



**STEM Park**  
by PROJEKT INSPIRE Tanga

PROJEKT  
**inspire**

STEM PARK TANGA

# ANNUAL REPORT 2023



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Tanga, Tanzania

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# Introduction

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STEM ParkTanga stands as an invaluable out-of-school resource center catering to children, youths, and teachers. This educational facility is dedicated to fostering learning in Science, Technology, Engineering, and Mathematics (STEM).

STEM Park Tanga serves as a dynamic space where individuals of all ages can converge to explore and delve into the wonders of STEM phenomena. The facility relies on innovative approaches, utilizing interactive displays, STEM exhibit events, and engaging activities. Embracing cutting-edge technologies, including web-based education programs, and remote teaching techniques, the park is committed to providing a contemporary and effective learning experience.

The park goes beyond traditional education by offering interdisciplinary learning opportunities through practical experiments. Beyond imparting hands-on training, STEM Park Tanga functions as a comprehensive developmental program, aiming to equip and inspire children for success in the competitive labor and entrepreneurship market of the 21st century. In addition to its educational mission, the park contributes to the beautification of Tanga City, enriching the community with a space that encourages curiosity, exploration, and intellectual growth.

Over the past year, STEM Park Tanga has spearheaded initiatives to enhance STEM education among Tanga City's students and youth, aligning with the STEM career ladder model.

To further its mission of supporting the education system and youth well-being, STEM Park Tanga has orchestrated a series of impactful activities and programs:

The Programs and activities are categorized based on;

1. STEM Youth Programs.
2. International calendar.
3. Teachers capacity building.
4. Stakeholders Engagement.
5. Paid Programs.
6. Rising Steam Stars.
7. Staff Capacity Building & Events.
8. Media engagement
9. Outreach program

# 1. STEM Youth Programs

STEM Park Tanga has been at the forefront of empowering the youth in Tanga City through a myriad of impactful programs. These initiatives aim to cultivate a passion for science, technology, engineering, and mathematics (STEM) among the younger generation. Through engaging workshops, interactive events, and bootcamps, STEM Park Tanga strives to ignite curiosity and inspire the youth to explore the vast possibilities within the realm of STEM education.

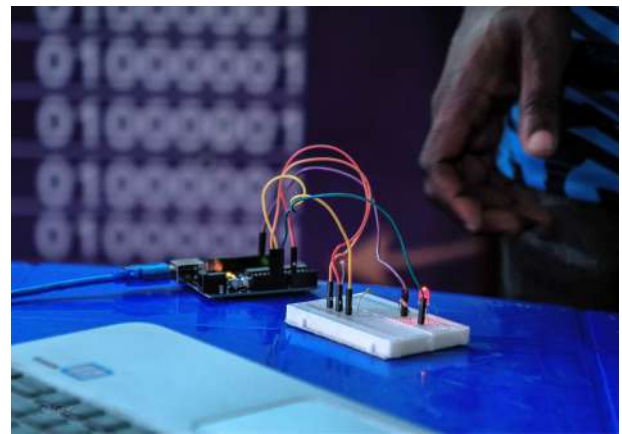
**The following are the programs and activities;**

## **a) Annual STEM Youth Boot Camp**

From June 26 to June 30, STEM Park Tanga successfully conducted the 7th Annual Youth Bootcamp program. This program, themed "Letting STEM lead the way towards climate actions," brought together over 70 secondary school students from various regions across Tanzania. Aimed at fostering a passion for science, technology, engineering, and mathematics (STEM), the Youth Boot Camp featured a series of classes, Career guidance, science slams and Project presentations.



*Figure 1: Students Making Bioplastic During 7th SYBC in science class*



*Figure 2: Technology Class Creating Weather Station During 7th SYBC*

The week-long program provided students with a unique opportunity to explore the diverse facets of STEM education, encouraging curiosity and inspiration while emphasizing the pivotal role STEM plays in addressing climate challenges.

### **b) Tech- Sprint Challenge**

The Techsprint Challenge program was conducted in February 2023. This is an innovative program that aims to engage and challenge secondary school students in various technology-based activities.

The program involved 3D printing classes, where students learned how to design and print 3D objects using Creality software and 3D printers. The 3D printing classes allowed students to learn about the technology behind 3D printing, including the different types of 3D printers, the software used in the design process, and the materials used for printing. A total of 50 students from 5 schools managed to participate in the techsprint challenge program.

### **c) Volunteering Program**

In April, STEM Park Tanga took a significant step towards community empowerment and job creation by launching a volunteering program exclusively for its alumni. This dual-purpose initiative has already benefited six alumni—four girls and two boys—providing them with valuable experiences while actively contributing to community development. By engaging these alumni in meaningful volunteer work, STEM Park Tanga not only fosters ongoing support within its network but also plays a vital role in cultivating skills and creating employment opportunities within the community. This comprehensive approach aligns with the organization's commitment to individual empowerment and broader socio-economic impact.



#### **d) Career Fair Events**

The STEM Career Fair events initiated by STEM Park Tanga have garnered significant participation, involving a total of 11 schools. Impressively, from July to November, these events attracted over 530 students. This widespread engagement underscores the success of the initiative in reaching and impacting a diverse range of students from various educational institutions. As students actively participate in the STEM Career Fair events, they gain valuable insights, exposure, and inspiration to navigate their educational and career paths within the dynamic realms of science, technology, engineering, and mathematics (STEM).

