ole Thonke					
Desk officer	Lone Bøge Jensen					
Financial officer						

Relevant SDGs

Clean Water, Sanitation | Affordable Clean Energy | Responsible Consumption | Partnerships for Goals | Good Health

Total Project budget: DKK Million 1,191.0
Of Which DBF financing: DKK Million 972.1

Total DBF grant commitment: DKK Million 435.8

Concessionality: 35%

Strategic objectives:

The project will contribute to the enhancement of the sanitary conditions and the livelihood of the population living in the Faisalabad District, as well as protection of water resources through adequate treatment of domestic and industrial wastewater in the eastern zone of Faisalabad City.

Justification for choice of partner:

The Water and Sanitation Agency (WASA) in Faisalabad is entrusted by the Government of Punjab to manage water and sanitation affairs in the Faisalabad area (service area: 225 km² and 275,000 registered consumers). Other development partners perceive WASA/Faisalabad as a serious and professional collaboration partner.

Summary:

Despite a high political priority given to water and sanitation and steady increases in the Government of Punjab's investment budgets for water supply and sanitation, it has not been possible to improve the sewerage situation in Faisalabad. Pakistani authorities are committed to manage wastewater both in the eastern and western part of Faisalabad. However, recognising that sufficient funding cannot be mobilised for wastewater treatment plants to cover the whole city, WASA Faisalabad has stressed the priority of a solution for the Eastern part of the city. The investment project will include design, construction and a 5-year O&M support for the first phase of Faisalabad East wastewater treatment plant in the Channel no.4 sub-catchment. The capacity of the wastewater treatment plant will meet expected wastewater production in 2038 and the treatment plant will service more than 765,000 urban inhabitants and a large number of commercial/industrial establishments.

Budget (in million of DKK):

Output 1 &5 (Wastewater treatment Plant including biogas facility)	656.6
Output 2 (Channel 4 cover + connection to WWTP)	64.9
Output 3 (Operation and Maintenance for 5 yrs)	82.6
Output 4 (Connection between WWTP and Gogera Branch Canal)	149.4
Supervision engineer	19.0
Total DKK	**972.1**

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Abbreviations

AFD	Agence Française de Développement
CMS	Construction Management and Supervision Consultant
DBF	Danida Business Finance
EAD	Economic Affairs Division of the Ministry of Finance, Revenue, Economic Affairs, Statistics & Privatization
EIA	Environmental Impact Assessment
FDA	Faisalabad Development Authority
FIDIC	International Federation of of Consulting Engineers
FS	Feasibility Study
GNI	Gross National Income
HRBA	Human Rights Based Approach
IFC	International Finance Corporation
IFU	Investment Fund for Developing Countries
LDC	Less Developed Countries
MDG	Million Gallons per Day
NEQS	National Environment Quality Standards
OECD	Organisation for Economic Co-operation and Development
O&M	Operation & Maintenance
PKR	Pakistani Rupee
PMU	Project Implementation Unit
SDG	Sustainable Development Goals
WASA	Water and Sanitation Agency
WB	World Bank
WHO	World Health Organisation
WWTP	Wastewater Treatment Plant

1 Introduction

The Government of Pakistan, Ministry of Finance, Revenue, Economic Affairs, Statistics & Privatization (Economic Affairs Division - EAD) has requested Danida Business Finance to consider finance of the construction of a wastewater treatment plant in Faisalabad in the Province of Punjab.

The Feasibility Study for the project was financed by Danida Business Finance and carried out and completed in October 2018 by Danish consultant Sweco.

1.1 Key Data and Background

Project name
Faisalabad Wastewater Treatment Plant
Country
Pakistan GNI per Capita (USD) (2017): 1580
Product
Wastewater Treatment
Implementing Partner
Water and Sanitation Agency (WASA) - Faisalabad
Total Investement
DKK million 972.1
DBF grant commitment
DKK million 435.8
Type of financing
Soft loan – 35% conssionality
Financial net IRR
Internal Rate of Return (IRR) is negative (hence not defined and project not viable on commercial conditions)

The Government of the state of Punjab in Pakistan has, in line with its National Sanitation Policy, defined policies and priorities to improve water and sanitation coverage in the Province. One of the objectives is “By 2025, develop mechanisms for reuse, recycle and recharge of wastewater for other municipal and productive uses in all major cities and towns. All municipal discharges must comply with National Environment Quality Standards (NEQS)”.

Currently less than 10 pct of Faisalabad city wastewater is undergoing some level of treatment and discharge of untreated wastewater, in particular from industry in the city, leads to degradation of the environment and constitutes a serious health hazard for the population.

JICA has funded and prepared a Master Plan for Water Supply, Sewerage and Drainage, based on which an overall development plan of the Faisalabad area is currently being prepared by the authorities. The Water and Sanitation Agency (WASA) had asked for solutions to cover the entire city - four wastewater treatment plants in total - but has given the two treatment plants of the eastern zone priority. Based on technical, institutional, financial and economical analyses, the Feasability Study has described a priority investment project, which includes both treatments plants and suggest that they are placed at the same site. The DBF project is a 200,000 m3 treatment plant covering the Channel no. 4 sub-catchment. The second project will have the capacity of app 300,000 m3 covering the Santiana Drain. Several donors have expressed interest in financing the latter, including the French Development Agency, but firm commitment has yet to be established. The DBF project will trible the existing capacity of treating waste water in Faisalabad and being able to service app. 15 pct. of the city.

Other donors are active in the water and sewerage sector in Faisalabad and complements the current project. The World Bank supports an on-going project related to metering of drinking water connections in Faisalabad. AFD (French Development Agency) has funded a water treatment plant for drinking water and are planning an additional surface water treatment plant. The DBF project is closely interlinked with the latter, as WASA cannot build the surface water treatment plan without been able to guarantee enough intake of water from the Gogera Canal, which will be delivered by the DBF project. The four donors active in the water sector in Faisalabad (JICA, WB, AFD and Danida) has an common interest and approach vis a vis the Punjab government on the need for gradually increasing the water tariffs.

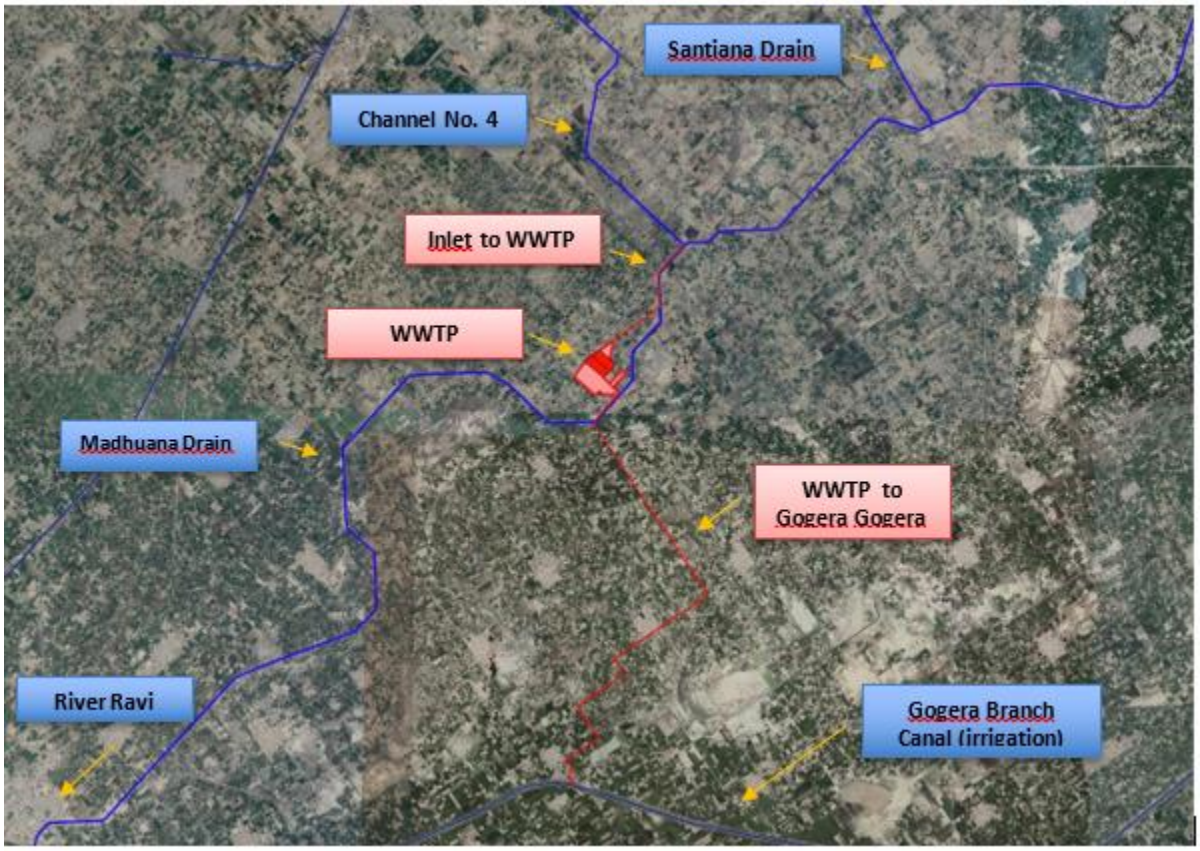
Channel no. 4 collects wastewater from estimated 765,000 people and commercial, institutional and industrial establishments and leads the water into Madhuana Drain which eventually is led directly into the river Ravi and ultimately the Indus River.

The project will treat 200.000 m3 of wastewater per day and includes the covering of Channel No. 4 to prevent the illegal extraction of raw wastewater for agricultural purposes before the water is treated, thereby reducing the pollution of crops and groundwater.

Energy recovery will be ensured via biogas production and combustion. The total electricity generated by biogas plant to be constructed is prudently estimated at 50% of the total electrical power required for treating 200,000 m3 /day of wastewater.

Treated effluent from the WWTP will be channeled through a new pipeline to the Gogera Irrigation Branch Canal and used both for irrigation purposes and as raw water for the AFD financed future surface water treatment plant. The WWTP will be designed with considerable flexibility due to the change in characteristics and flow expected over the design horizon of the works. The Faisalabad authorities has prohibited new industrial companies to locate in Faisalabad city and are trying to move existing companies to establish themselves in a new industrial zone outside of Faisalabad. When industries continue to move out from the city catchment, the wastewater will change from a mixture of domestic wastewater and industrial (especially textile) wastewater to a predominantly domestic wastewater, thereby lowering costs of O&M of the waste water treatment plan.

It is expected that design and construction works can start in 2020 for a 3-year period followed by a 5-year period during which the contractor will support WASA in operating and maintaining the wastewater treatment plant.



Overview drawing of WWTP and new pipelines (illustrated in red) and existing drainage channels (blue) in East Faisalabad.

2 Project Context

2.1 Socio-economic Context[1]

Pakistan has made significant progress in key health indicators, including the under-five mortality rate, maternal mortality rate and death due to malaria and tuberculosis (WHO Pakistan, 2015). Despite these improvements Pakistan's under five mortality rate continues to be significantly higher compared to similar income group countries (WB, 2017) and Punjab seems to be the main driver of this underperformance. Furthermore, Punjab has a high prevalence of children under-5 with diarrhea and viral hepatitis – diseases related to contamination of water, inadequate disposal of wastewater and solid waste.

Despite the substantial progress achieved overall in Pakistan in improving access to clean water and sanitation, 22 million people still do not have access to clean water and 79 million do not have proper sanitation. Furthermore, nearly 19,500 children below the age of 5 die each year from diarrhoea.

[1] For more details on the general context, please see the context analysis included in Annex 1.

Faisalabad is located in the province of Punjab. Faisalabad is the third largest city in Pakistan with a population of 3.2 million people in 2017 and expected to grow to a total of 4.9 million in 2038.

Map of Pakistan

During the last 20 years, Faisalabad City has experienced an increase of its population due to high birth rates and urbanization. Punjab accounts for more than half of the country's economic output and industries in Punjab employ more than a million people.

Faisalabad has a predominantly agriculture and industry-based economy. The Faisalabad area comprises more than 3,000 industrial units including a large textile manufacturing industry. Other industries include fertilizer, chemicals, pulp and paper, pharmaceuticals, metal, and agricultural equipment. Faisalabad contributes 40 percent of the total export from Pakistan and more than 65 percent of the textile export.

