



# TGUP Project Summary

## Science Room Renovation & Science Lab in a Box

Kiamwathi Secondary School  
Baragwi, Kenya



### **Project Name:**

Kiamwathi Science Lab Renovation and **SLaB** installation

### **Project Location:**

Baragwi, Kenya

### **Project Summary:**

Lab room renovation will be done and then a **SLaB** will be installed.

### **Project Detail:**

Complete lab room upgrade including gas, water, and electrical installation.

### **Project Partner:**

Kiini Sustainable Initiative (KISI). TGUP has completed more than two dozen projects with TGUP.

### **Project Cost:**

\$8,500 for renovation  
\$2,500 for SLaB



The Kiamwathi Mixed Day Secondary School has two rooms dedicated to science, both of which are in need of major renovations. This project will fund the upgrade of one of the two rooms.

After the buildout, TGUP's **Science Lab in a Box (SLaB)** will be installed. This will allow for the instructors to teach practical experiments at a world-class level in Biology, Physics, and Chemistry.

The school has 540 students with a dedicated university-trained staff, but the students could not continue on to university studies without practical science experience.

This project will repair the floors, and then install water and gas lines, and electricity. Six 10' cement lab benches will be built in the middle of the room, as well as one long worktable along either side of the room. Each bench/ worktable will include new sinks, gas, and electricity integrated into the work surfaces. New windows, new locking storage cabinets, and blackboards will also be installed. A TGUP Science Lab in a Box will be installed, per SLaB standards (see below).



# Qualification Requirements for TGUP's Science Lab in a Box

The Global Uplift Project's **Science Lab in a Box (SLaB)** helps high schools deliver science education at international standard quality. It provides instruments, equipment, and supplies to carry out laboratory work in Physics, Chemistry, and Biology.

This document defines the requirements a school must meet to be a candidate for receiving a TGUP **Science Lab in a Box**. The requirements are intended to ensure that the **SLaB** is effectively utilized and that students are commensurately benefited.

## Requirements:

### Staff

Recipient schools must have credentialed teaching staff trained at a university level in the fields of Physics, Chemistry, and Biology. Staff must be competent to set up a working laboratory, to conduct standard experiments as defined in the **SLaB**, and be able to test for learning according to national standards.

### Curriculum

Courses in at least two of Physics, Chemistry, and Biology must exist as part of the school's standard curriculum. The courses must include laboratory work, and be geared to nationally-normed exams required for university matriculation.

### Facilities

The school must have facilities competent for hosting standard laboratory work. This includes, but is not limited to, work benches with water, electricity, and gas. Facilities must exist to lock away expensive equipment when not being used.

### Feedback

Schools and teachers must be willing to work with TGUP to report on the outcomes of the **SLaB** and students' work. This includes: reporting on the adequacy of equipment for individual experiments; reporting on nationally normed test scores; and matriculation rates before and after **SLaB** installation.

## Detailed Budgets:

<b>Total for Room Renovation</b>	<b>\$4,580</b>
<b>Total for Gas &amp; Electric Installation</b>	<b>\$2,472</b>
<b>Total for Water Line</b>	<b>\$1,448</b>
<b>Total for Science Lab in a Box (SLaB)</b>	<b><u>\$2,500</u></b>
<b>Total</b>	<b>\$11,000</b>

### Lab room renovation

Details	UNIT COST (KSH)	TOTAL COST (KSH)	TOTAL COST (USD)
Block boards 3/4" -25	6000	150,000	\$1,250
angline 1/2" - 12	1050	12,600	\$105
timber 6x1 - 400fts	55	22000	\$183
timber 2x2 - 300fts	65	19500	\$163
nails assorted -20kgs	200	4000	\$33
piano hinges - 20pcs	250	5000	\$42
screw 1/4 - 30packets	200	6,000	\$50
locks - 50 pcs	400	20,000	\$167
wire mesh heavy gauge 20	1500	30,000	\$250
sand 20 tonnes	3300	66000	\$550
ballast 20 tonnes	3100	62,000	\$517
kiganjo stones 600 fts	85	51000	\$425
paint 2 bucket	6000	12,000	\$100
cements 70 bags	800	56000	\$467
labour	78,500	78,500	\$654
<b>TOTAL COST</b>		<b>594,600</b>	<b>\$4,955</b>
<b>Community Contribution</b>	<b>45,000</b>	<b>45,000</b>	<b>\$375</b>
<b>TOTAL REQUEST</b>		<b>549,600</b>	<b>\$4,580</b>

### Gas and Electric line installation

	KSH	USD
Gas tap-25	62,500	\$520
coalfall -10	25,000	\$208
copper pipes- 8 roll	72,000	\$600
credo creeps - 85 pieces	5000	\$42
conduits- 20	6600	\$55
serak	3000	\$25

Teejoints-50	25000	\$208
Gas cylinder -13kgs	9500	\$80
Mainfold	12,000	\$100
Insulating tape- 4pcs	1000	\$8
1" wood screws- 4packets	1000	\$8
Transportation	10,000	\$83
Labor	40,000	\$333
electricity cost	55,000	\$459
Plans, Permits, Inspection, misc	9,000	\$75
<b>TOTAL COST</b>	<b>336,600</b>	<b>\$2,805</b>
<b>Community Contribution</b>	<b>40,000</b>	<b>\$333</b>
<b>TOTAL REQUEST</b>	<b>296,600</b>	<b>\$2,472</b>

## Water installation

	KSH	USD
ppr pipes 3/4" - 12pcs	9000	\$75
ppr Tee 3/4" - 60pcs	6,000	\$50
3/4" sockets -30pcs	3000	\$25
elbows 3/4"-50	5000	\$42
male adapter 3/4 x1/2"-15	2250	\$19
female adapter 3/4"x1/2- 30	4500	\$38
threads tape -15pcs	750	\$7
Tangit 500ml -2	2400	\$20
swanneck tap for sinks-20	70,000	\$584
gate valve 1/2"-5	7,500	\$63
bottle trap11/2"(viEGA)- 30	21000	\$175
waste bends 11/2"-100	10,000	\$84
inspection Teeplug11/2" - 10	3500	\$30
waste pipes 11/2"- 10	8,000	\$67
clips 11/2"-50	2500	\$21
steel nails 21/2" -1 packet	440	\$4
lab sink -6	16,800	\$140
labour	30,000	\$250
back nuts 3/4" -5	500	\$4
<b>TOTAL COST</b>	<b>203,140</b>	<b>\$1,698</b>
<b>Community Contribution</b>	<b>30,000</b>	<b>\$250</b>
<b>TOTAL REQUEST</b>	<b>173,140</b>	<b>\$1,448</b>