#### **● Science Based Career fair**

On 20th July 2023, STEM Park Tanga organized a STEM Career Guidance and Career Fair with the theme "Medical Career Fair" aimed at secondary school students from Macechu and Nguvumali schools. The event took place at STEM Park and sought to introduce 209 students to the diverse opportunities available in the medical field. Among the participants were 116 female students and 93 male students. The fair featured various informative and interactive sessions designed to inspire and motivate students to pursue careers in healthcare and STEM fields.



*Figure 3: Doctor instructing Students On Blood Pressure Measurement During Science Career Fair.*



*Figure 4: Doctor instructing students on providing First Aid for Choking victims During Science Career Fair.*

## ● Technology Based Career Fair

On September 26, 2023, STEM Park Tanga organized a Technology based Career Fair event that catered to a total of 120 students Haki, Old Tanga, and Chumbageni Secondary Schools. The objective of this event was to inspire students and guide these young minds toward careers in technology. The event was a resounding success and comprised various informative sessions and hands-on activities as well as experts from industries.



*Figure 5: Technology instructor Teaching Students Mobile Application Development During Technology Career Guidance.*



*Figure 6: Robotech Demonstrating Electric Motorcycle Functionality During Technology Career Fair*



*Figure 7: Students receiving an Introduction to HTML During Technology Career Fair*

## ● Engineering Based Career fair

On October 26, 2023, STEM Park Tanga organized an Engineering Career Fair event that catered to a total of 120 students from local schools, including Tanga Technical, Usagara, and Galanosi Secondary Schools. The objective of this event was to inspire and guide these young minds toward careers in science, technology, engineering, and mathematics (STEM). The event was a resounding success and comprised various informative sessions and hands-on activities.



*Figure 8: Students Initiating the Construction of a Hydraulic Bridge During Engineering Career Fair*



*Figure 9: Students Building a Drone During Engineering Career Fair*

## ● Mathematics Based Career fair

On November 20, 2023, STEM Park Tanga organized a Mathematics Career Fair event that catered to a total of 120 students from Maweni, Toledo, and Hortein Secondary Schools. The objective of this event was to inspire and guide these young minds toward careers in mathematics.



*Figure 10: Students Gaining Experience Using Mathematics PhET Simulations During Mathematics Career Fair*



*Figure 11: Students Gaining Work Experience from a Guest Speaker from NBC Bank During Mathematics Career Fair*

## 2. Teachers Capacity Building

STEM Park Tanga's commitment to enhancing STEM education extends beyond students to the educators who play a pivotal role in shaping the future of learning. Recognizing the crucial contribution of teachers, STEM Park dedicated efforts to advance their capacity through meticulously designed training and development programs.

These targeted programs are tailored to equip educators with the necessary tools, knowledge, and pedagogical skills required for the effective impartation of STEM concepts in classrooms. Through hands-on workshops, and collaborative learning experiences, teachers gain a comprehensive understanding of the latest advancements in STEM fields and innovative teaching methodologies.

**This year STEM Park Tanga managed to conduct the following trainings;**

### **a) Primary school teachers Training**

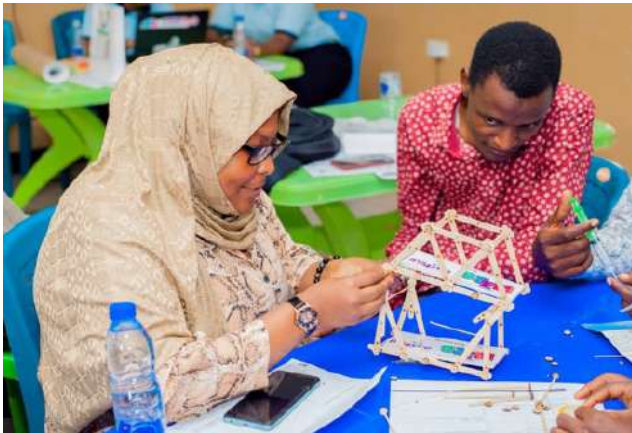
This was a 2-day training program conducted from 19th to 20th April 2023. The training impacted a total of 40 teachers from 20 primary schools residing at least 5 km from STEM Park Tanga. In this training 2 science teachers from each participating school were involved. The training covered the following areas:

1. Introduction to STEM concepts and activities
2. Project-based integrated learning Model (PBIL) in teaching
3. Integration of STEM with other subjects
4. Human-Centered Design Methodology
5. STEM Clubs Modality, Evaluation, and Management Methodologies for Sustainability
6. The Use of Exhibits in Teaching
7. The integration of Lesson plans and the PBIL system.

Also, the training focused on discussing the key roles of teachers in managing and sustaining STEM clubs.