2.2 Current Sanitation Situation in Faisalabad

The growth of Faisalabad has been unplanned, and industrial units and residential areas are highly mixed in the city. WASA is responsible for both water supply and sewerage services in the zones of East and West constituting the city[2].

The Faisalabad area has a hot desert climate with an average annual rainfall of only 375 mm. The area experiences a chronic shortage of water and WASA has started exploiting surface water resources for drinking water purposes due to over-exploitation of

[2] See Annexe 2 for more details on WASA Faisalabad.

groundwater resources. Pollution levels of these resources are high due to discharge of untreated wastewater into the environment.

Faisalabad has currently a de-facto combined collection system where wastewater and storm water are collected concurrently and eventually discharged into large drainage channels and led into the rivers Ravi (eastern catchment) and Chenab (western catchment). Industry accounts for 70 percent of wastewater in the Eastern part of Faisalabad

In most cases, industrial effluent is discharged into the sewer system, as very few industries have on-site pre-treatment facilities. The Government of Punjab has established an industrial zone outside the city with the aim of moving most industrial enterprises from the city centre to this area. The industrial zone will have its own wastewater treatment plant. This relocation is progressing slowly and may take another 10 years or more.

Presently, there is only one, by international standards very inefficient, wastewater treatment plant that treats less than 10 percent of the wastewater in the Western zone of the city. All domestic and industrial wastewater from the eastern zone remains untreated and flows in to two channels: Channel No. 4 and Satiana Road Channel. Thus there is a massive contamination of rivers, which are sources of downstream water supply and irrigation.

Farmers along the Channel No. 4 use the highly contaminated wastewater as irrigation for their agricultural production, including food crops, thereby preventing treatment of polluted wastewater, contaminating agricultural products and polluting the groundwater. The feasibility study estimated that from all drainage channels in Faisalabad app. 1000 hektar of agricultural lands are irrigated with polluted wastewater. Part of the project is to cover Channel 4 in concrete slaps preventing access to the wastewater in the channel. In parallel to the project the Irrigation Department will work with the farmers on providing groundwater from new wells in the area.

The industrial and commercial tariff was revised in 2016 but domestic tariffs have been frozen from 2006 to 2018. On several occasions, WASA has requested the Government of Punjab to increase the domestic tariff due to ever increasing power bills. Instead, the Government of Punjab has provided annual subsidies. These subsidies are a drain on province government budget and remain insufficient to cover full service delivery.

3 Strategic Considerations and Justification

3.1 Previous Experience

This project constitutes the first DBF financed project in Pakistan. The Danish country programme for Pakistan was phased out in 2016. The programme, 2013-2016, provided support to peace building, livelihoods, education and to civil society organisations in areas of democratisation, human rights and gender equality.

Danida, like many other international donors have been implementing water and sanitation facilities in developing countries over the last 40 years. Statistics on basic health indicators from local health centers are often non-existing or very scarce, and thus no scientific proof shows that improved water and sanitation facilities alone lead

to improved health of the benefitting population. In surveys the beneficiaries, clearly state that they experience improved health when sanitation is improved. Piped water supply and sewerage facilities to households in urban areas improves environmental and sanitary conditions e.g studies demonstrate that nuisance from mosquitos and flies is strongly reduced. Further, the unhealthy mixture of sewerage water with rain water is eliminated during the rainy season.

3.2 Strategies and Priorities of Pakistan within the Sector

Relevant government entities, including the government of Punjab and in Faisalabad have demonstrated political and financial commitment to the project and to the overall objective of reuse, recycle and recharge of wastewater by 2025 in all major cities and towns in Punjab.

Over the last decade, the Government of Punjab has steadily been increasing its investments in water supply and sanitation. The investment trends show an increase from 0.4 billion DKK in 2009-10 to 1.7 billion DKK in 2015-16 and 2.5 billion DKK in 2017-2018 of which 44 pct. of budget was for clean water and 28 pct. for sanitation and solid waste management. In November 2018 Faisalabad Development Authority approve further substantial increases. in tariffs suggested by WASA. This request is now pending approval of the government of Punjab.

WASA's annual budget proposal already now includes cost for 16 future additional staff planned for the project management unit and 70 staff for future O&M.

3.3 Relevance and Development Impact

The project will have substantial developmental impact, in particular by contribution to improved standards of sanitation in Faisalabad. The project will treat wastewater from 765,000 people and industrial and commercial users and increasing recycling and safe reuse of water. In addition, the project will provide treated wastewater as raw water for the future French funded (AFD) surface water treatment plant. (SDG 6). The project will also contribute to production of renewable energy from sludge to run the plant (SDG 7), as well as the production of effluent and sludge suitable for agricultural reuse (SDG 12).
Implementation of the DBF project have good prospects of boosting future investments with development impact in support of the sector Master Plan from 2019 (financed by JICA) and the development plan of Faisalabad Development Authority being prepared, which constitute a coherent and realistic plan for managing waste water and water supply for the whole city. In order to support this aspiration DBF feasibility study covered the whole city with solutions to waste water treatment plants for Faisalabad and hence the feasibility study may be used to mobilise additional financial resources for future works (SDG 17). By financing this first and crucial project the DBF will make it possible for AFD to finance their second water treatment plant for drinking water, as the DBF financed WWTP will discharge treated water into the Gogera canal for both irrigation purposes and for raw water intake.

Indirectly the project will contribute to better health (SDG 3), job creation (SDG 8), efficient use of resources through use of plant effluent as raw water for treated drinking water and as irrigation water (SDG 12), and the WWTP will be built to be resilient to flood risks and use of energy efficient equipment and production of electricity on the basis of biogas (SDG 13).

3.4 Danish Development Policy and Danish Interests

In 2015, Denmark decided to end the bilateral development assistance to Pakistan by phasing out the Pakistan Country Programme. The Danish-Pakistani cooperation is now focused on enhancing trade and economic relations, as well as nurturing the people to people relations to the benefit of both countries. Danish knowledge and technology, built over decades of dedicated engagement, can deliver much needed solutions for Pakistan as a lower middle income country. The Danida Business Finance intends to further segment the transition towards trade and economic cooperation by facilitating a loan through a private bank and to introduce Danish companies and sustainable technical solutions for waste water management.

Pakistan falls into the prioritized countries for development assistance as a country in transition and growth. The Danish Development and Humanitarian Strategy – World 2030 recognise the importance of the 17 Sustainable Development Goals and emphasises inclusive, sustainable growth and development and prioritize sustainable solutions for improving energy, water, agriculture and food.

The development impact of the DBF project supports the Danish priorities of providing sustainable solutions for energy and water and improve quality of agricultural production in the area of Channel No. 4.

The assessment of the human rights situation in Pakistan raises concerns in general. Of direct relevance to the project are gaps in legislation and law enforcements in the areas of labour conditions, child labour, safety conditions, discrimination and rights related for compensation of land. DBF will make it a precondition in contracts with contractor and agreements with government authorities and WASA that IFC Performance Standard 2 and 5 (Labour and Working Conditions/ rights of compensation of land)) are adhered to. Compliance will be monitored by the DBF monitoring consultant, who will visit the project site on a regular basis.

3.5 DBF Finance Eligibility

Danida Business Finance is applicable in developing countries with a GNI per capita below the World Bank limit of lower middle-income countries of USD 3,955 (for current 2018 fiscal year) and with a Danish representation. Pakistan had a GNI per capita of USD 1,580 in 2017[3] and is therefore eligible for Danida Business Financing.

Furthermore, financial calculations made within the framework of the project feasibility study[4] has concluded that the project is financially non-viable on commercial terms and thus fulfills the conditions for tied financing according to OECD guidelines.

3.6 Environmental and social Impact

The feasibility included an environmental assessment and concluded that the land site

[3] World Bank statistics 2018.

[4] Feasibility Study for Faisalabad Wastewater Treatment Plant. SWECO Danmark A/S in collaboration with Halcrow Pakistan. Final version. October 2018.

of the proposed project is owned by the government and has no formal or informal dwellings. The land is barren and saline, making it unfit for agriculture. In an eight km. radius 55 pct. of the land around the project site is used for agriculture. The rest is fallow land or open spaces. If possible, new transmission pipelines will be aligned with existing roads.

In the detailed design phase it will be determined if and where two pumping stations are to be established. If so, less than 0.5hectare will be required. The land on which the pumping station are to be built is currently being used for agriculture and a negotiation process with relevant farmers would need to be undertaken and compensation given to the owners of the land. The land acquisition process will be undertaken by WASA in accordance with international standards[5].

The feasibility study identifies possible negative environmental impacts during pre-construction, construction and operation phase and provide guidance for how to limit and mitigate the impact. The overall assessment is, that the identified negative effects (noise, dust, waste) can be mitigated in the detailed design of the plant and through proper management of e.g. waste during construction.

The treated effluent will meet international standards (NEQS, WHO and EU discharge standards), and contribute positively to the environment in the Faisalabad area in general terms and more specifically the quality of the scarce ground- and surface water resources in the Channel 4 sub-catchment. The project will contribute to enhancing the health of the population in Faisalabad as use of highly polluted wastewater for irrigation purposes will cease.

The project will benefit the population in East Faisalabad and thus will also have a poverty reduction perspective as such and it is likely that the household health expenses, which constitute a substantial part of total household expenses, will diminish. It is further expected that WASA will maintain a differentiated tariff structure favouring the small household consumers.

WASA has made arrangements for a full Environmental Impact Assessment (EIA) of the project and associated inlet and effluent pumping activities. The draft EIA has been submitted to the Environmental Protection Agency early March 2019, as first step in the approval process. The final approval, after public hearing, is expected to be issued by Q3 2019, in due time to provide input to detailed design of the wastewater treatment plant, which will only be initiated by the Contractor once down payment has been received. In the Buyer-End User Declaration DBF will request a precondition inserted to the effect that the Punjab Environmental Protection Agency has approved the EIA before any disbursement can be made from the loan.

3.7 Institutional and Operational Sustainability

The Water and Sanitation Agency of Faisalabad was established in 1978 under the Punjab Development of Cities Act. WASA acts as an agency of the Faisalabad Development Authority (FDA). FDA is a semi-autonomous institution responsible for undertaking and monitoring planned developments in the city of Faisalabad and acts as a regulatory authority for overseeing the construction of houses, commercial

[5] i.e. Performance Standard 5 - Land Acquisition and Involuntary Resettlement. IFC. April 30, 2006.

developments, residential areas and water and sanitation facilities in the city. Total WASA staff number is approx. 2400.

Key functions of WASA include:

- Planning, design and construction of water supply, sewerage and drainage facilities for new construction works and rehabilitation and augmentation of the existing system.
- Operation and maintenance of water supply, sewerage and drainage system.
- Billing and collection of revenue for the services provided to consumers.

Since its establishment WASA has achieved an increase in Water coverage from 50% in 1978 to 72% in 2017 in the WASA Faisalabad service area and sewerage coverage has increased from 40% in 1978 to 70% in 2017.

Although WASA has performed in satisfactory manner and shown tangible results, it has limited experience in managing wastewater treatment plants. One wastewater treatment plant is operational in Faisalabad. The current operation activity of the existing facility at the Chokera WWTP in the Western Zone of Faisalabad is very limited, and the facility operates one water treatment system for water supply, recently completed and handed over by AfD to WASA. This facility is operating sufficiently, and it has been assessed that current departments of WASA Faisalabad have competences available and that the WASA would be able to operate a WWTP if sufficient resources are assigned and capacity built.

WASA has already taken an initiative to establish a separate Project Management Unit (PMU), which will be staffed with dedicated persons to run the project and participate in training to be able to operate the plant.

To strengthen the O&M team in WASA the contractor appointed to construct the plant will also be assigned for five years of Operation and Maintenance support. For more information see Annex 2.

Tariffs

Based on the current revenue, full recovery of O&M costs related to the future WWTP would not be possible and a gradual increase of tariffs both for domestic, commercial and industrial consumers is required.

Cost of waste water treatment represent in many countries the largest part of water tariffs and is difficult to collect, as the user consider tariffs only to cover the visible service of water supply. In countries where availability of water is limited users are unwilling to pay. Governments need to improve water supply hours, increase tariffs and improve compliance. The authorities of Faisalabad has for several years worked for realizing all three instruments.

