

DON BOSCO CATHOLIC TVET INSTITUTE-BOSCO CHILDREN

ENVIRONMENTAL EDUCATION AND GREEN CLUB PROPOSAL: BIOGAS PLANT



Applying organisation:

Salesians of Don Bosco St Joseph Community – Jemo 1 Addis Ababa

Title of the Project:

**Project Proposal BIOGAS Plant in
DON BOSCO CATHOLIC TVET INSTITUTE – BOSCO CHILDREN**

Date:

April 2022

GENERAL INFORMATION

ABOUT THE APPLICANT:

NAME OF THE ORGANISATION: Salesians of Don Bosco St. Joseph Community – Bosco Children

Complete Address of head office: Salesians of Don Bosco St. Joseph Community

Bosco Children – Preventive and Rehabilitation Program for Street Children (P.R.P.S.C.)

P.O.Box 2331, Addis Ababa, Ethiopia

Telephone:

Name of legal Director: Fr. Yohannes Mengistu Zeleke

Job title: Director General **Yohannes**

Address: P.O.Box 2331, Addis Ababa Ethiopia

Telephone: +251 911 710321

Name of local project responsible: Br. Endalkachew Bayu, SDB

Job title: TVET Head

Address: P.O.Box 2331, Addis Ababa, Ethiopia

Telephone: +251 911 380523

GENERAL INFORMATION ABOUT THE PROJECT:

**TITLE OF THE PROJECT: Project Proposal to teach Biogas plant in
Don Bosco Catholic TVET Institute – Bosco Children**

COUNTRY / GEOGRAPHICAL AREA OF INTERVENTION:

Ethiopia/ Addis Ababa City Administration

Sub City- Nifas Silk Lafto

Budget:

Total cost: **xxxx** Euros

Exchange rate in case of local currency in euros: 1 Euro = Birr 53.00

Environmental education and green club proposal

Background of the Salesians of Don Bosco

The Salesians of Don Bosco began work in Ethiopia since 1975. The Salesians of Don Bosco have a well established presence in five regions of Ethiopia, which are Tigray Regional State – Adigrat, Adwa, Mekelle, Shire; Gambella Regional State, Gambella and Pugnido, in Southern Nations National People Regional State, Soddo and Dilla town; Oromia Regional State Zway, Adamitulu and DebreZeit and in Addis Ababa City Administration.

Vision: contribute towards emancipation and empowerment of teenagers children at risk in Addis Ababa and reintegrate them in their God given families and be productive citizens.

Mission: Visiting and picking them from the street

Rehabilitate them

Provide basic needs

Education

Basic technical and vocational training

Reintegrate them to their family/society

The mission of the Salesians is to address the needs of the youth and to meet their basic needs. In the light of this mission, education is the key to prepare young people for their lives. Consequently the organization is running kindergartens, primary schools, high schools and Technical Vocational Education Training (TVET) colleges. SDB had implemented and continue to implement a wide range of programs and activities on education which includes technical and vocational trainings, street children programs, agriculture, women's promotion, feeding programs, and youth focused activities in their youth centers, sponsorship programs, intense awareness raising programs on HIV/AIDS, human trafficking and other emergency programs.

The Salesians of Don Bosco is a Religious Congregation founded by St. John Bosco and composed of Priests, Brothers, Sisters and Lay Volunteers. Today, the Salesians have over 17,000 members working in 3,500 institutions, in 130 countries in the world.

The Salesians serve in the world with the following driving principles and practical actions:

Solidarity in addressing the problems of young people;

Attention to the ideals of young people;

Helping the young generation and training them in skills and moral values that will contribute to their own and their society's economic and social development.

The Salesians development work aims at providing poor people and youth at risk the means to achieve a holistic development, economic self-sufficiency, improve their lives and participate in the benefits of their own growth and that of their communities. The principal tool of the Salesians' development work is to provide education, including technical and vocational training coupled with personal development guidance. The educational process is designed to enhance the students' understanding of their social responsibilities and their contribution through honest work to the well being of their families and community.

In line with the guiding principles mentioned above, the Salesians of Don Bosco feel the urgent need to rescue the street children of Addis Ababa by reintegrating them into their families and by making them responsible members of the society. Education and skills training are major areas of interest of the Salesians of Don Bosco.

