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Government of Saint Lucia & the Federal Republic of Germany Cooperation Projects



Government of Saint Lucia



Site Visits

Acknowledgements

*Government of Saint Lucia &
the Federal Republic of Germany
Cooperation Projects*

Site Visits

The Government of Saint Lucia

**Ministry of Finance, Economic Affairs, Planning and Social Security,
Ministry of Sustainable Development, Energy, Science and Technology**

Water and Sewerage Company Inc. (WASCO)

St. Jude Hospital

all wish to thank the

Federal Republic of Germany through the

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

for support of these projects.



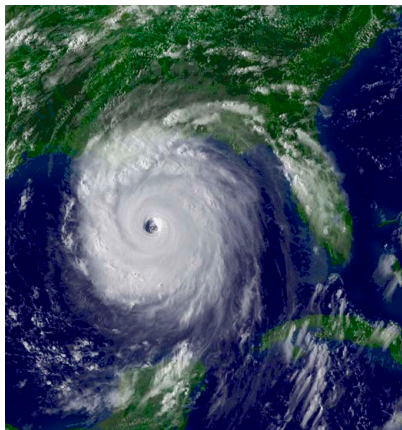
Government of Saint Lucia



Adaptation to Climate Change

Adaptation to Climate Change

Subsequent to the passage of Hurricane Tomas in October 2010, the water systems were greatly affected on the island. The water storage systems in Vieux Fort and Dennery were in poor condition prior to the passage of the hurricane and became further deteriorated subsequent to the passage of the hurricane. This affected the water supply of major institutions such as St. Jude Hospital. Additionally the water capacity of the John Compton (Roseau) Dam which supplies the north of the island was significantly reduced due to various landslides which resulted in heavy silting of the Dam.



Various reports (including Saint Lucia's National Climate Change Policy and Adaptation Plan, the National Report on Integrating the Management of Watersheds and Coastal Areas and the First and Second National Communications on Climate Change to the United Nation Framework Convention on Climate Change) identify the need for catchment protection in light of continuing degradation and recurring damage from exposure to natural hazard events including storms, intense rainfall and landslides. These reports also indicate the need for increased storage and distribution infrastructure upgrades to ensure water availability at acceptable quality during periods of climate variability, such as droughts and periods of extreme rainfall.



Government of Saint Lucia

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Site Visit Programme



Government of Saint Lucia &
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Cooperation Projects

27 April 2014



- 9:00 am Departure from the Auberge Seraphine Hotel
- 9:30 am Arrival at Dennery
 - Dennery Water Supply Redevelopment Project
- 11:00 am Arrival at Vieux Fort
 - St. Jude Hospital Reconstruction Project
 - Vieux Fort Water Supply Redevelopment Project
- 1:00 pm Lunch at the Island Breeze Restaurant
- 2:00 pm Departure for John Compton Dam (Roseau)
- 3:00 pm Arrival at the John Compton Dam (Roseau)

Meeting with Water & Sewerage Company Inc. to discuss the feasibility study regarding the rehabilitation of the dam and continuous sediment management.
- 4:30 pm Departure for Castries

German Support



Grant Funds from the Federal Republic of Germany in collaboration with the Austrian Development Agency (ADA) through the Caribbean Renewable Energy Development Programme (CREDP)

- **St. Jude Hospital Reconstruction Project Solar Hot Water System**
 - US \$38,000 - Federal Republic of Germany
 - US \$25,000 - Austrian Development Agency (ADA)

Support from the Federal Republic of Germany

- **Southern Water Supply Redevelopment Projects**
 - US \$400,000 - Vieux Fort Water Supply Redevelopment Project
- **St. Jude Hospital Reconstruction Project**
 - € 600,000 - Water & Wastewater Components
- **Feasibility Study on continuous sediment management of the John Compton Dam (Roseau)**
 - € 76,500 - Feasibility Study

Areas of ongoing Collaboration

The following represents areas of ongoing collaboration:

- The rehabilitation of the John Compton Dam (Roseau) and
- Support on utility management, with a focus on non-revenue water.



John Compton Dam Sedimentation of the Reservoir

Overview



The John Compton Dam was designed to have a 3 Million cubic meter, storage capacity. A bathymetric study, completed in 2005 revealed that the storage capacity had diminished to 2.9 Million cubic meters. Hurricane Tomas devastated the Island in 2010 and a second bathymetric study was completed in 2011. This study followed the same methodology of the 2005 study and revealed that the storage capacity had diminished further to only 1.9 Million cubic meters. This reduction in capacity was mainly due to the sediment carried from about 30 separate landslides in the Dam catchment area which occurred during Hurricane Tomas. The net result of the siltation was that there is only one functional abstraction intake – the Upper Level abstraction intake- located at invert 95m ASL, at the Dam. The current bed level is at 87m ASL and the lower abstraction intake is at invert elevation 82M ASL- a full 5m below the current bed level. The bottom outlet is clogged under 20m of silt, at invert elevation 67m ASL. The Dam spillway elevation is at 101.5m ASL.