The roles discussed were;

1. Registering students to join the STEM Club
2. Planning and organizing STEM activities and projects
3. Facilitating learning during the STEM Club meetings
4. Evaluating student progress and providing feedback in support of the STEM Facilitator.
5. Co-facilitation of club activities
6. Reporting on the activities and progress of the STEM Club to the STEM Facilitator
7. Mentoring students working on the projects as per the Club calendar



*Figure 12: Teachers Building a Hydraulic Bridge During Primary school Teachers Training*



*Figure 13: Teachers Engaged in Discussions During Teacher's Training*

## Schools that participated were as follows;

SN	SCHOOL	LEVEL
1.	Japan	Secondary
2.	Mwapachu	Secondary
3.	Magaoni	Secondary
4.	Ndaoya	Secondary
5.	Chongoleani	Secondary
6.	Pande magubeni	Secondary
7.	Mabokweni	Secondary
8.	Tongoni	Secondary
9.	Kirare	Secondary
10.	Marungu	Secondary
11.	Kibafuta	Primary
12.	Kirare	Primary
13.	Kwakaeza	Primary
14.	Makolonya	Primary
15.	Yusuph Makamba	Primary
16.	Usagara	Primary
17.	Ukombozi	Primary
18.	Mwenge	Primary
19.	Mwakizaro	Primary
20.	Mwahako	Primary

### b) Astronomy-based teachers Training

From 28th to 29th April 2023 an Astronomy Teacher Training Program was conducted at STEM Park Tanga. The training involved a mixture of geography and physics teachers making a total of 30 teachers of which 20 teachers were from 10 primary schools and 10 teachers were from 10 secondary schools.

The purpose of this program was to provide primary and secondary school teachers with the necessary skills and knowledge to teach astronomy and geography effectively, as well as how to use astronomical tools for hands-on learning.

The training covered the following topics:

1. Introduction to Astronomy in Teaching.
2. Phases of the moon and Earth seasons.
3. Astrophysics and astrobiology.
4. Astronomical tools usage.

### Schools that participated were;

SN	SCHOOL	LEVEL
1.	Japan	Secondary
2.	Mwapachu	Secondary
3.	Magaoni	Secondary
4.	Ndaoya	Secondary
5.	Chongoleani	Secondary
6.	Pande magubeni	Secondary
7.	Mabokweni	Secondary
8.	Tongoni	Secondary
9.	Kirare	Secondary
10.	Marungu	Secondary
11.	Kibafuta	Primary
12.	Kirare	Primary
13.	Kwakaeza	Primary
14.	Makolonya	Primary
15.	Yusuph Makamba	Primary
16.	Usagara	Primary
17.	Ukombozi	Primary
18.	Mwenge	Primary
19.	Mwakizaro	Primary
20.	Mwahako	Primary



*Figure 14: Discussion Between Teachers and Trainer During Astronomy Teacher's Training*



*Figure 15: Teachers Participating in Hands-on Activities for Moon Shape Changes Experiment During Astronomy Teacher's Training*



## 3. International calendar

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Embracing a global perspective, STEM Park Tanga has carefully curated its activities to align with the international calendar. By synchronizing with key events and milestones in the global STEM community, STEM Park ensured that its programs not only meet local needs but also resonate with broader trends and advancements in science and technology.

This strategic approach enhances the relevance and impact of STEM education in Tanga City on an international scale.

### **The following are the activities conducted basing on the International calendar;**

#### **a) International day for women and Girls in Science.**

International Girls in Science Day is a global event celebrated every year on 11th February, aimed at promoting girls' interest in Science, Technology, Engineering, and Mathematics (STEM) fields. The 2023 theme "Girls in Science for Sustainable Development" emphasizes the crucial role that girls and women can play in achieving sustainable development goals through their participation in STEM-related careers.

To mark the event, 100 girls from Macechu Secondary School, Nguvumali, and Chumbageni came together to learn about STEM careers and sustainable development. They were introduced to various STEM fields and the significant impact that their involvement in these fields can have on society, the environment, and the economy.

The girls learned how to apply STEM knowledge and skills to solve real-world problems such as climate change, renewable energy, and water scarcity.

The event also provided an opportunity for the girls to discuss the challenges they face in pursuing STEM careers. Many girls still face cultural and social barriers that prevent them from pursuing STEM fields, such as gender stereotypes, lack of role models, and inadequate resources. The girls discussed ways to overcome these challenges, including seeking mentorship, developing self-confidence, and advocating for equal opportunities.



*16: Students describing challenges faced in science subjects during International day of women and girls in science*

## **b) International Water Day Celebration**

International Water Day is an annual event celebrated on 22nd March, but in Tanga STEM Park, we decided to celebrate it earlier on 10th March 2023 in collaboration with the Water Institute.

The celebration was marked with a rain dance workshop, which aimed to create awareness about the importance of rainwater harvesting and management for sustainable development. The workshop was attended by 50 students from four secondary schools, namely Haki, Chumbageni, Old Tanga, and Galanosi Secondary School.

The theme of the workshop was "Rain Water for Sustainable Development", and it provided an opportunity for students to learn about the different techniques and methods of rainwater harvesting.

During the workshop, the students learned about the importance of rainwater harvesting and how it can help address water scarcity and support sustainable development. They were introduced to different techniques and methods of rainwater harvesting, including rooftop rainwater harvesting, surface runoff harvesting, and groundwater recharge.

students also learned about the importance of water conservation and management. They learned about the different ways in which water is used, and how water can be conserved.