Bosco Children P.R.P.S.C. (Preventive and Rehabilitative Programs for Street Children) project is a concrete and efficient answer to the street children problem that has remarkably increased in the past twenty years in Ethiopia, especially in Addis Ababa. The aim of the action is to contribute for the safety net in favour of children in difficult conditions and to reduce the "streetism", the problem faced by the street children. The beneficiaries have been provided with human, ethical and social care and more opportunities in order to increase their living standards and social acceptance, focusing on behavioural change and education. The actions create an efficient system of rehabilitation and social reintegration in favour of the street children of Addis Ababa. The street children are integrated into informal educational and vocational training programs, in order to integrate them later in the formal educational system and, according to their age, in the labour market.

Bosco Children with its mission to help vulnerable children by educating them in various aspects of life is also raising awareness for the environment and the effects of climate change. The

“Green Club” program involves many youngsters and conducts different activities, which contribute to a cleaner environment. Cleaning the compound and recycling has always been practiced as part of the daily activities. In the big gardens surrounding the center the youth have been taught vegetable farming and cattle raising and in 2019 a solar electricity workshop has been established to enhance the skills in renewable energies.

The past year we have upgraded the environmental aspect in our system of education very much, especially during the lock-down due to Covid19 pandemic. When the state of emergency in Ethiopia was declared (April 2020) we had to take many measures and protect our beneficiaries from so-called Corona-virus. Following the situation in the world and also in Ethiopian market we had to face same challenges as other countries: lack of food supplies and increased of prices of most of the goods, especially food.

Regarding this difficult fact, and on the other hand regarding the big amount of time given and the space we already had in our compound we rather accepted the situation as an opportunity for something new. With the help of JEW we started with few environmental activities, together with the beneficiaries, and during the whole year we worked together and getting even more inspirations during the process.

GENERAL OBJECTIVES OF THE PROJECT

The Overall General Objective:

The Overall Objective of the Project is to give environmental education and strengthening green club activities in our Bosco children training center by creating awareness for vulnerable or disadvantaged youths and they get knowledge, aware the development of green environment and the necessity of our life.

The Specific Objectives:

Objective 1: To strengthening green club activities and verifying sustainability of green club activities.

Objective 2: To promote Biogas in our Bosco children training center and to aware the positive impact of biogas for environmental protection.

Objective 3: To give know how Parma garden agricultural activities for our beneficiaries.

Strengthening green club activities and Parma garden

Since the commencement of this project the green club member planted trees and different vegetation including vegetable for sales and to be used for the food preparation training. Most of our beneficiaries (Bosco Boy's) come from different Ethiopian rural areas for those youths by our planter gives know how the agricultural (Parma garden) activities and how to gain income from Parma gardening. This strategy is important to when they reintegrating own families we suppose by a few space they will implement and they will get income from Parma gardening.



The planted vegetations are take care by the member where the compound is divided among the departments. From every department one person is responsible for organizing and report the department performance. The green club activity is well organized with a clear plan; all the employees and trainees are member of this club. The members are divided among the department. Each department is given certain area in the compound to take care and clean. There is a competition among the departments which creates motivation.

Every month there is cleaning campaign where all the staff and students come out in mass to clean the compound and the compound surrounding. There is also garbage sorting system which is separating the garbage in to different sections. The garbage are sorted in three sections; paper, plastic and compost (bio degradable). The composts are dumped to the vegetation plot, the plastic waste will be packed and sold and the papers are also sold to Plastic waste recycle buy selling. The collected waste papers are will be sold to for pendapaper.com. The income from the

sales of the waste will be given for the green club but the paper and plastic waste are not selling by enough money its only contribution to green club activities. Therefore, for green club activities strengthening purpose the following materials are needed:-

No	Materials	Quantity
1	Grass cutting machine	1
2	Water hose (100 meter)	1
3	Pruning Scissor	3
4	Wheel barrow	5
5	Sickle	4
6	Shovel	6
7	Mekotekocha	10
8	Zabiya	6

BIOGAS PROJECT

Biogas is a type of biofuel naturally produced from the decomposition of organic matter. When this organic matter is exposed to an environment without oxygen they free a blend of gases. Although what's mostly released is methane (between 50-75%, [depending on the number of carbohydrates present in the mix](#)) and carbon dioxide, other gases are released too in smaller quantities.

