PROJECT FINAL REPORT

Improving the Learning Environment: A healthier and more sustainable campus for vulnerable youth in Didia, Tanzania

40 Jahre DON BOSCO Jugendhilfe Weltweit

DONBOSCO EASTAFRICA

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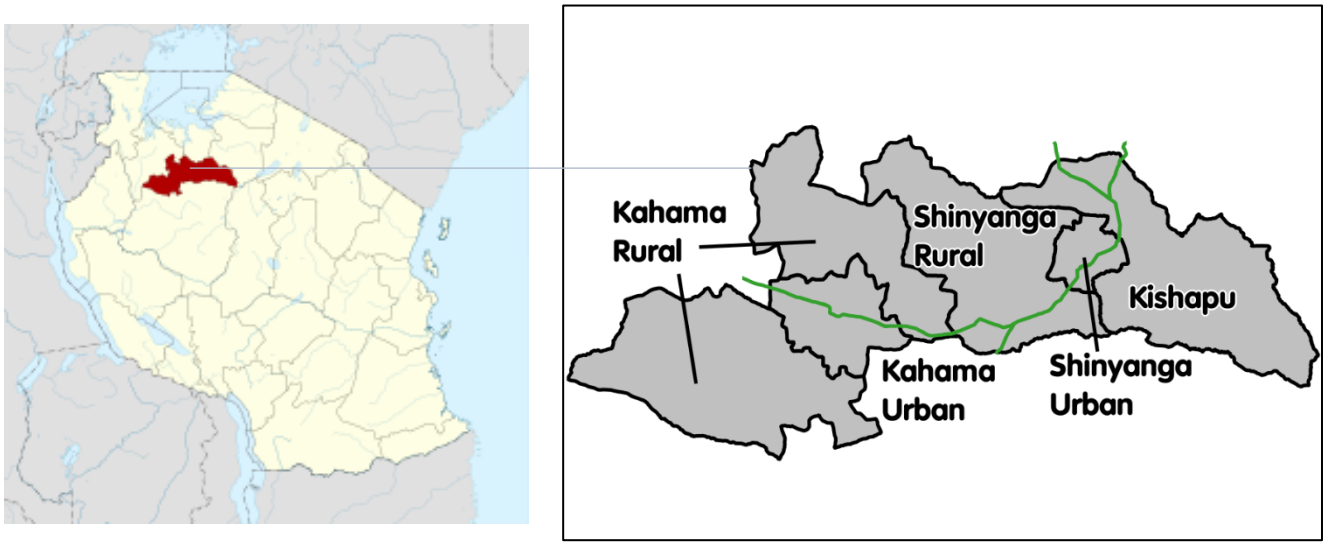
CHAPTER 01: PROJECT OUTLINE

1.1. PROJECT BACKGROUND



1.1.1. Location, size, population, and districts

Shinyanga is one of the 31 administrative regions in Tanzania. It lies south of Lake Victoria in the northwestern part of Tanzania. The region is situated between longitudes 31° and 35° east and latitudes 2° and 5° south. The region, which has an area of approximately 50,780 square kilometers, has five administrative districts: Kahama Rural, Kahama Urban, Shinyanga Rural, Shinyanga urban, and Kishapu. The districts are further subdivided into 27 divisions, 160 wards, and 817 villages.

Characterized by a high population of about 3.8 million people, an increase of about 44% from the 2012 census, Shinyanga is among the poorest regions in Tanzania. The percentage of the population below the basic needs of the poverty line ranges from 21.8 % in urban areas to 52.9 % in more remote areas. The region's economy is predominantly based on subsistence agriculture, livestock production, and mining.

1.1.2. Natural Environment:

The natural environment of Shinyanga is not conducive to providing safe water supplies for a scattered rural population, nor for a growing and often crowded urban one. The Region has no perennial rivers or streams. Most watercourses flow for only a few days per year. Traditionally, people used standing pools of rainwater for most human and livestock needs during the wet season and dug shallow pits in the river beds during the dry season. Because of the instability and bacteriological unsuitability of surface water resources, the water supply programmes of recent decades have had to depend on groundwater.

The groundwater resources are limited. The extent of aquifers is restricted, and the yields of wells and boreholes are generally low. Although limited, Shinyanga's groundwater is often available at relatively shallow depths, meaning that hand-dug wells five to ten meters deep are able to serve

many rural communities. After excavation, these wells are lined with concrete rings. The simplicity of this technology has been an important asset in the Region's rural water supply programmes. Water quality ranges from very high to poor, with salinity and high fluoride content being significant problems in some areas – fluoride, especially in deeper wells that have to be drilled in places where hydrogeology does not allow shallow well development. The relatively low yields of the Region's groundwater resources hamper the use of boreholes for piped urban water supplies.

1.1.3. The Sanitation Overview at Don Bosco Didia Secondary School:

Don Bosco Didia Secondary school is located about 50 km southwest of Shinyanga Region in the rural district of Shinyanga Region, the poorest district in the region with poor health, water, and sanitary facilities as well as a high rate of poverty and HIV spread. Didia Secondary School serves the most vulnerable youth. The institution started in 1994 with less than 200 students, and it has been rapidly growing over the years. The Salesians of Don Bosco try to accommodate as many young people as possible, as the demand in the region for access to the secondary level is much higher than they can offer, especially for the most vulnerable youth who cannot afford many of the other private schools in the region. Today, there are about 1034 students registered at Don Bosco Didia Secondary School.