*Figure 17: Students are being explained how a water harvest system operates during International water day celebration*



*Figure 18: Students who attended During international water day celebration*

### **c) International youth Day**

In collaboration with various partners under the Tanga City Council, STEM Park Tanga played a vital role in providing education to youth in alignment with this year's International Youth Day theme: "Green Skills for Youth: Towards a Sustainable World." Recognizing the pressing need for environmental awareness and sustainability, the collaborative efforts aimed to equip young individuals with the knowledge and skills necessary to contribute to a more sustainable future.

The educational programs orchestrated by STEM Park Tanga and its partners were tailored to address the theme directly. Workshops, seminars, and outreach programs focused on instilling green skills among the youth, emphasizing the importance of environmental consciousness, conservation, and sustainable practices. Throughout the one-week program over 1000 youth were reached, actively empowering them with practical skills to contribute to building a more sustainable and environmentally friendly world. The commitment to this theme was evident throughout the week-long program, culminating in the closing bonanza where Tanga District commissioner was honored as the guest of honor.

### **d) Africa Science Week**

Tanga STEM Park, in partnership with the Next Einstein Forum and AMIS, hosted the Africa Science Week from June 19 to 26, engaging more than 300 primary school and 70 secondary school students in Tanga.

Primary school students were captivated by the "Hands-on with STEM Kits" program, where they delved into the world of STEM through interactive experiments and challenges. Using engaging STEM kits,

Meanwhile, secondary school students soared to new heights with the "Drone Flying Program," where they learned the fundamentals of drone operation and navigation. Under the guidance of experienced instructors, the students practiced piloting drones, programming flight paths, developing valuable skills in aviation and technology.

The Africa Science Week was more than just a series of activities; it was an immersive experience that ignited curiosity, encouraged creativity, and fostered a sense of accomplishment among the participating students. The event provided a platform for young minds to explore the vast and exciting world of STEM, inspiring them to pursue further education and careers in these fields.

In addition we also hosted the Women Teachers in STEM Awards, which recognized the outstanding work of 10 female STEM teachers in Tanga.



*Figure 19: Teachers Receiving Awards During Africa Science Week at Tanga CC Hall*



*Figure 20: Group Photo of Award-Winning Teachers during STEM Women teachers awards ceremony as part of the Africa Science Week 2023*



*Figure 21: Students Engaging in Civil Engineering, Constructing a Model House During Africa Science Week*

## 4. Staff Capacity Building & Events

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To ensure the continued excellence of its team, STEM Park Tanga prepared and participated in several staff capacity building and events. Through professional development opportunities, workshops, and team-building activities, The Park fosters a dynamic and knowledgeable team capable of delivering high-impact programs and initiatives.

**The following are the programs conducted;**

### **a)Tanga staff capacity building**

The Building Capacity Program for STEM Park Tanga workers was conducted for three days, from the 4th of July to the 6th of July 2023. Aimed at enhancing the knowledge and skills of the participants. The program was facilitated by Madam Lorna Fernandes and included nine participants. The training focused on empowering the workers in various areas, including financial literacy, professional development, team building, communication, and essential workplace policies.

### **Day One: Topic Covered: Financial Literacy, and Professional Development**

The program commenced with a focus on important foundational topics. Day one covered two key areas: financial literacy and professional development. During the financial literacy session, participants were educated on the basics of financial management, including budgeting, savings, and investment strategies. The professional development segment emphasized essential skills such as dress code, time management, soft skills, and effective communication techniques.

## **Day Two; Topic Covered: Team Building**

The second day it was centered around team-building activities that fostered creativity, cooperation, and collaboration among the participants. The challenging activities included drawing exercises like Mandala drawing to enhance creativity skills, cloth games to promote teamwork, and the egg game, which required concentration and coordination. The day concluded with a shared lunch, where participants and Madam Lorna had the opportunity to build relationships and network in an informal setting.

## **Day Three; Topic Covered: Communication, Teamwork, Codes of Conduct, Planning, and Add Value.**

On the final day of the program, the participants trained in communication, teamwork, codes of conduct, planning, and adding value to their work environment. They learned the importance of empathy, sympathy, confidentiality, and child protection policies. These topics were explored through interactive discussions and case studies, which enabled the participants to grasp the significance of these principles in their professional lives and work environments.



*Figure 22: Trainer with STEM Park Staff During Team Building Session*



## **b)Volunteers Capacity building**

STEM Park Tanga, in collaboration with Robotech, conducted a comprehensive Volunteers Capacity Building program focusing on electronics basics and 3D printers. The aim of this training initiative was to empower volunteers with a solid foundation in these critical areas, enabling them to proficiently conduct electronics and 3D printer classes in the future.

The training program covered fundamental concepts in electronics, providing volunteers with the essential knowledge required for effective teaching. Additionally, participants delved into the intricacies of 3D printing technology, gaining insights into various aspects, including printer types, design software, and materials.

## **c)SAASTEC conference**

In continuation of the capacitating team with enough skills and exposure on STEM related programs, From 20th to 23rd November one of the Tanga STEM Park staff “Ms. Antonia Mavoja” attended the SAASTEC conference 2023 which was conducted at Sci-Bono center in South Africa.

The conference involved workshops which were conducted by the Osizweni team, emphasizing their mobile lab initiative. They also showcased their unique approach on packing practical materials and visiting schools to provide hands-on science education. Subsequently, as part of exhibits development training she had a chance to engage in creating an exhibit named “Uphill cone”.