The resultant actual operational parameters are that the usable storage capacity is the water stored between the upper abstraction inlet elevation and the spillway elevation. The operational effective storage capacity of the Dam is therefore 1,136,000 cubic meters. The target abstraction rate is 10 MGD however, from WASCO's data the current abstraction rate is 8.5 MGD. This would mean that at current abstraction levels the Dam has sufficient capacity to supply water to the North of the Island for about 30 days. In the last ten years there have been several periods of drought on the Island, with minimal rainfall for over 2 months, the most recent being in 2010. The dredging of the John Compton Dam is urgently required to provide an adequate water supply.



The Government of Saint Lucia (GOSL) has prepared the National Vision Plan, articulating its vision for the development of the country for the next 10-20 years. This National Vision Plan is a framework through which the entire island can share in a common vision, positioning Saint Lucia at the economic and social heart of the Windward Islands.

The plan highlights development of the south of the island with the intention of creating a second city in Vieux Fort. It is suggested that the upgrade of Vieux Fort, from town to city, will be achieved through major developments which will catalyse the growth and expansion of the south in general.

The future expansion and redevelopment of St. Jude Hospital aligns itself seamlessly with the National Vision for the south through the provision of critical health care services and the support of the airport infrastructure as well as the resident community.

The development objective for the southern region is to generate new sources of economic growth and employment opportunities in tourism, information communication technology, education and industry. As a result of these planned developments, adequate and reliable water supply services become a critical factor, having the ability to retard the growth of the country.



NATIONAL VISION





FUTURE DEVELOPMENT

This vision includes developments in tourism. The South, often referred to as the New Frontier is no doubt well placed to receive the New St. Jude Hospital Health Care Facility catering for Saint Lucians as well as our Caribbean Family.

Over the years there has been a significant focus on the water sector in Saint Lucia with the government initiating a reform of the sector in 1999 which is still on-going. It is clear that significant investments are required to bring the sector to the level required to meet the current demand and future water supply needs. Water demand continues to change rapidly in certain areas, for example the extreme north due to high infrastructural development and migration of people into areas in the north and other major centres of commercial activity in the south. In general there is a water supply versus demand deficit, islandwide, and this is affected directly by rainfall distribution. Although there have been continuous

improvements, the potable water supply, has in recent years, been severely affected by pressures of increased demand as a result of socio-economic development, destruction of upper watersheds, increasing exploitation of the rivers and wetlands, and an inefficient, inadequate aged water distribution network.

For the proposed growth in the southern region, the water supply in Vieux Fort and Dennery have been identified as the two most critical areas requiring much needed attention. This is due to the inadequacy of the water supply to meet the current water demand in these areas, the poor quality of the water supply, and the dilapidated condition of the systems. Growth in the Vieux Fort and Dennery region is severely challenged without these issues being addressed. Another critical issue of concern is the siltation of the John Compton Dam (Roseau), which needs to be addressed urgently. 💧



reliability of the water supply system at the Hospital and assisting with adequate treatment and disposal of the wastewater. This support was in the amount of €600,000. St. Jude Hospital is strategically located in the South of the island and has in the past and continues to be a catalyst for growth in the region. As such the inability of WASCO to provide a potable and reliable water supply has a significant impact on the effectiveness of hospital operations.

Under this GIZ project as well the Vieux Fort Water Supply Redevelopment is being supported through the planning stages including the development of designs for the proposed infrastructure works.



St. Jude Hospital Reconstruction Project: Water & Wastewater Sub-Component



Supply and installation of:

- ✓ Solar Hot Water System
- ✓ Water & Wastewater Underground Infrastructure
- ✓ Water Treatment and Ancillary Components
- ✓ Water Storage Tank
- ✓ Wastewater Tank Covers

St Jude Hospital Reconstruction Project

The Government of the Federal Republic of Germany Supports the St. Jude Hospital Reconstruction Project