As part of the institutional plan to create conducive learning environments, the Salesians of Don Bosco have gradually been renovating and adapting their infrastructure in order to accommodate the growing number of students. However, little income from school fees which is mainly paid in installments given the economic status of students enrolled at the institution, is not sufficient enough to cover the institution's overheads (salaries, electricity, learning materials, etc.) and make investments (for example infrastructure, lab machinery/equipment, etc.) The growing number of students at the institution has led to a decline in the school infrastructure, which was established in the early stages of school operations in the 2000s, most especially the WASH facilities.

The Youth, Environment, and Health project was a countermeasure to the challenges observed challenge of insufficient WASH facilities to a growing number of the institution's population. The project was designed with the major aim of improving the learning environments at Don Bosco Didia Secondary school through the construction of sanitation premises for both girls and boys. The design of the project was a result of an institutional survey by the Don Bosco Planning and Development Office (PDO), which clearly indicated an urgent need for investments in WASH Facilities to replace the existing old, sub-standard, depleted, and insufficient WASH facilities that existed.

1.2. OBJECTIVES OF THE PROJECT

The developmental objective of the project was to create a healthy and sustainable learning environment and improve the health, well-being, and academic performance of marginalized youth at Don Bosco Didia Secondary School. To achieve the latter, the project envisioned:

SO1: Improving the infrastructure of Don Bosco Didia Secondary School to accommodate a growing number of marginalized students by constructing sanitary facilities (bathrooms, toilets, sinks, and cleaning/laundry areas)

SO2: Creating minimum standards to include youths with disabilities in Don Bosco Didia Secondary School by making the school's sanitary installations barrier-free

SO3: Improving the health status of students and staff at Don Bosco Didia Secondary School through reductions of the water-related risks and risk of disease outbreaks by providing filtered good, quality water

SO4: Improve the academic performances of students at Don Bosco Didia secondary school due to the psychological relief and better attendance rates, especially among girls

SO5: Increasing the school's financial and environmental sustainability and creating a good example of sustainability for students and their families, and the surrounding communities through water recycling and the use of solar technology.

SO6: Increasing the quality of life for vulnerable young people and their families through awareness raising on water, hygiene, and sanitation topics

1.3. PROJECT RESULTS AND ACTIVITIES

General Activities-supporting all results

AO.1. Contract signing between Don Bosco Jugendhilfe Weltweit and Don Bosco East Africa

Don Bosco Jugendhilfe Weltweit developed a contract in collaboration with Don Bosco AFE, which aimed at ensuring an effective realization of the project. Roles and responsibilities for both parties were formulated and agreed upon to provide guidelines on how each is going to execute project activities. The contract also provided guidelines on checks and balances, fund disbursement, auditing, reporting as well as Special Considerations for Construction. The Child and Youth Protection Guidelines of the Jugendhilfe Weltweit were an integral part of the contract, and Don Bosco East Africa confirmed to commit to fully respecting and implementing them. The contract was signed by the heads of the two organizations and formed a reference for the project implementation.

AO.2. Start-up Orientation and Induction

Don Bosco Planning and Development Office (PDO), who were the direct Operational partners for Don Bosco Jugendhilfe Weltweit in Tanzania, organized and facilitated the start-up orientation with the Don Bosco Didia community. The orientation, which was attended by all members of the Don Bosco Didia community House Council (the Rector, administrator, and School Principal), focused on a number of core areas/topics to the project implementation, including the project overview, roles, and responsibilities of partners and stakeholders, financial procedures, reporting requirements, and other related issues. The sharing of roles and responsibilities facilitated the smooth implementation and coordination of activities with partners.

AO.3. Conducted regular follow-up and monitoring visits

During the reporting period, Don Bosco Planning and Development Office-PDO conducted monitoring visits at the construction site. The visits were conducted by the PDO administration, projects, and Finance units to provide technical backup to the field staff (community council, the project supervisor, and the institution accountant. The monitoring of the project focused on the management and supervision of the project's core activities, to improve efficiency and the overall effectiveness of the project implementation. Further, the process will involve a continuous collection of information on the actual implementation of project activities compared to those scheduled in the work plan. Moreover, the monitoring of the project implementation was done through zoom calls.

The assigned construction supervisor (Kishilu Company Ltd), who was located in Kahama Urban, closely supervised the construction work done by the selected constructor (ZEN ASSOCIATE CO LTD). The supervisor conducted a large number of visits which were aimed at providing technical support and guidance to the construction works and ensuring all construction and the waste disposal site were in line with submitted designs and the government regulations and standards.