#### **d) Astronomy Training**

Two Astronomy based science communicators from STEM Park managed to attend the Astronomy based teachers training program which were conducted by ASAT in collaboration with the Open university of Tanzania.

The training objective was to equip teachers and trainers with the best ways of teaching geography and astronomy and how to use astronomical equipment for better delivery of topics and discussions in classrooms. This training was conducted at the Open university of Tanzania - Tanga Branch on 18 August 20223.

#### **e) Mediation Scientific Education Program**

STEM Park Tanga staff participated in the Mediation Scientific Education training by Universcience Paris via Zoom from 29 to 22 september 2023. The sessions, focusing on designing innovative outreach activities, covered effective communication and technology integration. Stem Park members actively engaged, bringing a unique perspective to discussions. The training enhances our ability to create impactful outreach initiatives, fostering collaboration within the STEM community.

#### **f) Universe Science Trip**

The STEM Park team were part of the Projekt Inspire's team who traveled to France in May 2023 to visit the Universe science center and to learn on science center operations and development of programs as well as exhibits development. This trip was part of the partnership between Projekt Inspire, universe science and the french embassy.

### **Purpose of the Visit:**

The primary objective of the visit was to foster international collaboration and knowledge exchange in the field of science education and outreach.

The STEM Park team aimed to gain insights into best practices in science center operations and the development of educational programs and exhibits.

### **Collaboration Highlights:**

The partnership between Projekt Inspire, Universe Science Center, and the French Embassy emphasized the importance of global cooperation in promoting STEM education and public engagement with science.

The collaboration facilitated the sharing of expertise and resources to enhance the quality and impact of science education initiatives.

### **Cultural Exchange:**

In addition to the professional aspects, the trip included cultural exchange opportunities, allowing the STEM Park team to immerse themselves in the rich cultural heritage of France.

Cultural activities, such as visits to local museums, historical landmarks, and networking events, were organized to strengthen the bonds between the collaborating entities.

### **Networking and Relationship Building:**

The visit provided a platform for the STEM Park team to network with professionals in the field, including scientists, educators, and administrators from the Universe Science Center.

Relationship-building activities were an integral part of the trip, fostering long-term connections and potential future collaborations.

## Future Plans and Implementations:

Exhibits exchange in which the exhibits will be transported to Tanzania for installation on both Dar es salaam and Tanga STEM Parks.



*figure 23: Projekt Inspire team visit at Universe science in France*

## g) The 3rd National Symposium on Provision of Library and Information Services.

As part of fostering collaboration for national scaling up of STEM park developments in Tanzania, Tanga STEM Park manager had a chance to attend the 3rd National" Symposium, a platform organized by TLSB on "Provision of library and information services to support teaching, learning, research, promotion of reading culture and book exhibitions", held in Mwanza region from 19th -21st September, 2023.

This participation underscored the commitment to national collaboration, recognizing the interconnectedness of STEM education and library services in advancing educational goals.

Also had the opportunity to share insights and experiences from Projekt Inspire's programs, highlighting the innovative approaches taken in developing STEM-focused educational programs and exhibits among attendees as well as managed to demonstrate a commitment to the broader educational landscape, showcasing Projekt Inspire as an active participant in initiatives aimed at improving education, research, and reading culture.

Also managed to set up an exhibition booth to showcase the various educational programs, exhibits, and initiatives undertaken by STEM Park Tanga under Projekt Inspire. This included interactive displays, demonstrations, and interacting directly with students attending the symposium.

### **h) East African Digitalization Conference**

Representing Projekt Inspire, Tanga STEM Park Manager had a chance to attend the future of digital economy and emerging technologies for sustainable development, an East African digitalization conference that was held in Arusha for 3 days where it kick-started with a startup competition on the 8th November 2023 at Westerwelle Foundation followed by the conference on 9th-10th November 2023 at Four-Point by Sheraton.

Had a chance to learn on the Tanzania startup ecosystem and how Projekt Inspire can contribute in supporting innovation in Tanzania as well as contributing on how Tanzania can now adopt on the world's technological change in the education sector and how to use STEM related programs that Projekt Inspire has been doing for over 9 years now in giving children and youth applicable skills towards sustainable development and educational improvement.

## 5. Stakeholders Engagements

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Collaboration is at the heart of STEM Park Tanga's mission. Through extensive stakeholders' engagement, the organization creates a network of support involving parents, community leaders, donors, and industry partners. This collaborative approach ensures a holistic and sustainable impact on STEM education. By fostering meaningful connections, STEM Park Tanga seeks to build a community that recognizes the importance of STEM in shaping the future workforce and driving innovation.

The following are the programs conducted under the stakeholders' engagement category;

### **a) Community Based STEM after darks**

In a successful endeavor, STEM Park conducted two impactful free STEM after-dark programs tailored for adults, local leaders, and parents. The first event coincided with Africa Science Week in May 2023, while the second, held on November 18, 2023, aligned with the recording of an Al Jazeera program.

These strategically timed programs provided exclusive opportunities for community members to gain insights into STEM Park activities, showcasing firsthand the engaging experiences their children encounter.

Not only did these programs provide a platform for parents to gain firsthand awareness of the experiences their children encounter at STEM Park, but they also aimed to encourage parents to actively support and motivate their kids to fully engage in STEM Park programs.