german
cooperation

DEUTSCHE ZUSAMMENARBEIT

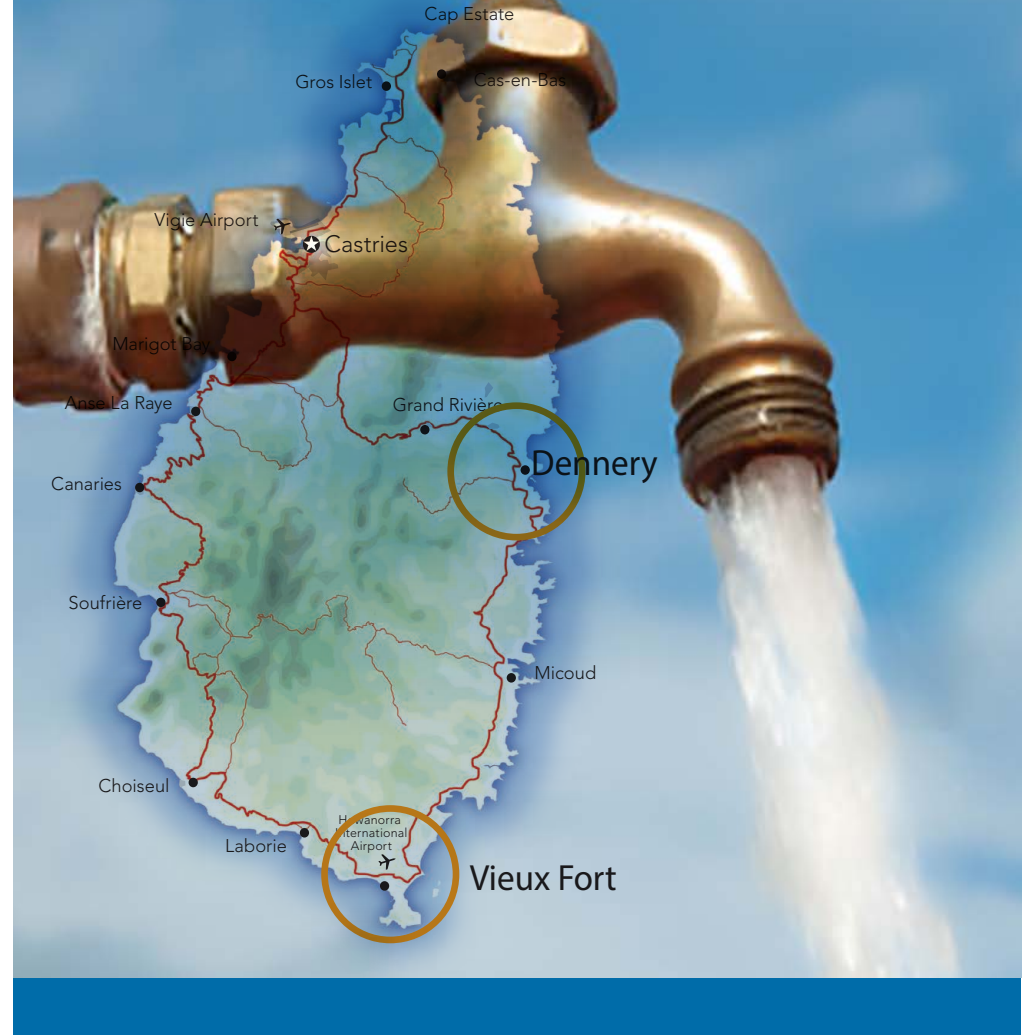
After the fire of September 9, 2009, during the appeal for support for the reconstruction of the St. Jude Hospital, donations were received in cash and kind from governments, organisations, individuals abroad and Saint Lucian citizens who were generous in providing valued assistance to rebuild St. Jude Hospital.

The Federal Republic of Germany has provided support for the reconstruction of the St. Jude Hospital. In November 2012, the Gesellschaft für Internationale Zusammenarbeit (GIZ) in collaboration with the Austrian Development Agency (ADA) through the Caribbean Renewable Energy Development Programme (CREDP) committed a total of US\$63,000 towards the Solar Hot Water System for the hospital.

Subsequent to a further request from the Government of Saint Lucia in July 2013, the GIZ through its project Caribbean Aqua-Terrestrial Solutions initiated support for a new sub-component. This sub-component aimed at improving the



Water Supply Redevelopment Projects



Dennerly Water Supply

Dennerly Water Supply System

- The water supply in Dennerly and Environs has been unreliable and inconsistent in both the dry and rainy season due to the inadequacy of the systems. During periods of intense rainfall, the turbidity level of the raw water rises significantly above acceptable levels, making it difficult to disinfect.
- Although there are two water filters in Dennerly (Aux Lyon and Bois Jolie), there is a disparity in water quality in North Dennerly and South Dennerly. The water filter in Aux Lyon as a treatment process is incomplete as there are no pre-treatment facilities available. Additionally, because of limited water flow due to severely corroded pipes, the filter is bypassed and raw water is discharged directly into the storage tank where it is chlorinated prior to distribution. This often leads to extended periods of water supply interruptions especially during rainy days.



Vieux Fort Water Supply

Vieux Fort Water Supply System

- The water supply system which serves Vieux Fort, Laborie and environs comprises water abstracted from the Grace and Beausejour Intakes on the Grande Riviere de Vieux Fort River. Raw water is pumped to a storage tank at Grace, chlorinated and then distributed to the various communities. The communities served consist of approximately 4,300 households.
- The water supply in the South has been unreliable and inconsistent in both the dry and rainy season due to the vulnerability of the systems to climate variability. During periods of intense rainfall, the turbidity level of the raw water rises significantly above acceptable levels, making it difficult to simply disinfect. Although there is a water treatment plant at Grace, it has worked only intermittently since its installation. As a result, the raw water is chlorinated and then pumped to a storage tank for distribution.



- The existing treatment system at Beausejour Water Treatment Plant consists of coagulation tanks and slow sand filters. The present infrastructure is incapable of ensuring a consistent quality of potable water to customers during high turbidity conditions. In addition, during the dry season, the quantity of water available from the existing intakes decreases significantly. This often leads to extended periods of water supply interruptions in the area.