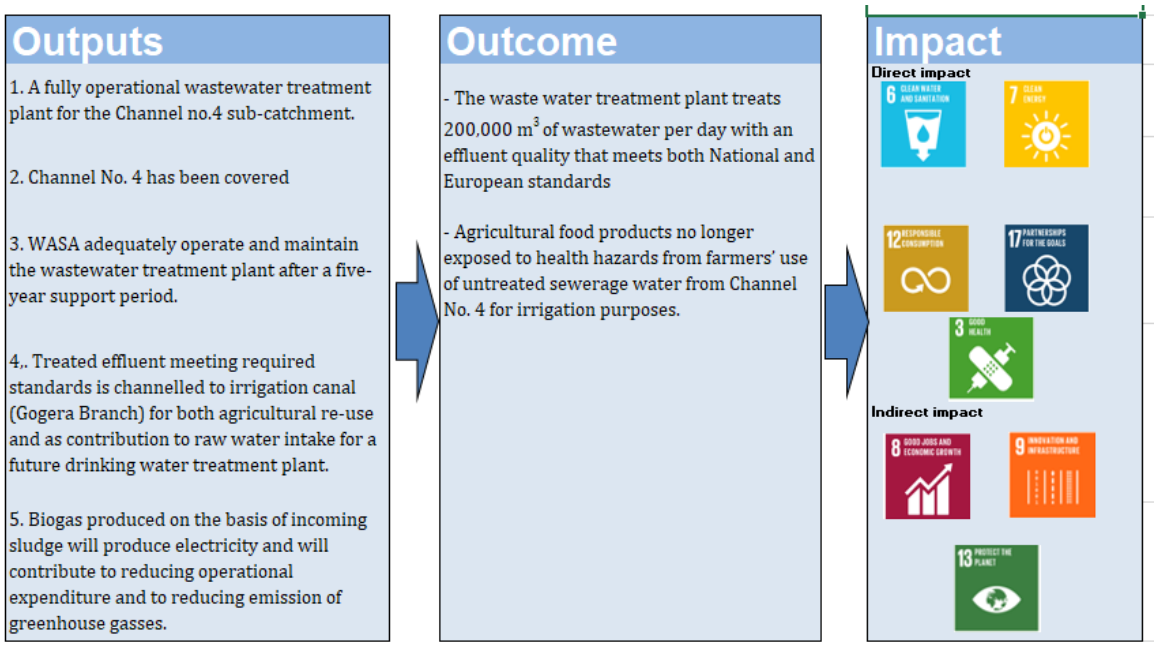
Government of Punjab will ensure full recovery of the O&M costs of the WWTP through a gradual increase of tariffs and/or an increase of the provincial subsidies currently given to WASA. In November 2018 the Faisalabad Development Authority has approved an increase of tariffs as suggested by WASA, which is a step towards bringing tariff income in line with expenditure, and WASA has requested government of Punjab to substantially augment the yearly subsidy to the utility. Final approval from provincial government is pending.

In general tariffs on water is differentiated after type of consumer (household or industry), as well as on income status of consumers to ensure that the poorest part of the population has the lowest level of tariffs.

WASA runs a Citizen Liaison Cell staffed with five employees and headed by a sociologist who bridges the communication gap between WASA and customers through active participation in the community. The Cell has adequate capacities to work with information campaigns and e.g. works together with the Customer Relation Center for enhancing recovery of water and sewage bill.

4 Theory of Change and Key Assumptions

If wastewater from both domestic and commercial consumers in the Eastern part of Faisalabad is treated adequately before discharge into rivers and i*f* sustainable technological solutions are applied, *then* the livelihood of local famers and households will be improved and additional water resources will be available for both drinking water and irrigation purposes without increasing the emission of green-house gasses.



Main Assumptions (output to outcome)

- WASA Faisalabad has the capacity and financial resources needed for the management of the project and for ensuring adequate operation and maintenance of the facility.

- The discharge of untreated industrial wastewater will not increase over the 10 coming years.

An successful awareness raising campaign among local farmers, together with availabale alternatives for irrigation will cease the habbit of using water from canal 4 for irrigation.

Main Risks

- Tariffs not increased sufficiently to cover O&M costs on a sustainable basis.

Main Assumptions (outcome to impact)

- The government of Punjab will continue to prioritise wastewater and drinking water services to Faisalabad city by implementing the development plan, including the 4 wastewater treatment plans and drinking water plants.

-Treated wastewater will be used as raw intake for AFD surface water treatment plant and farmers along the Gorgera Canal will use effluent from the project for irrigation (SDG12)

Main Risks

- Farmers will break the cover over the Channel no.4 to use polluted water for irrigation of their fields

Cover of Channel No. 4

In addition to the waste water treatment plant the project will also include cover on Channel No. 4 by concrete slaps, thus preventing use of the wastewater from the channel and ensure that all wastewater is led directly to the WWTP. Farmers along the Channel No. 4 use the highly contaminated wastewater as irrigation for their agricultural production, including food crops. The water has high nutrition value and comes unmetered. Authorities (Health and Food departments, Police) have done some campaigns and inspections in the past and issued fines and thus addressed the problem.

During project implementation, farmers will receive advice from the Irrigation Department on how to use alternative water sources (wells) and will be subject to information and motivation campaigns from the Health Authorities, Food Authorities

and the WASA Citizen Liason Cell. In combination with more strict law enforcement efforts planned for 2019, these efforts are expected to stop the illegal practice.

Achieving the outcomes and impacts of the project will require a close collaboration and interaction between the main actors such as the Punjab Provincial Government, WASA/Faisalabad, municipal/district health authorities, the district/provincial Environment Protection Agency and users representatives (farmer organisations).

5 Project Objective and Results Frame

The objective of the development cooperation among the parties is:

To contribute to the enhancement of the sanitary conditions and the livelihood of the population living in the Faisalabad District through adequate treatment of domestic and industrial wastewater in the eastern zone of Faisalabad City.

Progress will be measured through the Faisalabad Water and Sanitation Agency's monitoring framework. For DBF's reporting purposes the following key outcome and output indicators have been selected to document progress:

Outcome		As part of the overall Faisalabad master plan for water supply, sewerage and drainage, domestic and industrial wastewater in the Channel no.4 sub-catchment of the eastern zone of Faisalabad City is adequately treated and the treated effluent is used both as water for irrigation of agricultural land and as raw water to a new surface drinking water treatment plant in Faisalabad.	
Outcome indicator		Volume of wastewater treated in project zone	
Baseline	Year	2018	All domestic and industrial wastewater is discharged into nature without any treatment.
Target	Year	2025	200,000 m^3/day treatment capacity

Output 1		A fully operational wastewater treatment plant for the Channel no.4 sub-catchment.	
Output indicator		The wastewater treatment plant is tendered, constructed and fully operational according to design criteria	
Baseline	Year	2018	No treatment of wastewater in project zone
Target	Year	2020	Tendering and contracting have been completed, and construction has started.
Target	Year	2023	The wastewater treatment plant has started operations
Target	Year	2025	- The wastewater treatment plant operates at a capacity of 200,000 m^3/day. - Regularly updated operational records of O&M of WWTP are available - 85 % of WWTP effluent meets the design discharge standards. - 70 staff members employed on operation and maintenance of WWTP.

Output 2		Channel No. 4 has been covered	
Output indicator		Agricultural food products no longer exposed to health hazards from farmers' use of untreated sewerage water for irrigation purposes.	
Baseline	Year	2018	Untreated effluent from Channel No. 4 is currently used for irrigation purposes due to its claimed content of nutrients. This is illegal and negatively affects the quality of agricultural food produce and consequently the health of consumers.
Target	Year	2020	Information campaigns targeted at farmers on the risks connected with use of untreated wastewater for irrigation purposes have been conducted by WASA in collaboration with health, irrigation and food authorities.
Target	Year	2023	Agricultural food products irrigated by ground water, which contains no health hazards.

Output 3		WASA adequately operate and maintain the wastewater treatment plant after a five-year support period.	
Output indicator		- Project Management Unit established and staffed by WASA as planned in 2019 (16 staff members) - PMU staff is transferred back into permanent WASA organisation after completion of the construction phase and working closely with DBOT contractor	
Baseline	Year	2018	-
Target	Year	2022-2027	The wastewater treatment plant is operated and maintained by the DBOT contractor in close collaboration with WASA, whose staff is trained during the 5 years of O&M.
Target	Year	2027	WASA has fully taken over responsibility for operation and maintenance of the treatment plant, influent pipe, effluent pipe and pump stations from the contractor.

Output 4		Treated effluent meeting required standards is channelled to irrigation canal (Gogera Branch) for both agricultural re-use and as contribution to raw water intake for a future drinking water treatment plant.	
Output indicator		Effluent water meets both National Environment Quality Standards and European Standards.	
Baseline	Year	2018	The flow of the Gogera Branch cannot accommodate the quantity of raw water intake necessary for the planned new French funded drinking water treatment plant in Faisalabad.
Target	Year	2023	The quantity of treated water from the wastewater treatment plant led to Gogera Branch is more than double the amount required for raw water intake to the future AFD financed Drinking Water Treatment Plant in Faisalabad. Thus the requirements from the Irrigation Department of Faisalabad are met, i.e. to secure sufficient water both for irrigation of agricultural land and for drinking purposes.

Output 5		Biogas produced on the basis of incoming sludge will produce electricity and will contribute to reducing operational expenditure and to reducing emission of greenhouse gasses.	
Output indicator		Percentage of power consumption in treatment plant provided through biogas.	
Baseline	Year	2018	-
Target	Year	2024	50% of total power consumption as a conservative assessment.
Target	Year	2027	100% of power consumption (26,395 kWh/day produced against 24,000 kWh/day needed for operation of the plant).

6 Project Budget

	DKK Million		
	Loan amount	**Own financing**	**Total**
Total Investment	**972.1**	**218.9**	**1,191.0**
Output 1 & 5	656.6		
Output 2	64.9		
Output 3	82.1		
Output 4	149.4		
Supervision engineer	19.0		
Import duties and taxes		218.9	

In addition to import duties and taxes, WASA will finance the costs related to the Environmental Impact Assessment and Land acquisitions.

Budget for DBF Grant	
	DKK Million
Cash grant element of loan	144.6
Interest subsidy	138.5
Margin to Danish lending bank	12.2
EKF premium (Export loan guarantee fee)*	116.8
Technical Assistance	30.0
Budget margin**	110.5
DBF Total Grant	552,6
DBF Grant excl. budget margin	*442,1*
DBF appropriation (excl. EKF premium)	**435,8**

* DBF covers the EKF premium on behalf of borrower on the loan guarantee required by lending bank. DBF only releases the payment in case of actual default. The fee is therefore not paid out and not included in the appropriation.
** The budget margin only becomes effective if the project during tender turns out to be more expensive

7 Procurement

7.1 Technical Assistance

To support the investment and assist the capacity building Technical Assistance (TA) will be engaged in a number of tasks (financed by DBF as a grant unless otherwise stated):

1. A procurement consultant will support WASA in the procurement process and provide support to DBF to issue "no objection" to the evaluation of proposals.
2. A tender consultant will support WASA during the tender and negotiation process.
3. A construction and supervision consultant, financed as part of the loan.
4. A monitoring consultant for the entire duration of the project, including 5 years of O&M. On behalf of DBF the consultant will monitor project implementation by regularly visiting the site and monitor progress and adherence of contractors/subcontractors to human rights issues

The Appraisal report suggest that TA 2 and 3 is carried out by the same company.

7.2 Works Contract

Participation in the tender process will be open to Danish companies, or Danish-led joint ventures.

The DBF rules for works contracting requires the award of contract based on a conforming offer demonstrating lowest life-cycle cost[6].

Tenderers will be asked to guarantee performance characteristics of key items of equipment (Functional Guarantees). These performance characteristics will be used to determine the annual operating costs.

The project will be designed so that it adheres to IFC Performance Standards and UN Guiding Principles and Human Rights.