Result 01: Completed sanitary facilities for male students (bathrooms, toilets, and sinks)

Indicator	Target	Achievement	Remarks
IND01: Number of bathrooms in a constructed sanitary facility	40	40	NIL
IND02: Number of Toilets in the constructed sanitary facility	14	20	The number of facilities was adjusted to fit the student population
IND03: Number of sinks in the constructed sanitary facility	10	44	The number of facilities was adjusted to fit the student population
IND04: number of barrier-free bathrooms in the construed sanitary facility	03	02	The number of facilities was adjusted based an estimated number of students with disabilities

IND05: number of barrier-free toilets in the constructed sanitary facility	01	03	The number of facilities was adjusted based an estimated number of students with disabilities

A1.01. BOQ Preparation

Before hiring a construction contractor, a Bill of Quantity (BoQ) and tender documents were prepared by an independent registered construction consulting firm owned by the school alumni. The Bill of Quantities (BoQ) was drawn up based on the construction information provided by the design team. The design of the BoQ was meant to ensure all tenderers are provided with a standardized document to price and submit a fair and accurate tender. To a large extent, the BoQ was also used in post-tender works (supervisory work) for the preparation of interim valuations during the construction works. The design of the BoQ was done by a Don Bosco past student as a contribution of his expertise which was partly enhanced by Don Bosco Didia Secondary school.

A1.02. Tender advertisement

Using a Standardized Tendering Document and in accordance with policies and procedures laid down in the Public Procurement Act Cap. 410, and the Public Procurement Regulations, 2013, an Invitation to the tender was advertised through the Nipashe newspaper on 9th February 2022. Given the schedule of works, the tender opening duration was only two weeks-from 9ths to the 21st of February 2021. The advert directed interested tenderers to collect tender documents at the Don Bosco Oysterbay Planning and Development Office (PDO). Three construction companies, namely (i) Dazzy building and civil contractors ltd, (ii) Zen Associate Co. ltd (iii) Bravotech construction company Ltd collected the tender document, and 2 among the 3 applicants submitted the required documents within the specified timelines as indicated in the Tender advert.

A1.03. Tender evaluation

Three construction companies collected the tender document, and two managed to return the bids within the time set. Based on the established criteria for selection which included i) The proposed construction budget, ii) Tenderer classes of registration in the CRB, iii) working experience in projects of a similar nature, and iv) the construction timeframe, ZEN ASSOCIATE CO LTD was selected and accepted an offer of TSH 329,850,000 to construct both male and female sanitation premises with anaerobic baffled reactor systems. The contractor agreed to complete the project in six months (24 weeks), i.e., from-mid February to the end of August 2022. (a more detailed analysis of the tender evaluation can be referred to in the Tender Evaluation Report)

A1.04. Contractor Hiring

Before the contract signing, a contractor mini-background check was conducted. At first, Zen Associates CO. Ltd was requested to submit all legal documents i.e., contractors' registration certificate from the board of construction (CRB), Certificate of incorporation, legal operating documents like TIN, current tax clearance, and business licenses. Having complied with all legality documents, the evaluation team visited one site constructed by Zen Associate Co. Ltd in Dar es salaam and confirmed that the project was executed according to standards, and the project client highly recommended the contractor.

A1.05. Project Supervisor

Kishilu Company Ltd was hired as a project consultant (named project supervisor in the project proposal budget) specifically to advise Don Bosco Didia secondary school and Don Bosco Networks Tanzania (DBNET) on technical issues pertaining to the construction activities as executed by a construction contractor. The selection of Kishilu was made through referrals in the school alumni community. Given the company owners' strong ties with the school, Kishilu Company Ltd agreed to the terms of the supervisory role (a consultation of 14 million Tshs), which is about 4.2% of the Construction sum (Tshs. 329.850.000). The approach ensured efficiency in the project implementation given the normal market price range is usually between 9%-12%.

A1.06. Commencement of Construction Works for the Boys' Sanitation Facilities

A1.07. Construction works for the Completion of the Boys' Sanitation Facilities

A1.07.01. Mobilization of Manpower, Pipes, and Fittings

The construction works at this stage entailed removing bushes, shrubs, trees, etc. It also entailed grubbing up roots, bushes, shrubs, undergrowth, and small trees not exceeding 600 mm girth. All the processes at this stage were undertaken in 2020 with financial support from Salesian Missions.

A1.07.02. Construction of floor

-Excavation

The construction entailed Excavating surfaces averaging 150 mm deep. The latter was executed to remove vegetable soil, to allow trenches to receive foundations; starting from the basement or reduced level not exceeding 1.50 m deep. The latter was also done to allow pits to receive foundations, starting from the basement level or reduced level not exceeding 1.50 m deep.

-Disposal; Excavated materials, Planking, Strutting, and Anti-Termite Treatment

The Backfilling into foundations entailed depositing and compacting layers a maximum of 150 mm thick, excavated materials, 300 Filling to make up levels under floors Imported materials, and 300 Filling to make up levels under floors. Planking and Strutting were done afterward generally to keep excavations free from all water, including spring and running water. Planking and strutting were done afterward to keep excavations free from all water, including spring and running water. For the Anti-Termite Treatment, a Gladiator TC; 1.0% solution was installed at a rate of 7 Litres per square metre to hardcore beds and tops of foundation walls at a rate of 80 Litres per cubic metre.

A107.03. Construction of wall

In the wall construction stage, Solid concrete blocks of minimum crushing strength of 7Mpa were bedded and jointed with class 1 mortar in accordance with BSEN 459-1: Walls 150 mm thick and 150 mm thick parapet were established to ensure stability and durability of the established structure.