As biogas production happens in the absence of oxygen, this process is also referred to as anaerobic digestion. Simply put, there's a fermentation process that breaks down organic matter, turning what once was waste into a source of energy that can be used to heat, cool, cook, or for regular electricity production, once it's burned.

The organic processes to produce Biogas comes from Cows dung, leftover of kitchen materials like onions, potatoes ... everyday intake need an average of one wheel barrow of contents.

Food scraps

Animal waste

Sludge from wastewater treatment plants

Animal manure and field biomass from agriculture

Other biodegradable waste by-products from industrial facilities such as slaughterhouses

Animals, as well, can produce biogas too, especially methane. Ruminants such as cows, deers, sheeps, camels or lamas can also create methane during their digestive process while producing food in their rumen (a part of these animal's stomach).

Necessary materials for the preparation of Biogas

No	Item	Unit	Quantity	Unit price	Total cost	Remark
1	Cement	Quintal	25	1,050.00	26,250.00	
2	Bricks	Pcs	2500	21.25	53,125.00	
3	Sand	M3	16	815.00	13,040.00	
4	Gravel	M3	6	661.25	3,967.50	
5	Mesh wire	Roll	1	4,375.00	4,375.00	
6	Iron bars ϕ 10mm	Pcs	12	483.00	5,796.00	
7	Iron bars ϕ 12mm	Pcs	18	741.75	13,351.50	
8	Binding wire	Kg	5	97.75	488.75	
9	Black wire	Kg	3	138.00	414.00	
10	PPC pope 200 inch	Pcs	6	2,875.00	17,250.00	
11	peit	Kg	6	400.00	2,400.00	
12	H.D pipe 1 1/2 inch	Meter	200	95.00	19,000.00	
13	Stove gate valves 1/2	Pcs	4	500.00	2,000.00	

				0	,000.00	
14	Main gas valve (Ball valve ø 1 ½ inch)	Pcs	1	1,200.0 0	1 ,200.00	
15	GI gas outlet pipe from the dome 11/2 inch , 0.6m length	Pcs	1	550.0 0	550.00	
16	G.I Nipple ø 11/2 inch for connecting main gas pipe and main gas valve + reducing & elbow	Pcs	1	260.0 0	260.00	
17	From work an Kristi weed	Pcs	20	120.0 0	2 ,400.00	
18	H.D.P socket 11/12 inch connecting gas out pipe and main gas valve	Pcs	2	180.0 0	360.00	
19	Reducer 11/12 inch to 3/4	Pcs	1	390.0 0	390.00	
20	Bio gas pipe (ø ¾ galvanized iron (GI) 6meter	Pcs	1	1,500.0 0	1 ,500.00	
21	H.D.P Tee socket ø 11/2 inch for water trap (aluminum thread inside)	Pcs	1	455.0 0	455.00	
22	H.D.P Male – Female socket ø 11/12 inch	Pcs	2	410.0 0	820.00	
23	H.D.P elbow ø 11/2 inch	Pcs	4	415.0 0	1 ,660.00	
24	G.I.T 3/4	Pcs	4	28.0 0	112.00	
25	G.I elbow 3/4	Pcs	4	28.0 0	112.00	
26	G.I nipples	Pcs	4	22.0 0	88.00	
27	Water trap	Pcs	1	700.0 0	700.00	
28	Gas rubber hose 10No	Mater	10	128.0 0	1 ,280.00	
29	Hose clamps 1/2	Pcs	10	18.0 0	180.00	
30	Special nipples	Pcs	6	92.0 0	552.00	
31	Pressure manometer	Pcs	1	4,050.0 0	4 ,050.00	
32	Bio gas stove-single burner	Pcs	4	1,800.0 0	7 ,200.00	
	Total material cost				18 5,326.7 5	
	Labor Cost				60	

					,000.00	
	Material & Labor Cost				24 5,326.7 5	