A significant achievement was the participation of 50 community members across both events, highlighting the success of STEM Park efforts.

The engagement of 50 community members reflects the positive impact of STEM Park's community-centric approach, contributing to the broader success of the programs in fostering STEM education and awareness locally.

### **b) Community Outreaches**

The STEM Park Community Outreach Event, held from May 22nd to May 24th, 2023, was a resounding success in fostering scientific curiosity and promoting education in the fields of Science, Technology, Engineering, and Mathematics (STEM), and aimed to engage and inspire the local community especially parents and youth to be aware of stem park and the program provided at stem park through interactive exhibits, and science experiments.

The event featured two main activities: a science exhibit session and a hands-on science activity(volcano experiment).

The science exhibits session showcased a variety of STEM-related exhibits, including a Tornado bottle, Magnetic table, Jastrow illusion, Blindspot, Color filters, and Ball in air stream exhibits.

Also, the volcano session allowed parents to create their own volcanoes and watch them erupt.



*Figure 24 : Tornado in a Bottle is one of the showcased exhibits that the community enjoyed seeing how it works.*

## **PARTICIPANTS**

A total of 217 people from 3 wards attended the program, the wards reached out are Pongwe, Mabokweni, and Chongoleani.

The participants from Mabokweni were 53 (22 female and 31 male). Participants from Pongwe were 48 (27 female and 21 male). Participants from Chongoleani were 116 (54 female and 62 male). Each participant managed to try at least one activity.

### **c) Minister of Education Visit**

On July 11, 2023, the Minister of Education, Science, and Technology in Tanzania, Hon. Prof. Adolf Mkenda, paid a momentous visit to STEM Park, joined by a group of attendees from different government positions and other stakeholders, including Mkinga District Commissioner Hon. Colonel Maulid Hassan Surumbu, the District Administrative Secretary, Dr. Hassan Mshinda from Foundation Botnar/Tanga yetu, and representatives from Tanga City Council, the Ministry of Education, Science and Technology, COSTECH, and accompanying media teams.



The visit commenced with a warm welcome and introduction by Dr. Lwidiko, the Director of Projekt Inspire, who presented an overview of STEM Park's mission, goals, and significant impact on STEM education. Dr. Lwidiko detailed Projekt Inspire's contributions to the development of Tanzania's education sector and elaborated on the diverse range of programs and initiatives offered by Projekt Inspire through STEM Park.

Following the introduction, a guided tour of STEM Park ensued, with the Minister and accompanying officials exploring different facets, including Science Exhibits, STEM Park Laboratories, and various student - implemented projects. The Minister engaged directly with students involved in STEM activities, gaining first hand insights into the positive impact of STEM Park programs.

A presentation by Dr. Lwidiko highlighted Projekt Inspire's works, STEM Park's progress, and the national scale-up program.

The Minister responded with a speech emphasizing the establishment of STEM Parks nationwide, endorsing Projekt Inspire as the exclusive implementer of the national scale-up program. The Minister outlined key steps, starting with Dodoma as the central hub and urged members of parliament to visit and champion the establishment of STEM Parks in their respective areas.

Furthermore, he insisted on the provision of free buildings and land by the Dodoma City Council for STEM Park construction in Dodoma.



*Figure 25 & 26: Minister of Education experiencing how STEM exhibits can be used in Education when visited STEM Park Tanga*

#### **d) Botnar Foundation Visit**

As an integral component of the "Our City" global network workshop. On October 17, representatives from the Botnar Foundation, alongside stakeholders from Cluj, Romania; Manta, Ecuador; Koforidua, Ghana; and Barranquilla, Colombia, visited STEM Park Tanga. This visit served as a pivotal moment for introducing the work and journey of STEM Park Tanga by Projekt Inspire to a global audience. The delegation sought to recognize the innovative initiatives spearheaded by Projekt Inspire.

During this collaborative gathering, participants had the opportunity to witness firsthand the impact of STEM Park Tanga's programs and gain insights into the innovative work undertaken by Projekt Inspire in improving the way students can experience science in an easy and funny way.

The exchange of ideas and experiences among representatives from diverse locations highlighted the global relevance and replicability of the STEM education model pioneered in Tanga.



*Figure 27: Our city program by Botnar foundation Stakeholders from different cities following up on the presentation during their visit as STEM park Tanga*



*Figure 28: Stakeholders experiencing how sound tube exhibit works.*

### **e) Abbott Fund visit**

On September 11, the Abbott Fund Tanzania team paid a visit at STEM Park Tanga to witness the impactful programs that Projekt Inspire has been doing in Tanga as well as to strengthen collaboration towards the implementation of STEM-based education strategy within Mkinga District.

During this significant visit, the Abbott Fund Tanzania representatives actively engaged with STEM exhibits, immersing themselves in the vibrant learning environment.

These hands-on experiences provided them with valuable insights into the daily activities at STEM Park, allowing them to observe how students interacted with exhibits and participated in various programs.

The interaction not only showcased the practical aspects of STEM education but also served as a tangible demonstration of the effectiveness of Projekt Inspire's programs.