A107.04. Roofing

The structure of the roof was designed and fixed to steel truss with 75mm by 25mm. With the wall thickness of 3mm, steel purling's 50mm by 25mm by 0.3mm was installed with truss spacing of 2.5m. The roof covering was fixed to steel purling by using a Self-Tapping Screw 3 Inches Battens. With 1000 mm general spacing, one on a Half Trough Side Laps; 75 mm End Laps, Including Ridge Caps and Valley Caps were placed with sloping not Exceeding 45 Degrees from Horizontal, 450 mm Girth, Ridge Cap, 450 mm Girth, Z Flashing, 300 mm Girth.

A107.05. Painting and decorations

-Tiles, Slab or Block Finishing

Porcelain floor tiles were to laid to approved pattern; bedding and jointing in cement mortar (1:4) grouting with Sellajunt colored grout 300x300 x 10 mm; butt joints straight both ways to cement and sand base. Generally, this was done to floors, treads; 600 mm wide, risers; 150 mm high, skirting; 100 mm high, 175 mm high skirting cut to tread and riser profile. The Ceramic tiles were glazed two color-ways; regular pattern bedding and jointing in cement mortar (1:4); grouting joints with white cement; internal 300 x 600 x 6 mm; butt joints straight both ways to cement and sand base.

-Apply Three Coats of Weather Guard Paint

Wood floated rendered surfaces; external Walls; over 300 mm wide and Parapet wall over 300 mm wide Installation of Steel trowelled plastered surfaces; internal Walls; over 300 mm wide Skimming two coat by JK wall putty

A107.06. Plastering

-Insitu Finishing

A Render was established with cement and sand (1:4); wood floated; external 15 mm one coat work; to concrete. The latter was generally done to walls and column, Parapet wall. The Plastering entailed 12 mm first coat of cement and sand (1:5); 3 mm, second coat of cement lime putty (1:5); steel trowelled; internal 15 mm two coat work; to concrete.

A107.07. Supply and Installation of pipes fittings for clean water systems



Sanitary Installations

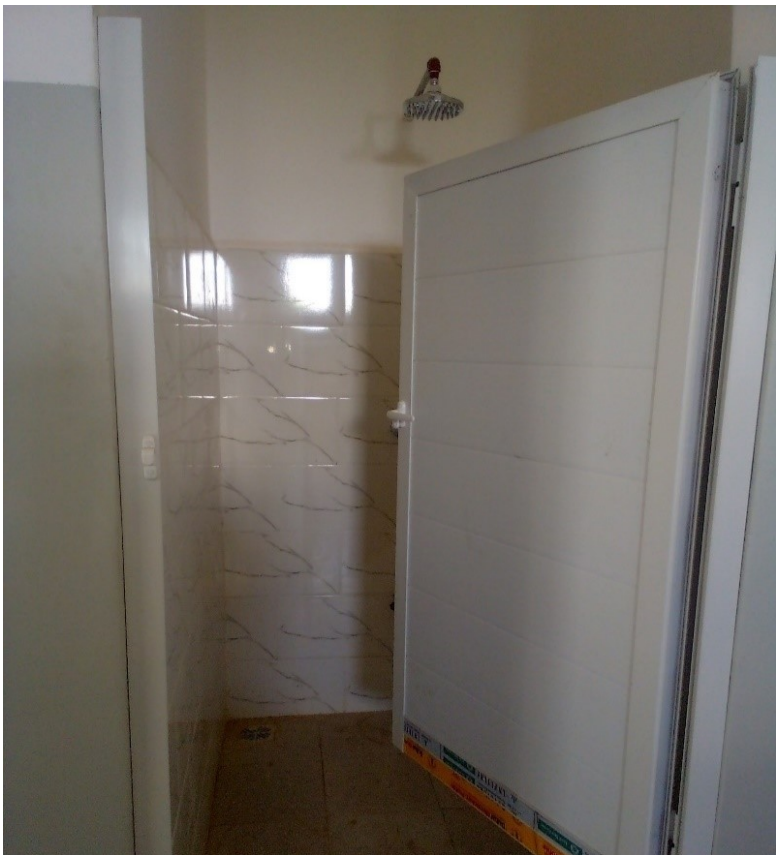
The Supplying and fixing sanitary fittings was done using ROCCA materials. The installation entailed fixing of wash basins; white vitreous china; single cental tap hole, chrome plated mixer with non-return valves and 32 mm pop up waste and flexible supply hoses, 32 mm plastics bottle trap semipedestal, fixing kits; 560 x 465 mm to backgrounds plugging WC suites; European type, and a horizontal outlet. The installation also involved fixing flush cistern, complete flush fitting push button for interruption including lacquered seat and cover "P" or "S" trap pans, bedding outlets in mastic; fixing pans and cistern supports with brass screws to backgrounds which required plugging and Pedestrian toilets

Moreover, the installation of sanitary facilities also entailed fixing complete sets of Urinal bowls; Stainless steel sinks; satin finish; single bowl, double drainer chromium plated chain waste, plastic bottle trap, pair of aluminum alloy build-in wall brackets, wall mounted sink mixer with low swivel spout and aerator, fixing brass screws to backgrounds requiring plugging, Shower trays; white acrylic; complete with traps and chain waste.