Upon completion of the works, the equipment shall be subjected to performance tests (Tests after Completion) to compare the actual operating performance with the guaranteed value. If the guaranteed performance is not met, the Contractor will be asked to modify the works or will be charged "damages" to contribute to the higher operating costs incurred by the End Recipient. Such damages shall be paid to the End Recipient.

8 Project Management Arrangement

For the project preparation and implementation, WASA will establish a temporary Project Management Unit (PMU) staffed by WASA regular staff and/or recruited staff. The PMU will be operational until the completion of the 5-year O&M support period. The unit will include staff that will be responsible for operating the WWTP after commissioning. The PMU will be assisted by TA for the tender, contract management and supervision phases.

The Danish contractor will be responsible for the detailed design, construction and operation of the WWTP for a 5-year period. During construction and 5 years of operation, it will be the contractor's responsibility to make sure that the contractor and the subcontractors comply with the IFC Performance Standards on Environmental and Social Sustainability (especially on Performance Standard 1 "Assessment and Management of Environmental and Social Risks and Impacts", Performance Standard 2: "Labour and Working Conditions" and Performance Standard 4 "Community Health, Safety and Security"), and the UN Guiding Principles on Business and Human Rights. This will be clearly stated in the tender documents.

9 Financial Management, Planning and Reporting

DBF will provide a concessional loan to Ministry of Finance, Revenue, Economic Affairs, Statistics & Privatization (Economic Affairs Division - EAD) in Pakistan through an international commercial bank with a branch in Denmark. EAD will make an on-lending agreement with WASA Faisalabad.

The contractor will send the invoices to the Construction Supervision Consultant for assessment and approval. The Construction Supervision Consultant will forward the

[6] *Life Cycle Costing*. DBF aims at basing the projects on an estimated total Life Cycle Cost. This implies that when choosing project design, both the initial capital cost (CAPEX) and the operation and maintenance costs (OPEX) over the whole life cycle are considered, including the replacement costs of the equipment (there may be differences in quality leading to different expected lifetimes). There is often a trade-off in the choice of technology between the CAPEX and the OPEX so that higher initial investment costs may be associated with lower operational costs. In projects in developing countries, the complexity of the technology has also to be taken into consideration, as well as the robustness of the solution.

invoices to WASA Faisalabad for final approval. WASA Faisalabad will subsequently send the invoices to the commercial bank in Denmark for payment to the contractor.

Funds for the Construction Supervision Consultant will likewise be paid from the bank based on request from WASA Faisalabad.

DBF will provide no-objection to the tender documents and the tender evaluation and will approve the contract between WASA and the winning contractor and the Loan Agreement between the lending Bank and the borrower, i.e. the Ministry of Finance, Revenue, Economic Affairs, Statistics and Privatisation.

DBF shall have the right to carry out any technical or financial review that is considered necessary to monitor the implementation of the project.

After termination of the project support, DBF reserves the right to carry out an evaluation of the project.

10 Risk Management

10.1 Main Assumptions

The main assumptions for the project are:

- Improving the sanitation situation in urban areas will continue to be highly prioritised by the Government of Punjab. Government investments in the water and sanitation sector have steadily increased over the last 10 years and one of the Provincial Government's objectives is by 2025 to develop mechanisms for reuse, recycle and recharge of wastewater for other municipal and productive uses in all major cities. Continued high priority to the sector is paramount to further enhance the sanitation situation in Faisalabad and to ensure adequate funding of WASA operations and maintenance.
- WASA has sufficient land for the new WWTP. Trickling filters have been selected as the preferred option for treatment of the project wastewater for several reasons: low capital and O&M costs and low land requirements. Thus there will be no need for resettling populations. Depending on the outcome of the detailed design, acquisition of additional land by WASA for pumping stations may be needed but will not exceed 0.5 hectare..
- WASA in collaboration with Health Department and Food Authority will carry out an awareness raising campaign among local farmers to sensitise them on the risks related to the use of untreated wastewater with a successful outcome.
- Environmental Protection Agency will continue to carry out and even strengthen the control of industrial wastewater as prescribed by the law.
- The discharge of untreated industrial wastewater will not increase over the 10 coming years, as new industrial facilities are prohibited in the city and will be located in the new industrial zone outside the city. It is expected that existing industries in the city will have to install pre-treatment facilities or move to the new industrial zone. Hence, wastewater from industry is expected to stagnate in the coming years. The technical design of the project is built on this assumption.

10.2 Main Programmatic Risks

The following main programmatic risks have been identified:

- Continued increase of tariffs will not be implemented and Government of Punjab subsidies to WASA Faisalabad will not increase sufficiently to cover O&M costs. Budgetary records during several years demonstrate an increased commitment from the government of Punjab to improve the service delivery of the water sector. Several donor financed projects have started or are planned to start.
- The WWTP of the project will not be able to use the planned standards of treated water as new industries will not locate in the new industrial zone, and existing industries in Faisalabad will not relocate. Setting up new industries in the city has been prohibited by law as part of the development plan for Faisalabad under preparation by the Development Authority. Other initiatives includes testing and promotion of on-site pre-treatment unites for factories, in order to reduce the pollution in the city. The WWTP has been designed to handle the existing level of chemical wastewater, which is expected to be reduced by time due to the initiatives of the authorities.
- Although having a good general track record, WASA has limited experience with operating and maintaining a large scale WWTP. WASA Faisalabad has taken steps to recruit adequate and qualified staff that can work closely together with the technical assistance provided in both the tendering and design/construction phases and the 5-year O&M phase. These staff members are also expected to work closely together with the selected contractor providing O&M support to WASA for a 5-year period.
- Farmers will continue to take polluted water from the channels for irrigation of their fields and food production. Covering of drainage channel no. 4 aims at avoiding illegal use of raw wastewater from draining channels. However, the Irrigation Department is ready to offer alternative irrigation sources from new wells to be build, in parallel with the construction works on the channel. Furthermore, a continued and strengthened enforcement combined with an information campaign is planned when the project starts.
- Danish contractors may not be interested in the project due to worsening of the security situation in Pakistan. However, it is to be noted that several foreign companies work apparently without any major problems in the Faisalabad area and that Danish companies do not hesitate to come to Pakistan and establish partnerships with national firms. The Danish Embassy and DBF will continue to promote the project among Danish contractors.

The full risk assessment matrix is included in Annex 4.

Annexes

Annex 1: Context Analysis

1. Overall development challenges, opportunities and risks

Pakistan, with a population of 208 million people, is the world's sixth most populous country. In recent years, it has achieved continued Gross Domestic Product (GDP) growth and substantially reduced poverty. Over the last 10 years, the GDP growth in % has been as follows:

FY 2010/11: 3.0, FY 2011/12: 3.7, FY 2012/13: 3.7, FY 2013/14: 4.1, FY 2014/15: 4.0, FY 2015/16: 4.6, FY 2016/17: 5.4, FY 2017/18: 5.8. and is expected to remain at 5.8 percent in FY 2018/19. For the financial year 2017-18, remittances to Pakistan grew to USD 19.6 billion according to the State Bank of Pakistan. This is a growth of 1.4% compared to the previous Financial Year.

Growing fiscal and external imbalances may however, erode these gains if not addressed. The national poverty headcount declined from 64.3 percent in 2001-02 to 29.5 percent in 2013-14. Nevertheless, inequality persists and the country continues to rank low on the human development index, at 147 out of 188 countries. Macroeconomic, political, and security conditions, natural disasters, and continuing unreliable power supply continue to constrain the country's achievement of poverty reduction and shared prosperity goals.

Pakistan remains one of the lowest performers in the South Asia Region on human development indicators, especially in education and stunting (child growth). The Gender Inequality Index (GII) for Pakistan's GII in 2015 was 0.546, which ranked the country 130 out of 159 countries. The Global Gender Gap Index (GGGI) from World Bank for Pakistan in 2017 was 0.546, the country ranks 143 out of 144.

The World Bank (WB) and International Finance Corporation's flagship report "Ease of Doing Business Index 2018" ranked Pakistan 147 among 190 countries around the globe. Many Western companies hesitate to do business with Pakistan, citing problems including corruption and lack of infrastructure as key problems. The government since August 2018, headed by the Prime Minister Imran Khan of the party Pakistan Tehrik-e-insaf (PTI) has combat of corruption and money laundering, as well as increase of revenue from income taxes high on his agenda. The problem of tax evasion is also likely to be high on the agenda in talks with the International Monetary Fund (IMF).

Out of Pakistan's approx. 208 million people, 130 million are below the age of 35 years and constitute an important asset in the country's destiny. Skill development of the youth is another topic high on the political agenda.

Punjab Province plays a vital role in Pakistan's economy. According to the Punjab Economic Research Institute (PERI), from 2005/2006 to 2015/2016, Punjab's contribution to the national economy is more than half of the entire country's economic output. The industry sector in Punjab is an important component of the Punjab economy, comprising 22.9% of the provincial economic output in 2015/2016. Moreover, the industrial sector is important for employment of the population in Punjab, with 58.1% of Punjab's total labour force employed in the non-agriculture sector, of which the industries make up 23.3% (Pakistan Bureau of Statistics, 2017). As of 2015, Punjab had more than 13,824 factories that employed more than 1 million people, with Faisalabad having the second largest share of factories, 15.2%.

The National Bureau of Statistics of Pakistan does not have data available on income, expenditure and poverty levels separately on city or district level, but only for Punjab regional level divided by rural and urban population. In 2015/2016, the recorded average income level in Punjab region was higher than the average in Pakistan for both urban and rural households. As part of the Feasibility Study, interviews were conducted with farmers in eight villages and a survey of 250 households was carried out. Compared to the national

Household Integrated Economic survey (HIES) 2015/2016, the household survey data shows a higher diversity in incomes, with 24% household below a monthly income of 16,000 PKR. The monthly average income of 16,000 PKR is just above the living wage for Pakistan for an individual and much below the living wage of a family.

Key Demographic and Economic Indicators:
Total population: 208 million according to 2017 census.
Population growth 2.4%
Overall population sex ration (male/female): 1.06
GDP (USD billions) 313.3 (2018)
GDP per capita (USD) 1,641 (2018)
Life expectancy at birth 58.1 female, 57.5 male
Mean years of schooling 5.1.

Status and progress in relation to SDGs:

Pakistan's performance against the MDGs has been lower than the South Asia Region average for most of the social indicators. Such slow progress is inadequate to address the large burden caused by a growing population and needs to be accelerated.

SDGs of particular relevance in the context of the project:

- SDG 3 (health): Although Pakistan has made significant progress in improving key health indicators, under-five mortality rate continues to be significantly higher compared to similar income group countries and Punjab seems to be the main driver of this underperformance. Furthermore, Punjab has a high prevalence of children under-5 with diarrhea and viral hepatitis – diseases related to contamination of water, inadequate disposal of wastewater and solid waste**.** The wastewater treatment plant (WWTP) project will in its first phase ensure that collected wastewater in the Eastern catchment of Faisalabad is treated according to national and international standards and thus provide a contribution to reducing water-borne diseases.
- SDG 6 (water & sanitation): Despite the substantial progress achieved in improving access to clean water, sanitation and hygiene, 22 million people still do not have access to clean water and 79 million do not have access to proper sanitation . Furthermore, nearly 19,500 children below the age of 5 die each year from diarrhoea. Ten major cities of Pakistan produce more than 60 per cent of the urban wastewater, and out of which less than eight per cent is treated, according to the World Bank (Country Water Resources Assistance Strategy paper). The contaminated water is being disposed of into rivers, irrigation canals, vegetable farms and drains. The WWTP project will ensure that wastewater is treated to national standards and minimise health hazards related to the use of untreated wastewater for irrigation.
- SDG 7 (affordable clean energy): Nearly all Pakistanis have access to electricity (99%), but households and industries are severely challenged by regular power cuts. 31% of the total electricity consumption stems from renewable energy sources, primarily wind (World Bank 2016). The WWTP in Faisalabad will utilise biogas to produce electricity to run the plant.
- SDG 12 (sustainable consumption & production patterns): With the aim to achieve sustainable socio-economic development by eliminating inefficiencies and over exploitation of resource base to protects environmental degradation, a National Action Plan on Sustainable Consumption and Production (NAP-SCP has been adopted in 2017. It attaches top priority to mainstreaming sustainable consumption and production in the sector policies of the Government. The WWTP-project will contribute to this SDG through the production of effluent suitable for agricultural reuse.
- SDG 17 (partnerships): The Feasibility Study funded by DBF addresses wastewater treatment for the entire city of Faisalabad although DBF funding will only suffice to address wastewater treatment in the Eastern zone of Faisalabad. The client (WASA Faisalabad) may use the Feasibility Study to attract additional funding from Government

and/or international funding institutions for the Western catchment as well as investments in future stages if the treatment works.