*Figure 29: Abbot fund visitors with STEM Park Team*



*Figure 30: Abbot Fund Visitors Enjoying Gyroscope Exhibits at STEM Park*

## **f) NGOs Forum 2023**

STEM Park Tanga played a pivotal role in organizing the inaugural Tanga Annual NGOs Forum 2023, a significant gathering that brought together more than 200 non-governmental organizations operating in the Tanga region.

The forum took place over two days, from August 15 to 16, 2023, and was hosted at the Tanga Regional Council grounds. The guest of honor for this momentous occasion was Hon. Waziri Kindamba, the Tanga Regional Councilor.

This collaborative effort marked a crucial milestone in fostering a platform for NGOs to share insights, collaborate, and address key issues affecting the Tanga community. STEM Park's active participation showcased its commitment to community development and collaboration with other organizations for the betterment of the region.

## **g) Tanga CMT meeting**

Projekt Inspire managed to host the Tanga city council CMT meeting to discuss how the Tanga STEM Park operational costs can be included in the annual budgets of the Tanga city council.

The meeting was attended by the city Mayor, City Director, Projekt Inspire team, and all 26 heads of Tanga city Departments.

For the meeting conducted on 16th April 2023, Tanga City Council agreed to start taking slowly the operational costs of the STEM Park Tanga starting with the next year's city budget.

### **The following are the agreed resolutions;**

#### **Resolution 1:**

The participants resolved that the City Council will allocate 20% of the operational costs for the fiscal year 2023/2024, and the City Council will continue to incrementally increase the percentage of operational costs each fiscal year for the next three years to support the center's operations.

#### **Resolution 2:**

The members instructed the construction of additional centers in Kirare, Mabokweni, and Marungu to facilitate accessibility to services for students residing in remote areas, and this construction will take place over a period of three years starting from the next fiscal year.

#### **Resolution 3:**

The stakeholders urged the City Council to collaborate with Projekt Inspire in developing a comprehensive project proposal aimed at further advancing the STEM PARK project. This proposal will be submitted to the Botnar Foundation through the Tanga Yetu project for potential funding and support, contributing to the project's long-term sustainability.

#### **Resolution 4:**

With a view to ensuring the smooth transition and continuity of the STEM PARK project, the meeting attendees directed the City Council to compose a formal letter addressed to Fondation Botnar. In this letter, the Council will request an extension of Projekt Inspire's involvement in the project, particularly during the period when the Council is preparing and training local experts to take over the project's management.



*Figure 31: Mayor and Director of Tanga City Council*

#### **h) Tanga government officials visit**

Different Tanga government leaders managed to visit the STEM park as part of learning the programs being implemented and the impacts that the park is bringing to the community.

#### **The leaders managed to visit this year as follows;**

Tanga regional councilor: 28/07/2023

Tanga district Councilor: 12/08/2023

Tanga city executive director and Mayor and other city head of departments: regular visits on each program invited/ there is a leader visiting STEM Park.



*Figure 32: Tanga District Commissioner and Mayor of Tanga City Council Observing STEM PARK Activities*



*Figure 33: STEM Park Manager Demonstrating Activities to the Mayor and District Commissioner.*

## **i) Education Stakeholders in Tanga City**

Tanga STEM Park recognizes the critical role that stakeholders play in enhancing education, and we are committed to engaging a diverse range of partners to achieve comprehensive improvements both socially and financially.

### **Local Government:**

Collaborating with local government entities is essential for aligning STEM education initiatives with broader educational goals. Tanga STEM Park actively engages with the following offices to ensure that our programs complement and enhance the overall educational landscape in Tanga City;

Tanga city council education departments,

Regional education offices

Tanga District commissioner offices

PORALG Tanga

## STEM Industry Partners;

In our commitment to advancing STEM education, Tanga STEM Park values the support of funders who contribute financially to our programs. Our collaboration with philanthropic organizations, local businesses, industries, and corporate sponsorships underscores the significance of funders as essential stakeholders in advancing STEM education.

Also partnership with Community organizations play a vital role in connecting STEM education with the broader community. STEM Park Tanga partners with local NGOs, community centers, and grassroots organizations to organize education related programs, ensuring that STEM reaches all segments of the population, irrespective of socio-economic backgrounds.

These partnerships empower us to broaden our programs, elevate program quality, and ensure the enduring impact of STEM education in Tanga City.

SN	Organization Name	Organization sematic area
1.	Botnar Foundation	Youth Empowerment
2.	Islamic Help	Economic Empowerment
3.	Tigo Tanzania	Telecommunication and Innovation
4.	Liemba company Limited	Innovation
5.	NBC Bank	Innovation and financing
6.	CRDB Bank	Innovation and financing
7.	Tanga Cement	Innovation and financing
8.	Tanga Fresh	Innovation and financing
9.	Gift of hope Foundation	Education and health
10.	EMPOWER SOCIETY BUILD THE NATION (ESBN)	Health, Environment, Education and Economic