The later also entailed Shower fittings; complete with, pipes, roses and waste outlet gratings fixing Toilet paper roll holders; by Armitage Shanks, 150 mm; fixing screws to walls requiring plugging.

A107.08. Supply and fixing of uPVC doors

Aluminum doors with two equal panels,100mm wide including all accessories 800 x 2400 x 40 mm were fixed. The Paneled doors made of two equal panels, top panel comprise of 6 mm thick board panel with necessary glazing beads and bottom part aluminum boarding; 100 mm wide stiles and rails; T&G joints between rails and panels and between, stiles and panels 2400 x 2400 x 40 mm. The installation of the doors also entailed the supply and fixing ironmongery; Union to hardwood doors with matching screws 100mm brass butt hinges and three lever mortice locks.



A107.09. Supply and installation of windows

The installation of windows entailed the supply and fixing of PVC windows comprised of 6mm thick, clear glass on PVC framing and mosquito nets. All accessories and ironmongery, cutting and pining lugs and bedding frame in cement mortar and pointing surroundings were installed with mastic according to the approved manufacturer's specifications. The installation also involved the Supply and fixing of mild steel window grill (25x25mm) frame made of square hollow mild steel sections, 20x4mm thick, flat bars welded together including all necessary additional, materials grinding and polishing all welded conditions to smooth, surfaces welded to metal rods fixed in the wall.

A1.08. Inauguration of the Boys' Sanitation Facilities

The sanitary facility was officially inaugurated on the 24th of May 2022, by the Bishop of Shinyanga diocese and students started using the facility officially on June 2022. The constructed facility has been in use for six months now, and it has been operating well.

Result 02: Completed sanitary facilities for female students (bathrooms, toilets, sinks, washing and drying area)

Indicator	Target	Achievement	Remarks
IND01: Number of Toilets in the constructed sanitary facility	20	20	NIL
IND02: number of barrier-free toilets in the constructed sanitary facility	02	08	The number of facilities was adjusted based an estimated number of students with disabilities
IND03: Number of bathrooms in a constructed sanitary facility	38	40	The number of facilities was adjusted to fit the student population
IND04: number of barrier-free bathrooms in the construed sanitary facility	02	02	NIL
IND05: number of washing basins in the constructed sanitary facility	46	44	The number of facilities was adjusted to fit the student population
IND06: the dimension of the wire for drying clothes	720 meters	500 meters	NIL
IND07: water bowls points for washing clothes	30	30	NIL

A2.01. Construction of the girls' sanitation Facility

A2.01.01. Mobilization of Manpower, site clearance

The construction works of the girls' facility entailed removing bushes, shrubs, trees, etc. Clearing the site; grubbing up roots, bushes, shrub, undergrowth or the like; small trees not exceeding 600 mm girth. The site clearing also involved demolishing iron sheeted bathrooms and re-constructing.

A2.01.02. Wall Construction

The wall construction Solid concrete blocks of minimum crushing strength of 7Mpa bedded and jointed with class 1 mortar in accordance to BSEN 459-1: Walls were constructed by 150 mm thick

A2.01.03. Floor Construction (foundation & tiling)

-Tiles, Slab or Block Finishing

Porcelain floor tiles were laid to approved pattern; bedding and jointing in cement mortar (1:4) grouting with Sellajunt coloured grout 300x300 x 10 mm; butt joints straight both ways to cement and sand to floors, treads; 600 mm wide, risers; 150 mm high, skirting; 100 mm high, 175 mm high skirting cut to tread and riser profile. Ceramic tiles were glazed; two colour-ways; regular pattern bedding and jointing in cement mortar (1:4); grouting joints with white cement; internal 300 x 600 x 6 mm; butt joints were straight both ways to cement and sand base; generally, to walls over 300 mm wide.

-Mortar; cement and sand (1:4);

32 mm one coat beds were screeded to receive floor tiles, to concrete the base and to floors, treads; 300 mm wide. 12 mm coat backings were screeded; to receive wall tiles; to the concrete base; to walls risers; 150 mm high, skirting; 100 mm high to 175mm high.

-Preparation of Surface and Application of Three Coats of Weather Guard Paint

Wood floated rendered surfaces; external Walls; over 300 mm wide and Parapet wall over 300 mm wide were performed and the installation of Steel trowelled plastered surfaces to internal Walls; over 300 mm wide. Skimming was done two coat by JK wall putty.

A2.01.04. Roofing

The structure of the roof was designed and fixed to steel truss with 75mm by 25mm. With the wall thickness of 3mm, steel purling's 50mm by 25mm by 0.3mm was installed with truss spacing of 2.5m. The roof covering was fixed to steel purling by using a Self-Tapping Screw 3 Inches Battens. With 1000 mm general spacing, one on a Half Trough Side Laps; 75 mm End Laps, Including Ridge Caps and Valley Caps were placed with sloping not Exceeding 45 Degrees from Horizontal, 450 mm Girth, Ridge Cap, 450 mm Girth, Z Flashing, 300 mm Girth.