List the key documentation and sources used for the analysis:

- Feasibility Study for Faisalabad WWTP, October 2018
- WB Ease of Doing Business, 2018
- EU reports
- State Bank of Pakistan statistics
- Water Aid.org/au/where-we-work/Pakistan
- WHO statistics

No additional studies / analytic work are needed.

2. Fragility, conflict, migration and resilience

Since 2009, the government of Pakistan has been implementing the Refugee affected and Hosting Areas (RAHA) initiative, which serves as a cornerstone for the implementation of the Solutions Strategy for Afghan Refugees (SSAR) and a principal responsibility-sharing platform for maintaining protection space for Afghan refugees. RAHA implements a wide variety of projects across the sectors of education, health, livelihoods, infrastructure, water, sanitation and social protection. In 2018, projects are implemented through government line departments, NGO and through UNHCR direct implementation. A total of 21 projects are being implemented throughout Pakistan, out of which 14 projects are implemented in Khyber Pakhtunkhwa province, three projects in Islamabad and four projects in Balochistan province.

Regarding Internally Displaced Persons (IDPs), UNHCR continues to lead emergency shelter/non-food items cluster as part of the inter-agency response. UNHCR is also providing technical support to the FATA Disaster Management Authority in the protection cluster. UNHCR has supported the return of IDPs mostly through protection monitoring in return areas and the provision of targeted assistance to vulnerable individuals. In 2018, 95,040 individuals were registered as IDPs in Khyber Pakhtunkhwa; 83,328 individuals have returned to de-notified areas, and the sum of 33,000 PKR is distributed to returnee families at the return embarkation points by government of Pakistan.

Whereas the situation of refugees, conflict and stability is a problem in only the Western part of Pakistan bordering Afghanistan, organized transnational crime and illicit money flow including money laundering is a more nationally widespread occurrence. The biggest city in Pakistan, Karachi is especially subject to organised crime, but special police units have over the last year succeeded to somewhat better the situation. Money laundering is high on the political agenda of the present PTI government. The Punjab province, in which the project is located, is not particularly hit by organized crime or money laundering, in spite of the fact that Punjab is the highest industrialized province of Pakistan and contributes to the majority of the country's export revenue.

The largest city and province capital in Punjab is Lahore. Lahore is seat of some right-wing religious groups and political parties, who on a regular basis protest and demonstrate in big processions from Lahore to Islamabad. However, the protests are directed against the government, and Westerners have not been victims of attacks in Punjab province since 2009.

With Danish expertise contributing to a reduction in the pollution of the environment and improvement of the general health situation in Faisalabad, it might be possible to carry out information campaigns, once the project is up and running, which can improve the image of Denmark.

List the key documentation and sources used for the analysis:

- UNHCR fact sheets, 31 October 2018
- Pakistani press: TRIBUNE and DAWN

No additional studies / analytic work is needed.

3. Assessment of human rights situation (HRBA) and gender

Human Right Standards (international, regional and national legislation)

Pakistan has ratified and continues to implement seven core international human rights treaties and two optional protocols, including:

- International Covenant on Civil and Political Rights (ICCPR), ratified in 2010
- International Covenant on Economic, Social and Cultural rights (ICESCR), ratified in 2008.
- Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), ratified in 1996.
- Convention on the rights of the Child (CRC), ratified in 1990.

Until 2015, Human rights were under the responsibility of the Ministry of Law and Justice. In 2015, Human rights were separated, and a Ministry of Human rights was established. It has a wide mandate including mainstreaming of human rights in the country. One of the four regional offices is placed in Lahore. A National Commission on Human rights established in 2012 takes actions against cases of all human rights violation in the country. All provinces have separate Human rights Departments which are mandated to coordinate with public and private sector institutions as well as Civil Society Organizations (CSOs) to promote human rights, to gather information, prepare fact finding reports on complaints and allegations on human rights violations and conduct inspections. District Human Rights Committees are established to monitor the human rights situation across the country (Human Rights Council, 2017). Offices of Wafaqi Mohtasib (Ombudsman) is functioning since 1983 and has a Regional Office in Punjab

As to civil society organizations, both national and international NGOs face constraints. Late 2018, 18 International NGOs (INGOs) have been denied renewal of their licence to operate in Pakistan, most of which are from Europe, Canada and Australia, including the Danish Refugee Council. EU member states together with other like-minded countries are in constant dialogue with the Pakistani government on this issue.

Although the Government of Pakistan has ratified the main human rights and ILO Conventions and developed national legislation, major gaps exist in the practices. In 2017, the UN Human rights Committee reviewed the implementation of human rights treaties in Pakistan, identifying issues related to a number of human rights aspects, including i) Non-discrimination; ii) Prevalence of violence against women; and iii) Child labour. The review of policies and practices of relevance to the Feasibility Study points to additional gaps, including:

- General lack of law enforcement, especially related to labour conditions.
- Child labour, forced and bonded labour in construction materials industries.
- General poor health and safety practices and lack of enforcement.
- Gaps in land acquisition and resettlement practices.
- Gaps in the implementation of legislation related to non-discrimination. Lack of equal opportunities, including low participation and inclusion of women, ethnic minorities and vulnerable groups in decision-making, and low economic participation of women.

In order to cope with the above mentioned gaps, the DBF financed programme will include the following:

✓ Ensure that adherence to IFC PS2 (labour and working conditions) is included as a

precondition for contracting contractor and construction companies. Sourcing of construction materials from officially licenced and approved quarries and brick kilns industries free of child labour and forced labour.

- ✓ Develop construction management plan including measures to ensure health and safety of communities during construction.
- ✓ Ensure that women and men within all population groups are consulted prior to construction, during construction and operation of the WWTP, with particular focus on vulnerable groups, the peri-urban poor and farmers.
- ✓ Give specific attention to the working conditions of the minorities working as sewer workers, including health and safety and changing their employment status from daily labourers to contracted staff, which will improve their working conditions.

Universal Periodic Review

The major recommendations from the last Universal Periodic review on abolition of death penalty, and protection of religious minorities, which were just noted by Pakistan, but not accepted, are not directly relevant for the WWTP project in Faisalabad.

Key **rights holders** in the programme are: i) Population of Faisalabad; ii) Impacted community members including farmers using the waste water for irrigation and the peri-urban poor; iii) WASA workers and their families, including daily labour; iv) Contractor employees and their families; v) Supply chain workers and their families.

Key **duty bearers** in the programme are: i) WASA Faisalabad; ii) Danida Business Finance; iii) Suppliers and Contractors; iv) Faisalabad Authorities including Faisalabad City Administration, Faisalabad Development Authority, Faisalabad District Council, Faisalabad Irrigation Department, road Authority, Faisalabad District Health authority, Faisalabad District Human rights Commission, Land Commissioner; v) Punjab Provincial Government Organisations including Planning and Development Department, Health Department, Environmental Protection Department, Labour and Human Resource Department, Agriculture Department, Food Department/Food Authority, Land Revenue Department, Human rights and Minority Affairs Department, Regional Directorate of Human Rights, Women Development Department, Ombudsman; vi) Federal Government Organisations including Ministry of Water and Power, Ministry of Overseas Pakistanis and Human Resource Development, Ministry of Human Rights, National Commission for Human Rights, Environmental Protection Agency.

Human Rights Principles (PANT)

Participation

- Women and men within all population groups will be consulted during construction and operation of the WWTP, with particular focus on vulnerable groups, the peri-urban poor and farmers.

Accountability

- WASA-Faisalabad is accountable vis-à-vis the Government of Punjab with all its relevant departments.
- Danida Business Finance will finance a Monitoring Consultant throughout the construction and operation & maintenance period, who will also check the Contractor's respect of various Rights Holder issues.

Non-discrimination

- In general, WASA complies with national legislation and is in compliance with most of IFC requirements on non-discrimination. However, WASA pays little attention to issues of equal opportunity and does not fulfil their obligation to meet national quotas for women in employment. However, with foreign donors now working with WASA-Faisalabad, a slight change of attitude is perceived within management.

Transparency

- Comprehensive consultation and awareness raising in Urdu among farmers using the polluted water from Channel No. 4 for irrigation to shift to irrigation water provided by Irrigation Department.

Gender

Key Gender Gap Indicators:

Health life expectancy 58.1 female, 57.5 male

Literacy rate 44.3 female, 69.1 male

Enrolment in primary education 67.9% female, 79.4% male

Enrolment in secondary education 38.7% female, 48.8% male

Enrolment in tertiary education 9.2% female, 10.6% male

Representation in parliament 20.6% female, 79.4% male

Labour force participation 25.7% female, 85.7% male

Legislators, senior officials and managers 3.0% female, 97.0% male

Professional and technical workers 22.1% female, 77.9% male

Estimated earned income (PPP USD) 1,610 female, 8,695 male

The present PTI government in place since August 2018 has several female ministers.

Youth

- The key challenge is to avoid child labour, which will be monitored by WASA-F, the Supervising Engineer and the DBF-financed Monitor.

List the key documentation and sources used for the analysis:

- Universal Period Review (UPR) processes and analysis (http://www.ohchr.org/EN/HRBodies/UPR/Pages/Documentation.aspx)
- OHCHR country reports (www.ohchr.org)
- EU Human Rights Strategies
- The global Gender Gap Report 2017, World Economic Forum, and Human development report 2016, UNDP.
- Feasibility Study for Faisalabad WWTP, October 2018.

No additional studies / analytic work are needed.

4. Inclusive sustainable growth, climate change and environment

- The future WWTP will have a highly positive impact on the environment by reducing the level of pollution from a steady growing number of industries and households in the city area itself. By preventing the use of heavily polluted wastewater for irrigation, it will also contribute to a cleaner and healthier environment in areas outside the city.
- The project will contribute to the development of a low-carbon and climate resilient economy through recovery of energy from the wastewater. Produced biogas will gradually be able to cover a large part of the electricity needed for running the WWTP and thus reduce dependency on non-renewable energy sources.
- An environmental and social assessment has been carried out as part of the Feasibility Study. It has shown an overall positive impact of the project. It is to be noted that the availability of project site does not depend on solving resettlement issues, as the planned site does not have any formal or informal dwellings.
- A full EIA will be carried out before the start of the project in compliance with local and international requirements including IFC performance standards/EHS guidelines and the

UN Guiding Principles on Business and Human Rights.

List the key documentation and sources used for the analysis:

Feasibility Study for Faisalabad WWTP, October 2018.

5. Capacity of public sector, public financial management and corruption

Pakistan's public financial management (PFM) structure is different from most federal countries in that it is highly centralized in nature: this means that addressing bottlenecks by the federal government is critical to service delivery. The four general functions of a PFM system, auditing, accounting, budgeting, and expenditure management, are split between provincial and federal institutions in Pakistan. Budgeting and expenditure management are responsibilities of the provincial government. Accounting and auditing functions remain federal mandates and are managed by the Controller General of Accounts (CGA) and Auditor General of Pakistan respectively. Furthermore, Provincial Accountant Generals are all employees of federal CGA and have direct responsibility for transaction processing for payroll, pension and vendors, thereby having direct bearing on provincial governments' capacity for service delivery.

The Federal Government has recognized three core PFM challenges - fiscal sustainability, budget credibility, and lack of PFM systems to support public service delivery. Thus it has approved a PFM Reform Strategy (2018-2027) to consolidate PFM progress and make incremental improvements to ensure that systems deliver to their full potential in an accountable and transparent manner in order to achieve progress on SDGs.

The provincial share of federal has seen a budgeted increase of 59 percent between 2013-14 and 2017-18 (from PKR 1,502 billion to PKR 2,384 billion) but the benefits of such increased flow of resources has not been visible on ground. As noted by the IMF, progress with respect to basic service delivery - one of the key economic justifications for fiscal decentralization - has been mixed. Notwithstanding some improvements, notably in child immunization rates, overall social outcomes in some cases did not improve amid low levels of spending in these areas. There were also notable differences across provinces in these outcomes. These observations point to capacity constraints in public administration and public finance management systems, which vary across provinces.