A2.01.05. Painting and decorations

-Tiles, Slab or Block Finishing

Porcelain floor tiles were to laid to approved pattern; bedding and jointing in cement mortar (1:4) grouting with Sellajunt colored grout 300x300 x 10 mm; butt joints straight both ways to cement and sand base. Generally, this was done to floors, treads; 600 mm wide, risers; 150 mm high, skirting; 100 mm high, 175 mm high skirting cut to tread and riser profile. The Ceramic tiles were glazed two color-ways; regular pattern bedding and jointing in cement mortar (1:4); grouting joints with white cement; internal 300 x 600 x 6 mm; butt joints straight both ways to cement and sand base.

-Application of Three Coats of Weather Guard Paint

Wood floated rendered surfaces; external Walls; over 300 mm wide and Parapet wall over 300 mm wide Installation of Steel trowelled plastered surfaces; internal Walls; over 300 mm wide Skimming two coat by JK wall putty

A2.01.06. Supply and Installation of pipes fittings for clean & wastewater systems

-Clean water supply

The Supply and Installation of pipes fittings for clean was done using Poly ethylene pipes DN 32mmPN12.5 and its associated fittings PN16, PPR pipes DN32, 25 and DN 15 PN 16 with associated fittings of PN16. After the installation a water system pressure test was done accordingly.

-Wastewater systems

The Supply and installation of all sanitary pipes and fittings was done using UPVC pipes DN110 class B, UPVC pipes DN45 to DN63mm class C with their associated fittings.




A2.01.07. Supply and installation of sanitary appurtenances

The Supplying and fixing sanitary fittings was done using ROCCA materials. The installation entailed fixing of wash basins; white vitreous china; single cental tap hole, chrome plated mixer with non-return valves and 32 mm pop up waste and flexible supply hoses, 32 mm plastics bottle trap semipedestal, fixing kits; 560 x 465 mm to backgrounds plugging WC suites; European type, and a horizontal outlet. The installation also involved fixing flush cistern, complete flush fitting push button for interruption including lacquered seat and cover "P" or "S" trap pans, bedding outlets in mastic; fixing pans and cistern supports with brass screws to backgrounds which required plugging and Pedestrian toilets

Moreover, the installation of sanitary facilities also entailed fixing complete sets of Urinal bowls; Stainless steel sinks; satin finish; single bowl, double drainer chromium plated chain waste, plastic bottle trap, pair of aluminum alloy build-in wall brackets, wall mounted sink mixer with low swivel spout and aerator, fixing brass screws to backgrounds requiring plugging, Shower trays; white acrylic; complete with traps and chain waste.

The later also entailed Shower fittings; complete with, pipes, roses and waste outlet gratings fixing Toilet paper roll holders; by Armitage Shanks, 150 mm; fixing screws to walls requiring plugging

A2.01.08. Supply and fixing of uPVC doors

Doors for the girls are on fabrication process and will be installed mid of January, 2023

A2.01.09. Supply and installation of windows

The installation of windows entailed the supply and fixing of PVC windows comprised of 6mm thick, clear glass on PVC framing and mosquito nets. All accessories and ironmongery, cutting and pining lugs and bedding frame in cement mortar and pointing surroundings were installed with mastic according to the approved manufacturer's specifications. The installation also involved the Supply and fixing of mild steel window grill (25x25mm) frame made of square hollow mild steel sections, 20x4mm thick, flat bars welded together including all necessary additional, materials grinding and polishing all welded conditions to smooth, surfaces welded to metal rods fixed in the wall.

Indicator	Target	Achievement	Remarks
IND01: Number of water tanks-5000 Litres installed for water provision (boys facility)	04	04	NIL
IND02: number of water tanks-5000 Litres installed for water provision (girls facility)	04	04	NIL
IND03: number of water treatment/filter system installed at the boys' sanitation Facility	01	0	The water supply is treated from the main source
IND04: number of water treatment/filter system installed at the girls' sanitation Facility	01	0	The water supply is treated from the main source

Result 03: Provided Clean running water for the constructed facilities

A3.01. Installation of a solar water pump and water tanks to provide running water

The sanitation has been directly connected with water supply from Lake Victoria which is clean and constantly flows at the facilities.

A3.02. Installation of a water filter/treatment system

Water source used is from the LAKE VICTORIA, Government water system, which is the reliable source with clean and permanent available water instead of relying on the water from the school dame which dries during the summer

Indicator	Target	Achievement	Remarks
IND01: Number of anaerobic baffle reactors installed in the boys' facility	01	01	NIL
IND02: number of anaerobic baffle reactors installed in the boys' facility	01	01	NIL

Result 04: Installed anaerobic baffle reactor for recycling water

A04.01. Installation of anaerobic baffle reactor

To reduce water, use, and excess costs for wastewater treatment, 2 anaerobic baffle reactor systems (one for each facility) have been installed to manage wastewater, where water from showers and toilets is recycled for further use. The recycled water from the boys' sanitation facility is directly used for irrigation at a nearby school plot. The school has planted various vegetable species on that plot. The recycled water from the girls' facility is being used to irrigate trees planted around the dormitory fence.