Corruption is rampant in all sectors and institutions and affects the judicial system, the police, and public administration such customs, tax administration and land administration. According to Transparency International's Corruption Perception Index 2017, Pakistan ranks 117 out of 180.

There is a high risk of corruption in Pakistan's public procurement sector. Diversion of public funds and favouritism in the decisions of public officials are common. Bribes and irregular payments in the process of government contract award procedures are very common.

The main causes of procurement corruption in Pakistan can be characterized as ineffective and inadequate procurement rules and a lack of institutional capacity and honest leadership to implement public procurement rules.

List the key documentation and sources used for the analysis:

- Pakistan. Public Financial Management and Accountability to support Service Delivery. World Bank. Draft. November 17, 2017
- Country Report No. 17/213 - Pakistan Selected Issues. IMF. July 2017
- Corruption Perception Index. Transparency International. 2017

No additional studies / analytic work are needed.

6. Matching with Danish strengths and interests, engaging Danish actors, seeking synergy

Briefly summarise the key conclusions and implications for the programme of the analysis of the below points:

Identify: - where we have the most at stake – interests and values, - where we can (have) influence through strategic use of positions of strength, expertise and experience, and - where we see that Denmark can play a role through active partnerships for a common aim/agenda or see the need for Denmark to take lead in pushing an agenda forward.	- According to DBF rules a Danish contractor or a consortium led by a Danish contractor will implement the project. - Danish firms have a solid knowledge and experience gained internationally in the water and sanitation sector and is able to provide state-of-art technologies in this sector.
- Brief mapping of areas where there is potential for increased commercial engagement, trade relations and investment as well as involvement of Danish local and central authorities, civil society organisations and academia.	- The sanitation/sewerage situation in the cities of Pakistan is generally bad and if the project is successfully implemented, new opportunities might emerge for Danish companies for similar projects in other cities and for the second phase of the wastewater treatment project in Faisalabad.
- Assessment of the donor landscape and coordination, and opportunities for Denmark to deliver results through partners including through multilaterals and EU;	- The project builds on a master plan for water and sanitation financed by JICA. When operational the wastewater treatment plant financially supported by DBF will provide treated raw water for a future French funded drinking water treatment plant in Faisalabad.
List the key documentation and sources used for the analysis: - Feasibility Study for Faisalabad WWTP, October 2018 - DBF Concept Note for the project, 2017.	
No additional studies / analytic work are needed.	

7. Stakeholder analysis

The stakeholders are the Public Sector Authorities, the population of Faisalabad City, the Federal Government of Pakistan, represented by the Economic Affairs Division of the Ministry of Finance, Danida Business Finance as well as contractors and consulting companies, who will bid on the project. The Royal Danish Embassy in Islamabad plays a key role with facilitation of communication with WASA-F, EAD and DBF/IFU. The Danish Ministry of Foreign Affairs is the donor of this project.

Faisalabad City has its own local Government (Faisalabad Municipal Corporation). Faisalabad has a semi-autonomous development authority, Faisalabad development Authority (FDA) that exercises many functions with the authority of the Provincial Government. The Water and Sanitation Agency of Faisalabad (WASA-F) acts as an agency of FDA, therefore it does not come under administrative control of Faisalabad Municipal Corporation. There are various Public-sector authorities related with WASA-F, which include:

- ✓ Faisalabad development Authority (FDA). FDA is responsible for undertaking and monitoring planned developments in the city of Faisalabad and acts as a regulatory authority for overseeing the construction of houses, commercial developments, residential areas and water supply and sanitation facilities in the city. It has three main wings.
- ✓ District Administration Faisalabad (DAF). DAF oversees General Administration and as a representative of the Government in the district.
- ✓ Housing, Urban Development & Public Health Engineering Department, Government of Punjab. The prime function of the department is to work as an administrative department and supervise the following organizations at provincial level: i) Punjab Housing & Town Planning Agency; ii) Development Authorities (5 units); iii) Water Supply and Sanitation Agencies – WASAs (5 units); iv) Parks & Horticulture Authorities; v) Public Health Engineering Department (PHED).
- ✓ The Planning and Development Department, Government of Punjab. It is the principal planning organization at the provincial level. It coordinates and monitors development programs and activities of various departments of the provincial government.
- ✓ Irrigation Department, Punjab. The functions of the Irrigation Department are enunciated in the Punjab Government Rules of Business, and generally, they cover water bodies and related activities, actions and works (e.g. drainage, storage, flood control, etc.)
- ✓ Environmental Protection Department Punjab. The Environment Protection Agency (EPA) is responsible for the protection, conservation, rehabilitation and improvement of the environment; prevention and control of pollution; and promotion of sustainable development in the province. EPA applies qualitative and quantitative standards for the discharge of effluents (i.e. National Environment Quality Standards (NEQS).
- ✓ Economic Affairs Division, Ministry of Finance, Government of Pakistan. This Department is responsible for assessment of requirements, programming and negotiations of external economic assistance related to the Government of Pakistan and its constituent units from foreign Governments and multilateral agencies.
- ✓ Danida Business Finance – DBF, administered by the Investment Fund for Developing Countries – IFU. DBF will facilitate the loan from Danske Bank to the Government of Pakistan and grant 35% subsidy of the contract amount according to OECD rules plus grant Technical Assistance in various stages of the project. The subsidy comprises interests on the loan paid to Danske Bank, other banking costs, the Export Credit Premium and a cash grant to Pakistan to lower the loan amount.
- ✓ Danish Contractors being interested in bidding for the project.
- ✓ International Consultancy Companies being interested in bidding for the TA tasks to be tendered by both DBF and WASA.
- ✓ Japan International Cooperation Agency – JICA was the donor, who elaborated and financed the Master Plan for Water and Sanitation for Faisalabad, based upon which this DBF financed project is formulated.
- ✓ The future customers, whose wastewater will be treated by the 200,000 m3/day WWT plant in the Eastern Zone of Faisalabad. This group is described elsewhere in this Project Document.
- ✓ The Royal Danish Embassy in Islamabad plays a key role in communication between all relevant Pakistani Stakeholders and the Government of Denmark, including DBF/IFU.
- ✓ The Danish Ministry of Foreign Affairs is granting the money for the project.

Authorities for Approval of Development Projects: In Pakistan, the present method for planning, processing and reporting on development projects is based on the "Rules of Procedure for Economic Council", Planning Commission and Planning Sub-Commissions, issued by the former Ministry of Economic Affairs, Government of Pakistan in September 1952. In addition to laying down an effective organization for planning, five (5) proforma (Revised in 1995) were prescribed for preparation and implementation of development

schemes. Two of these deal with submission of project proposals (PC-I and PC-II), one is concerned with the progress of on-going projects (PC-III) and two, i.e. PC-IV and PC-V, are to be filled in after completion of a project.

The lead stakeholder is the Water and Sanitation Agency, commonly known as WASA. WASA-Faisalabad is a water and sanitation utility of Faisalabad Development Authority, which was established on April 23, 1978 under the Punjab Development of Cities Act (1976) with a view to providing and catering for the services concerning water supply, sewerage and drainage. WASA-Faisalabad is administratively aligned to the Housing Urban Development and Public Health Engineering Department (HUD&PED) of the Government of Punjab. Presently, total service area of WASA is 225 km2 with a total of approx. 275,000 registered consumers. WASA performs the following functions:

- Planning, design and construction of water supply, sewerage and drainage facilities for new construction works and rehabilitation and augmentation of the existing system.
- Operation and maintenance of water supply, sewerage and drainage system.
- Billing and collection of revenue for the services provided to consumers.

WASA-F has a vision to be an extraordinary high-class service provider for the people of Faisalabad City and to be the centre of excellence in the water sector in the country. It is noted that very few municipal wastewater treatment plants are in operation in Pakistan, and no municipal facilities appear to be in full working order, hence Faisalabad could become a centre of expertise once new WWTP facilities are in operation.

All stakeholders have been involved by means of meetings and direct collaboration in the preparation of the Feasibility Study during the whole preparatory phase till now. The only stakeholders who have not been involved are the future contractors and TA consultants.

All stakeholders are expected to support the programme, and no hindrances are foreseen from any particular stakeholder. At a first glance, the only stakeholders who might consider themselves losers are the farmers, who presently illegally distract chemically polluted wastewater from Channel No. 4. In the future, the farmers will have to use alternative water sources, which will be recommended by the Irrigation Department, in particular groundwater from wells.

A complete Stakeholder Engagement Plan (SEP) for the project is to be developed by WASAprior to construction. The SEP should fulfil the requirements of IFC Performance Standards on Information Disclosure and Stakeholder Engagement. The key operational principles of effective stakeholder engagement for project are among others: i) providing meaningful information in a format and language that is readily understandable and tailored to the needs of the target stakeholder group(s); ii) providing information in advance of consultation activities and decision-making; iii) providing information in ways and locations that make it easy for stakeholders to access it and that are culturally appropriate; iv) respect for local traditions, languages, timeframes, and decision-making processes; v) two-way dialogue that gives both sides the opportunity to exchange views and information; vi) clear mechanisms for responding to people's concerns, suggestions and grievances; and vii) incorporating, where appropriate and feasible, feedback into project or program design, and reporting back to stakeholders.

WASA-Faisalabad is the stakeholder to be overall responsible for this project. It has a well-established organization and is presently operating and maintaining a new large drinking water system (water treatment) plant based upon surface water intake and financed by the French *Agence Française de Développement*. A second Drinking Water treatment plant is

scheduled for WASA-Faisalabad also with French funding. WASA-Faisalabad has a well functioning Citizens Liason Cell, which collaborates with both the Health Department and the Food Authority. Some of their work targets the farmers, presently using polluted wastewater for irrigation. The latter is an illegal practice and the combination of information/motivation campaigns directed at these farmers and enforcement of the law is expected to eliminate this practice. Supplementary to this, the Irrigation Department will give advice to the farmers in question.
List the key documentation and sources used for the analysis: - Feasibility Study October 2018 - WASA-F organization description - DBF documentation.
No additional studies / analytic work are needed.

Annex 2: Partner Description

The Water and Sanitation Agency, commonly known as WASA, a water and sanitation utility of FDA, was established on April 23, 1978 under the Punjab Development of Cities Act (1976) with a view to providing and catering for the services concerning water supply, sewerage and drainage. WASA Faisalabad is administratively aligned to the Housing Urban Development and Public Health Engineering Department (HUD&PHED) of the Government of Punjab.

Presently, total service area of WASA Faisalabad is 225 km^2.

WASA performs the following functions:

- Planning, design and construction of water supply, sewerage and drainage facilities for new construction works and rehabilitation and augmentation of the existing system.
- Operation and maintenance of water supply, sewerage and drainage system.
- Billing and collection of revenue for the services provided to consumers

The population of Faisalabad has increased by a factor three since WASA was established in 1978. Despite this rapid growth WASA has succeeded in increasing the coverage of water supply from 40% in 1978 to 70% in 2017. The water supply was until recently entirely based on groundwater but due to groundwater quality problems extensions to the system will mainly be based on surface water. A project inaugurated in 2017, New Jhal Water Treatment Plant funded by AFD, is based on surface water and this will also be the case for future extensions the water supply system to reach 100% service coverage.

WASA operates a sewerage system to collect sewage and storm water. As for water supply, WASA has been able to increase the sewerage coverage considerably since 1978 (50%) to the present average of 72%. The topography of Faisalabad city is flat which does not allow disposal of sewage and storm water through gravity flow. For this purpose, multistage pumping is performed and that is quite expensive and challenging for WASA.

WASA has one wastewater treatment plant in the Western part of the city. The capacity of the plant is 20 MGD (92,000 m3/day) equal to *approx.* 7 % of the present demand. Wastewater from the Eastern part of Faisalabad is discharged untreated into to two rivers. Number of registered consumers is as follows:

Domestic 257,920
Commercial: 20,216
Industrial: 925

Sewerage coverage for households is estimated at 51%.