The reuse of water aims to minimize the school overhead expenses, especially on septic tank cleaning, and will reduce the environmental impact, as well as teach the students and surrounding communities about environment conservation, water saving, and biological processes of waste management.

Result 05: Sensitized Students and surrounding communities on sanitation and hygiene topics

Indicator	Target	Achievement	Remarks
IND01:number of sanitation and hygiene training workshops conducted for teaching staff	1	1	NIL
IND02: number of teaching staff trained on sanitation and hygiene topics	20	34	The training involved all teachers regardless of the subject they teach opposite to the initial idea of training only science teachers
IND03: number of sanitation and hygiene training workshops conducted for non-teaching staff	1	1	NIL
IND04: number of non-teaching staff trained on sanitation and hygiene topics	8	8	NIL
IND05: Number of awareness-raising talks/ campaigns directed at the families and neighboring communities	1	6	Initial idea was to organize one big event; however, the school management thought the approach could not yield much impact thus they decide to engage medical doctors from Didia who reached different places and age groups in a different approach.
IND06: Number of beneficiaries of awareness-raising talks/ campaign (s)	About 1000	About 5000	NIL
IND07: number of sanitation and hygiene training workshops conducted for students	4	4	NIL
IND08: number of students trained on sanitation and hygiene topics	1034	1034	NIL

A05.01. Promotion of sanitation and hygiene topics: Training of teachers and non-teaching staff

WASH Training for teaching staff

The two-day session was conducted to equip teachers with knowledge of hygienic behaviors. The training aimed to equip teachers with the healthy and behavioral changes encountered by youth, especially during puberty age where 95% of students follows this group. The training content elaborated on several matters related to girls' menstruation, and the impact on sexuality, risk behaviors', HIV/STDs prevention, environmental issues, and general hygiene. Teachers were trained for them to be enlightened, but also to offer proper students management while supporting them to

develop good personal hygiene. Teachers were encouraged to be more open and non-judgmental to students. The training was held by medical doctors from nearby hospitals.

WASH Training for non-Teaching staff

A two-day healthy training session was conducted for non-teaching staff where more emphasis was on equipping them with hygiene and environmental awareness so that they can help students to adhere to basic hygiene practices and to remind them from time to time on the importance of maintaining a clean environment for a healthier and sustainable learning campus. The non-teaching staff was also oriented on the constructed facilities, and shown the different systems and their operations including the baffle rector system which is completely new. Oriented on proper cleanness of facilities, hand washing procedures, the importance of maintaining a clean environment, the risks associated to poor environmental cleanness, personal hygiene, etc. Non-teaching staff is ka ey parts of the school operation, preparing food for the students, supervising and coordinating school cleanness programs, and managing school sports and games programs as well.

A05.02. Promotion of sanitation and hygiene topics: Inclusion in curricular and extra-curricular activities for students

Four days of healthy training sessions were conducted in May, June, and November 2022, where students were trained on the seven steps of hand washing techniques, sexual risks, sex knowledge testing through questions and answers, safe and risk behaviors, HIV, STDs, and teen pregnancy, usage of the toilet, and hydration. The sessions were conducted in different setups, including in-class training, small group discussion, sports and games, songs, and dramas. Students groups were clustered per class level, i.e., I-VI. In-class and small group discussion sessions involved students from the same class while other sessions like drama, songs, dance, etc., were conducted at the school hall in the presence of all students (form one-six).

A05.03. Organizing awareness-raising talks and campaigns directed at the families and neighboring communities

WASH and hygiene awareness campaign

The community campaign was held in November 2022, organized and conducted by a medical doctor from Didia hospital. The community campaign involved reaching the different community in different setups including on school campus, and village health centers. The campaign and messages changed from one place to another, depending on the nature of the audience but all targeted to improve WASH, and personal hygiene. Some details of the community reached and message passed includes

Primary school pupils:

Four primary schools from Didia namely Samuye, Isela, Didia, and Bugisi Primary schools were visited on a different date. All pupils from standard One (1) to Six (6) were taught and practiced the seven (7) steps of the hand washing technique to enhance hygiene practice and sanitation. Basic diseases related to hygiene like diarrhea, worm infestation, and bacterial and viral diseases were also mentioned and discussed. Then boys and girls from standard 4 to 6 were taught personal hygiene

and care, menstrual hygiene, risk behaviors, teen pregnancies, sexually transmitted diseases, and HIV/AIDS.

Samuye Health Center.

Parents and young adults who attend daily services were reached and taught the seven (7) steps of the hand washing technique and were emphasized to remind children to practice at home. Hygiene-related diseases, sexually transmitted diseases, and HIV/AIDS were also highlighted.

Bugisi Vocational Training Center.

Students both boys and girls were taught and practiced the seven (7) steps of the hand washing technique to enhance hygiene practice and sanitation. Basic diseases related to hygiene like diarrhea, worm infestation, and bacterial and viral diseases were mentioned and discussed. The emphasis on personal hygiene and care, menstrual hygiene, risk behaviors, teen pregnancies, sexually transmitted diseases, and HIV/AIDS was given. Many questions and curiosities arose from the discussion.

CHAPTER 02: KEY ISSUES AND CORRECTIVE ACTIONS DURING IMPLEMENTATION:

-Key Issue/Challenge: Significant Loss on Exchange rates

The Euro to Tanzania Shillings exchange rate fluctuated significantly from 2021 (when the proposal was designed) to 2022 (project execution). In 2021, the euro to TZS exchange rate ranged at 2821.6 TZS, but it went down to 2608 TZS in January/February 2022, 2485 TZS in April/May 2022, and 2320 TZS in June/August 2022. The drastic changes in the exchange rate resulted in an estimated loss amounting to 50, 93,420.61 TZS, as indicated in the table below;

Tablet of exchange loss

Rate used during Proposal	Actual Rate Used during the exchange	Euro Amount exchanged	Total TSZ Amount expected	Total TSZ Amount Received	Exchange Loss
2821.6	2608	50,000.00	141,080,022.52	130,400,000.00	-10,680,022.52
	2485	50,000.00	141,080,022.52	124,250,000.00	-16,830,022.52
	2320	45,222.00	127,598,415.57	104,915,040.00	-22,683,375.57
		145,222.00	**409,758,460.61**	**359,565,040.00**	**-50,193,420.61**

Corrective action: The significant loss in the exchange rate resulted in cutting down some secondary implementation activities. These include the 5% of contractors' retention fee, which Is to be paid after one year, project audit, project management, and local monitoring.

-Key Issue/Challenge: Price inflation as the result of fuel price hikes

With the Russia-Ukraine war, fuel prices increased by almost 50%, which also accelerated price increases for other goods and services. Construction materials, especially cement, iron sheets, timber, and all other sanitary wear, went up. The incident affected the contractor, and so did the project completion period.

Corrective Action: the given challenge only directly affected the contractor because DB Didia secondary school had already agreed a contract in advance. However, through direct links with suppliers and the procurement of bulk materials the constructor did not incur significant loses. Understanding that the challenge could tempt the constructor to maneuver the quantity of materials and hence the quality of the facility Don Bosco Didia's countermeasure was the use of a technical consultant who supervised the technical details of the construction versa vis what was indicated in the BOQs.

- Key Issue/Challenge: Lack of temporary sanitation facilities during the construction at the girls' dormitory

The construction works were implemented in parallel with the other ongoing school routines at DB Didia Secondary school. The demolition of the existing bathrooms for the girls posed a risk of affecting their day-to-day sanitation and hygiene endeavors (washing clothes, taking showers, etc.) and especially because of their population.

Corrective Action: As a countermeasure to this challenge, the contractor was requested to establish temporal sanitation facilities with additional materials like iron sheets, timber, and nails, as well as schedule the construction activities with reference to the school timetable to avoid invading the girls' privacy during their sanitation and hygiene endeavors.

CHAPTER 03: BEST PRACTICES AND LESSONS LEARNT:

-The use of Technical Supervisors in the monitoring and evaluation processes: The project entailed the use of a technical supervisor who has vast experience in construction works. The latter ensured a thorough assessment of the quality of the constructed facilities from a technical standpoint but also provided the DB Didia Secondary school administration with useful insights on the progress of the construction works with reference to the signed contract.

-Background checks on service providers: The selection of the contractor who was awarded the construction tender involved a background check on the construction company. The background check provided more information on the constructors' performance in construction mostly on aspects that were not outlined in the construction TOR.

-The use of medical doctors in the sanitation and hygiene training sessions and during the community campaign: During the project implementation Don Bosco Didia Secondary school and the PDO engaged medical doctors to provide sanitation and hygiene training sessions. The approach stirred more receptivity from the target groups particularly because of the vast experience doctors possess in sanitation and hygiene issues. The latter also provided doctors a platform to create awareness among the community on sanitation and hygiene to prevent recurring sanitation/hygiene diseases in the region.

-The use of proper contractor hiring procedures (Tender advertisement, proper bids evaluation, and selection: The contractor hiring processes during the pre- construction phase entailed a standard procedure in procuring construction services (Tender advertisement, proper bids evaluation, and selection). The latter created a competitive comparison among potential construction companies to select the most ideal service provider basing on the established criteria.

-Close collaboration among implementing partners: Throughout the project implementation the Provincial and his council, the PDO, Don Bosco Didia, the hired technical consultant, the contractor maintained a close collaboration. The partners organized timely meetings and discussions to assess the progress and plan accordingly. The latter was facilitated by a thorough project orientation and induction which set a common ground among partners during project implementation

CHAPTER 04: CONCLUSION

The project has significantly improved the learning environment of Don Bosco Didia Secondary school. It has set a new standard, and a good reference to all stakeholders and will benefit quite several other schools, which have always looked up to Don Bosco Didia Secondary school. Any developments the school will make will be an inspiration to them. The project will indirectly benefit the students' families in a broader sense. This is due to the fact that the constructed facilities will enable the availability of a conducive learning atmosphere at the institution. The conducive learning environment will, in turn, increase/improve the students' performances, which will consequently lead to the students' successful attainment of good professional careers due to proper career guidance hence supporting their families. Further, the project will, in the long run, benefit future potential enrolled students who have aspirations to join the institution for their academic studies, given the availability of the learning-friendly infrastructure.