Since its formation, the WASA Faisalabad has grown to a significant agency with eleven directorates. These directorates primarily include Planning and Design, Construction, Water Resources, Revenue & Recovery, Administration, Operation and Maintenance, Finance, Drainage and Waste Water Management. The WASA personnel totals 2,368 staff members.

Main challenges encountered by WASA Faisalabad include[7]:

- *Water supply:* Intermittent supply forces households to supplement with groundwater which is brackish, huge expenditure on electricity and O&M due to multistage pumping, water meters not installed, high non-revenue water and rapid and spread out growth of private housing colonies.
- *Sewerage:* Multistage pumping due to flat terrain, industries discharging their untreated effluent into WASA system, waste-water treatment plant covers only 7%, and rapid and spread out growth of private housing colonies.
- *Drainage:* Lack of proper storm-water drainage system for roads, and combined sewerage and drainage network.
- *Financial:* Tariffs are insufficient to cover operational expenses, relying on government subsidies, high number of illegal connections, and low tariff collection rate.

[7] Assessment carried out by the Faisalabad WWTP Feasibility Study team.

Annex 3: Danida Business Finance info

Program mission and vision

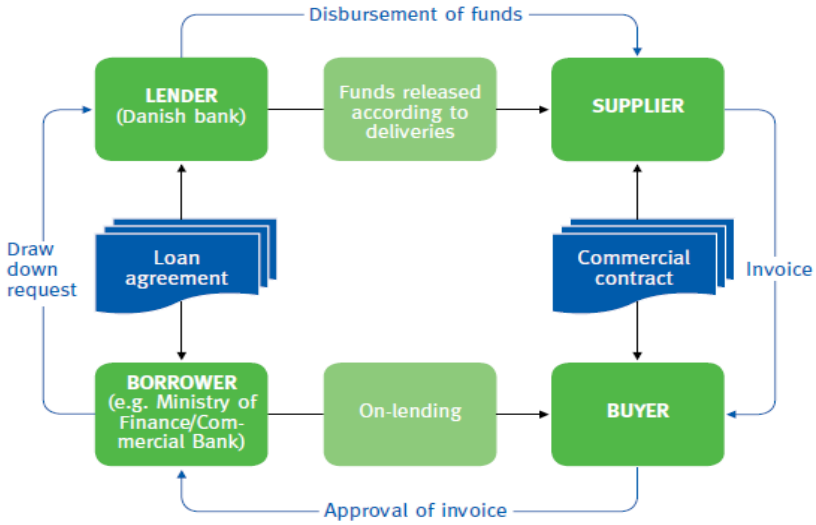
Danida Business Finance, DBF, is a soft loan scheme that blends development aid funds with commercial bank loans. DBF is guided by a set of guiding principles that, among other includes the following mission: The facility is: i) an integrated part of the overall Danish development assistance, ii) is demand driven, iii) eases the terms of repayment for the borrowing developing countries, iv) contributes to raising private capital for financing of development projects in selected developing countries, v) supports development projects which can neither be financed on ordinary commercial terms nor with grant assistance, vi) complements other Danish financed activities for the benefit of the recipient countries, and vii) actively involves the Danish private sector.

Regulation and set-up

The program is tied to Danish companies in the sense that only Danish companies can participate in the tender of DBF projects. There is no requirement to Danish content in the contracts. DBF is regulated by OECD regulations for tied aid credits, which, among other, stipulate that a minimum subsidy of 35% (50% for LDC) is required. OECD regulations also stipulate that tied aid credits can only be extended to developing countries with GNI per capita of maximum USD 3.955 (2017/18) and only projects that are non-commercially viable can be financed.

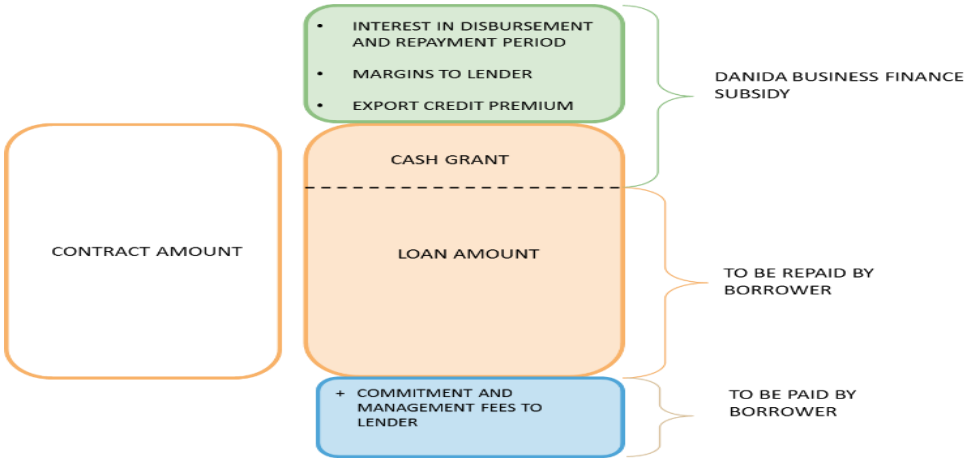
The program resembles a normal export credit, as illustrated in figure 1.

Figure 1



The commercial bank provides a normal interest-bearing loan with 10 year tenor. The DBF subsidy covers all the interest on the loan, including margins to the bank. DBF also provides a cash grant that is used to reduce the principal loan amount to be repaid by borrower. The elements of the DBF subsidy are illustrated in figure 2.

Figure 2



The cost of the export credit premium is covered by DBF and therefore included in the DBF subsidy calculations (calculations to reach 35 or 50% concessionality). However, as the guarantee in effect is covered by the aid budget the premium is not paid out to EKF, who issues the guarantee to lending bank on behalf of Ministry of Foreign Affairs. default.

Budget and payments

The DBF subsidy is disbursed over several years according to disbursements under the loan. This way, DBF may finance larger projects where the total subsidy surpasses the annual DBF budget.

Annex 4: Risk Management Matrix

Contextual risks

Risk Factor	Likelihood	Impact	Risk response	Residual Risk	Background to assessment
The project will not be able to produce the standards for effluent, as existing industries may not relocate from the city to a new industrial zone, hence pollution levels from factories in the city will not diminish.	Very likely	Major	The wastewater treatment plant (WWTP) is designed for the current industrial pollution loads. On-site pre-treatment of industrial wastewater from companies located in the city is currently being tested and promoted. This initiative may reduce the existing level of pollution. WASA has indicated that the organisation will enter into agreements with industries without a pre-treatment on-site facility to ensure adequate payment of wastewater	The residual risk is minor	Currently, most industries in Faislabad discharge wastewater directly into the sewerage system. No new industry will obtain approval for location in Faisalabad city and the expectation is that the pollution will decrease, as new and existing industries are moved to an Industrial zone. The basic infrastructure of the zone is not yet fully in place. Despite the incentives provided, the relocation is progressing slowly and may take another 10 years or more.
Abuse of human rights, in particular Labour conditions, child labour and forced labour and other rights directly related to the project	Likely	Significant	DBF has no-objection right to main contract under the project and will ensure that provision in regard to relevant human rights issues are reflected in the WASA's works contract with contractor. The construction and supervision consultant will have the responsibility of monitoring the works contract and the DBF independent monitoring consultant will be charged with the task of monitoring adherence with HR the identified HR issues, including local subcontractors.	Residual risk is considered low.	International observers report on significant abuses of human rights both on the part of public and civilian actors. Lack of accountability and abuses are often unpunished thus fostering a culture of impunity. Use of child labour is widespread.

Security situation for international staff at project site.	Likely	Major	Sufficient security arrangement will be needed on the construction site and for the staff of the contractor, which are included in the budget Due to the long time perspective of implementing a DBF project and the uncertainty of final cost estimation before final works contract is signed a considerable budget margin is included in all projects (25 pct).	Residual risk is reduced to an acceptable level.	The Danish Embassy closely monitors the situation of terror and its targets. No westerners has been targeted in Punjab province since 2009. Most protests are directed towards government institutions e.g the police and military.

Programmatic risks

Risk Factor	Likelihood	Impact	Risk response	Residual Risk	Background to assessment
Contractors may not be interested in the project.	Unlikely	Significant	The Danish Embassy in Islamabad is constantly working to give Danish companies a realistic picture of living and working conditions in Pakistan. DBF team in IFU has consulted with possible interested companies. Danish Embassy and DBF will continue to promote the project among Danish contractors.	The residual risk is minor.	Pakistan is relatively stable but still subject to sporadic terror attacks and political/social unrest. Insurance premiums on contracts in Pakistan are relatively high. The size of the project is limiting the number of potential bidders.
Farmers will break the cover over the covered Channel no.4 to take polluted water from the channels for irrigation of their fields.	Likely	Major	WASA's Citizens Liason unit will carry out awareness campaigns among the farmers in collaboration with Health Department, and Food Authority. The Irrigation Department will provide advise on local wells and irrigation. Further, WASA, EPA, health and food authorities will strengthen the enforcement of current laws.	Residual risk is considered low.	Until now farmers have Illegally used raw wastewater from draining channel no. 4 thus adversely affects the quality of agricultural food produce and the health of consumers.
WASA Faisalabad does not have the capacity and the human	Unlikely	Major	The PMU, to be staffed with primarily permanent WASA personnel, will benefit from technical assistance in the tendering	Residual risk is low as capacity strengthening of WASA is	WASA Faisalabad has a good reputation and track record in terms of increasing water supply and sewerage coverage.

resources needed for the management of the project and for ensuring adequate operation and maintenance of the facility.			phase of the project. Furthermore the DBOT contractor will provide operation and maintenance training of WASA staff for a period of 5 years. WASA Faisalabad has already taken steps to ensure funding for the recruitment of 16 staff members for the PMU and of 70 staff members for the O&M of the new facility.	implemented via both Danish and French assistance.	Experience regarding operation and maintenance of a wastewater treatment facility remains modest. The only other WWTP in Faisalabad is not functioning properly; however, WASA has requested additional funding for operation and maintenance from next fiscal year (approval expected in Q2 2019).
Tariffs not increased sufficiently to cover O&M costs on a sustainable basis.	Likely	Major	The Government of Punjab has confirmed that they will ensure that sufficient funding is available to WASA for future O&M costs. A new proposal for increased tariffs has been submitted to the government of Punjab. Donors have a shared interest in pushing the provincial government to continuously increase tariffs and/or subsidies and it has been agreed that there will be a joint approach to ask Government of Punjab for a commitment.	The residual risk is reduced, to an acceptable level.	Based on the results of the financial analysis performed by the feasibility study team, the project is not viable on commercial terms and thus qualifies for DBF financing. The project can cover all associated operations and maintenance costs on two conditions: i) the project is financed by DBF with 35% grant component, and ii) the tariffs are increased within affordability limits. Industrial tariffs were increased by 50% in 2016. Both industrial and domestic tariffs were increased by more than 100% in 2018.

Institutional risks

Risk Factor	Likelihood	Impact	Risk response	Residual Risk	Background to assessment
Risk of being associated with a major corruption scandal in the DBF support.	Unlikely	Major	Strong monitoring procedures will be put in place. If corruption is uncovered, funding will be suspended during investigation, and further controls will be introduced.	The residual risk is substantially reduced through the planned monitoring and the responsibilities assigned to the contractor.	The contractor is paid directly through a Danish bank. Danish companies bring their reputation at risk by getting involved in bribes. Hence corruption is unlikely to occur, but if it does, implementation will be affected.

Annex 5: List of Supplementary Materials

SWECO Danmark A/S in collaboration with Halcrow Pakistan Feasibility Study for Faisalabad Wastewater Treatment Plant. Final version. October 2018.

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Annex 6: Plan for communication of results

The DBF monitoring consultant will be responsible for providing support to the elaboration of a communication strategy for the project in addition to his/her tasks related to monitoring progress on outcome and results indicators. The strategy shall be designed to ease the communication of progress and achieved results by DBF, WASA and the Danish Embassy in Islamabad through their respective webpages, news media and other media deemed appropriate.

What? (the message)	**When?** (the timing)	**How?** (the mechanism)	**Audience(s)**	**Responsible**
Denmark is contributing to enhancing the sanitary situation in Faisalabad	• Upon signature of the contract and the loan agreement • At the completion of the construction works	• IFU, WASA and Embassy websites • Pakistani media especially in Punjab • Selected Danish medias	• The Pakistani public, especially in Faisalabad area • The general public in Denmark	WASA, DBF and Danish Embassy
Danish companies capable of providing adequate and sustainable solution for wastewater treatment	During construction or at commissioning of WWTP	• Pakistani and Danish media (TV, newspapers, youtube..) • It could be envisaged to produce a video	• The Pakistani public, especially in Faisalabad area • The general public in Denmark	DBF and Danish Embassy

Annex 7. Process Action Plan (PAP) for Faisalabad Wastewater Treatment Plant

Action	Responsible organisation	Timeline
Submit Draft EIA to Provincial Environmental Protection Agency	WASA	March 2019
District EPA to release Site Inspection Report (SIR) based on draft EIA	WASA	March 2019
Approval of PC-I, including budget for PMU, Govt. of Punjab, Housing, Urban Development and PHE department. (A separate activity)	WASA	April 2019
Presentation to Danida's Council for Development Policy and Approval of funding by Minister.	DBF & VBE	March 2019
Simultaneously with the Presentation and Approval process, DBF carries out a Tender for Technical Assistance (TA procurement) to support WASA with tendering process related to Engineer and subsequently the WWTP. The TA procurement is a Grant from DBF	DBF & WASA	March-April 2019
Preparation of Tender Documents for Engineer. Engineering works consist of two phases: Phase 1 includes tender preparation including Pre-Qualification documents, tender, evaluation and negotiations. Phase 2 includes Review of Final Design, Construction and Supervision. Phase 1 is a grant from DBF, Phase 2 is part of the Loan Agreement.	TA procurement and WASA. WASA is responsible for the Tender among Danish consultants, including the evaluation of bids. However, the TA tendering is observer and gives advice to WASA.	April-June 2019
Tender evaluation, negotiations and award of contract to Engineer	WASA and TA procurement DBF has to give No Objection to the Evaluation Report. The TA will assist during the contract negotiations with	June 2019
Start of collaboration between TA tendering and WASA concerning Tender Documents, Tender Procedure, etc.		

Action	Responsible organisation	Timeline
	winning Consultant. DBF will give No Objection to the signed contract.	
Engineer and WASA performs Pre-Qualification documents, tender, evaluation and negotiations of Works contract for the WWTP. TA procurement is observer.	Engineer, WASA and TA Procurement. DBF provides no objection to the Evaluation Report and signed contract.	July-March 2020
Award of contract for WWTP	WASA	March 2020
Environmental permit is issued based on EIA and conditions are released.	WASA	October 2019
Prepare loan documents and sign Loan Agreement incl. "Exporter's Declaration", "Buyer's Declaration", "Borrower's Declaration", etc.	Danske Bank, MoF EAD, DBF	March - April 2020
MoF EAD pays Management Fee to Danske Bank Contractor sends Guarantees for Performance and down payment. Danske Bank declares the Loan effective.	EAD Contractor Danske Bank	April 2020
DBF engages a Monitoring and verification consultant. The consultant monitors the implementation progress through construction and 5 years of Operation and Maintenance to DBF.	DBF	March 2020
The Contractor sends his invoice for down payment to WASA for approval and submittal to Danske Bank for payment.	Contractor and WASA	April 2020
Work starts when the contractor has received his down payment.	Contractor	May 2020
Construction time is expected to be 3 yrs.	Contractor, Supervising engineer and Monitoring Consultant from DBF	May 2020 - May 2023
Verification upon Taking over. Start of Operation and Maintenance Period	Monitoring Consultant	May 2023
End of Denotification Period – Verification visit and final report	Monitoring Consultant	May 2024
Handover of Maintenance and Operation	Contractor and WASA	May 2028

Annex 8 - Quality Assurance checklist for appraisal of programmes and projects[8]

File number/F2 reference: 2017-23060

Programme/Project name: Faisalabad Wastewater Treatment Plant Project

Programme/Project period: 2019-2028

Budget/bevilling: DKK Million 435.8

Presentation of quality assurance process:
The project has been appraised by the consultant company RDC, supported by a reference group in which IFU/DBF and UM/VBE participated. During a field visit to Pakistan 14th to 19th January 2019 UM/VBE was represented by the Deputy Head of Mission at the Danish Embassy in Islamabad (MSc. Engineering and previously Investment Director, DBF).

✓ The design of the programme/project has been appraised by someone independent who has not been involved in the development of the programme/project.

The Feasibility Study was prepared by Sweco Danmark A/S in association with Halcrow Pakistan. The Study was completed in October 2018. The feasibility study and project document were appraised by the consultant company RDC in January and February 2019.

✓ The recommendations of the appraisal have been reflected upon in the final design of the programme/project.

All recommendations of the appraisal have been reflected upon in the final design of the project. The present annex includes an overview of how each appraisal recommendation has been addressed.

✓ The programme/project complies with Danida policies and Aid Management Guidelines.

The project is in line with the strategic aim for inclusiveness, sustainable growth and development in the Danish Government's strategy for development cooperation and humanitarian action, The World 2030. The programme has been prepared with due consideration for Danida Business Finance Guidelines and Aid Management Guidelines.

✓ The programme/project addresses relevant challenges and provides adequate responses.

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8 This Quality Assurance Checklist should be used by the responsible MFA unit to document the quality assurance process of appropriations where TQS is not involved. The checklist does not replace an appraisal, but aims to help the responsible MFA unit ensure that key questions regarding the quality of the programme/project are asked and that the answers to these questions are properly documented and communicated to the approving authority.

Faisalabad has very limited capacity for managing waste wastewater. Today, less than 10 percent of wastewater is treated. Planning of an overall masterplan for developing wastewater management and drinking water plants for the city started in 2017. A development plan for Faisalabad City is being prepared, with the aim of – among others - substantially improving health indicators for the population of Faisalabad. The project will improve capacity for cleaning heavily polluted wastewater from 765,000 people, commerce and industries. The project will also provide clean water as intake to a new drinking water plant (financing from Agence française de dévelopment is currently being negotiated).

✓ Issues related to HRBA/Gender, Green Growth and Environment have been addressed sufficiently.

The feasibility study includes a socio-economic baseline, a chapter on human rights, and an environmental assessment. Recommendations have been incorporated into the overall project design. DBF guidelines require extensive supervision and monitoring of specific human rights issues related directly to the project. Avoiding child labour by subcontractors, forced labour and ensuring adequate labour working conditions feature prominently. Furthermore, adherence to IFC Perfomance Standard 5 for compensation in relation to land purchases is a precondition in agreements with Pakistani authorities (up to 1 ha may be required for pumping station sites).

✓ Comments from the Danida Programme Committee have been addressed (if applicable).

The main observation of the Programme Committee (14 December 2017) was that the Environmental Impact Assessment to be carried out by the Pakistani authorities would not be available to inform the feasibility study. The Programme Committee recommended that the scope of the feasibility study be substantially widened to cover analysis of the project's social and environmental impact, in order for this work to feed into the initial design of the project and choice of technology. The feasibility study also proposed concrete mitigating measures for the preparation, construction and operation phase of the plant. The feasibility study has informed the ongoing EIA by the Pakistani authorities. HRBA issues were identified and are reflected in the project document.

✓ The programme/project outcome(s) are found to be sustainable and is in line with the partner's development policies and strategies. Implementation modalities are well described and justified.

The outcome is part of the overall master plan and coming development plan for wastewater management and drinking water provision in Faisalabad. Proposed implementation modalities are well-known and tested in other large international infrastructure projects. Main contracts will adhere to Danida Business Finance Procurement rules (2017) including zero tolerance towards corruption, UN guiding principles on human rights, and IFC performance standards. Tendering and procurement is carried out by Pakistani authorities and relies on the principle of "no-objection" from DBF.

✓ The results framework, indicators and monitoring framework of the programme/project provide an adequate basis for monitoring results and outcome.

Output indicators are concrete and measurable. These include such measures as volume of water treated per day by the plant and volume of treated water discharged from the plant. However, sustainable outcomes and impacts can only be assessed once the plant is completed and after the five years of O&M, including training of WASA staff. During project implementation, typical project finance milestones for sub-outputs will be agreed upon, e.g signing of contract, final approval of design, contractor starting construction, etc.

✓ The programme/project is found sound budget-wise.

The budget has been developed by leading international experts within water and sanitation with proven experience from similar projects in developing countries. Due to the long time perspective of a DBF-project and the fact that a final detailed design is not available until after the award of contract, a 25 pct. budgetary buffer is always included in DBF-project budgets at the time of approval.

✓ The programme/project is found realistic in its time-schedule.

The time-schedule has been informed by sector experience from similar projects in developing countries and with assistance from leading international sector experts. Due consideration of Pakistani administrative processes have been taken into account.

❑ Other donors involved in the same programme/project have been consulted, and possible harmonised common procedures for funding and monitoring have been explored.

A formalised donor coordination with meetings 2-3 times per year has been agreed between the major donors in the Water and Sanitation Sector in Pakistan (AFD, JICA, ADB, Danida, and UNICEF – the World Bank is also expected to join). At present, AFD, JICA, Danida, and the World Bank are active in Faisalabad.

✓ Key programme/project stakeholders have been identified, the choice of partner has been justified and criteria for selection have been documented.

The partner is responsible for new construction works of water supply, sewerage and drainage facilities, as well as operation and maintenance of existing and future installations in the Faisalabad area.

✓ The executing partner(s) is/are found to have the capacity to properly manage, implement and report on the funds for the programme/project and lines of management responsibility are clear.

The partner has previous experience with concessional loan financing of projects. A fully staffed Project Management Unit is planned to start up in Q3 2019.

✓ Risks involved have been considered and risk management integrated in the programme/project document.

Main risks are described in Annex 4. Measures to mitigate or avoid risks have been considered in project design.

✓ In conclusion, the programme/project can be recommended for approval:

The project is expected to have substantial positive environmental benefits. The project will contribute to reducing pollution in major drains leading into main rivers in Pakistan, and contribute to improve health conditions for the population of Faisalabad.
The project is aligned with national, provincial and municipal development plans and objectives. The Faisalabad Water and Sanitation Agency is a committed and capable partner. With appropriate training and dedicated support in the initial phase of operations, the plant is likely to be well maintained and deliver the expected outputs.

The project is recommended for approval.

Date and signature of desk officer:_____ _____

Date and signature of management:_____ _____

Appraisal recommendations and follow-up actions taken

Rec No.	Recommendation	Responsible	Action
1	Revise the draft Project Document by taking into account the recommendations of the appraisal and especially regarding the result framework and the risk management matrix.	DBF	The task has been included in the Final Project Document
2	WASA will submit an action plan for the conduct and approval of the EIA study to DBF as soon as possible and ensure that the draft study is available to DBF by mid-March 2019 at the latest.	WASA	WASA has submitted EIA early March 2019 to Environmental Protection Agency.
3	If the detailed design phase shows that acquisition of privately owned land is required, the acquisition and compensation process will be done in conformity with IFC standard 5.	WASA	WASA has agreed IFC Performance Standard 5: *Land Acquisition and Involuntary Resettlement* will be followed
4	Modify the suggested TA as follows: 1. The consultant in charge of the tender process will also carry out the construction management and supervision. The contract will have two parts: A. TA to WASA prior to construction start, being grant money, and B: Supervision during the detailed design and construction phase, being financed via the loan. This contract will be terminated at the end of the construction phase; and 2. The monitoring consultant will be recruited for both the detailed design/construction phase and the 5-year O&M phase.	WASA with support from Procurement consultant	WASA shall make sure tasks are reflected in the Terms of Reference for the Procurement Consultant and will be made clear when making Terms of Reference for "Engineer", responsible for tender process and construction management and supervision.
5	Explore the possibility to hold the tender evaluation and contract negotiations in Copenhagen to facilitate the discussion between the Pakistani partners and the future contractor for the construction and O&M of the WWTP.	WASA with support from Procurement Consultant and tender consultant (Engineer)	WASA shall make sure this is included in the tender documents.
6	WASA to closely collaborate with Health Department and Food Authority on planning and conducting the information campaign targeted at farmers along the Channel no. 4.	WASA	WASA shall make sure the two authorities are included in the information campaign.