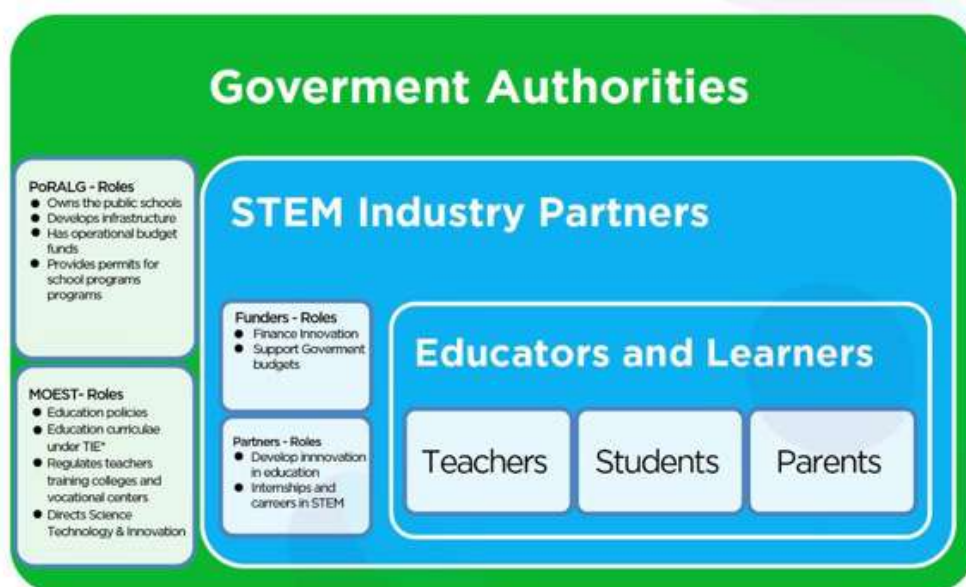
SN	Organization Name	Organization sematic area
11.	Tanzania Open Innovation Organization	Educational, healthy, technology innovation and empowerment
12.	Mguvumali community development of environment	Environment
13.	Tanga Youth Talent Association	Youth, GBV, SRH
14.	Tanzania 4H Organization	Education, Youth Empowerment, Entrepreneurship
15.	Northern Coalition for extractives and environment	Education to environmental and extractive
16.	The Vital Inclusive Organization	Education, Health, Environment, Economic
17.	IH - International	Water, Education, Health, Empowerment and Impact mitigation
18.	Tree of Hope	Gender, Health, Education and Governance
19.	Hatua na Maendeleo (HAMA)	Health, Education, Youth and Social Environment, Agriculture ,Youth and so on.
20.	Pentecostal Community Development Agency	YOUTH EMPOWERMENT
21.	JUVITA	

### 3. Educators and learners

Tanga STEM Park recognizes the interconnected roles of parents, guardians, students, youth, and teachers in shaping the educational landscape of Tanga City. Our approach emphasizes collaboration and inclusivity to ensure a comprehensive impact on STEM education.

Learners, both students and youth from across the Tanga city council, are vital contributors to the educational journey. By actively involving them in different STEM Park programs including workshops and events.

Parents and guardians, integral members of our community, contribute significantly to the educational ecosystem. Their support active participation in their children's STEM education journey are invaluable contributions that strengthen the impact of our initiatives.



## 6. Media Engagement

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This year, STEM Park Tanga has embarked on a dynamic journey to strengthen STEM education in Tanga City, marking a significant stride in our mission. Through a multifaceted approach, we have actively engaged with the community, educators, and other stakeholders through the use of media to promote a robust understanding of science, technology, engineering, and mathematics (STEM).

Our commitment to effective communication has manifested in strategic media partnerships, allowing us to amplify our message, share compelling success stories, and underscore the pivotal role of STEM education in shaping the future of Tanga City.

### **The following are the media programs implemented;**

#### **a) TV Program**

In March, Tanga STEM Park kicked off the "Watoto na Sayansi" program in partnership with Tanga Tv. The program is a TV session that airs three times a week, twice on Saturdays and once on Sunday mornings. The program aims to bring awareness to the STEM Park programs and provide an opportunity for students to learn more about different STEM activities.

The "Sayansi na Watoto" program is designed to engage and inspire young learners to pursue careers in STEM fields. The program features interactive segments, interviews with STEM professionals, and demonstrations of various STEM activities. Through the program, students can learn about different STEM fields and the skills and knowledge required to pursue careers in those fields.

The program also provides an opportunity for students to learn about the STEM Park's programs and initiatives. Through the program, students can learn about the different activities and opportunities available at the STEM Park, including workshops, competitions, and mentorship programs.

The "Watoto na Sayansi" program is an innovative initiative that leverages the power of media to bring STEM education to a wider audience. The program aims to inspire and engage young learners and promote STEM education.

Up to now over 20 programs has been recorded, 15 from them have been broadcasted.



*Figure 34: Snapshot of the TV Program Advertisement for #SayansiNaWatoto*



*Figure 35: Behind the Scenes of #SayansiNaWatoto TV Program Production*

## b) Social Media Engagements

To broaden our impact and connect with a wider audience, STEM Park Tanga has successfully launched new accounts on Facebook named “stemparktanga” and TikTok named “stemparktanga” . These platforms serve as dynamic spaces for us to share engaging content, insights, and updates on our STEM program. The Facebook page acts as a central hub for in-depth information, event updates, and community engagement, fostering a sense of connection and dialogue. Simultaneously, our presence on TikTok adds a vibrant and creative dimension, allowing us to communicate STEM concepts in innovative ways that resonate with a younger demographic.

up to date tik tok account have managed to have 1072 followers and 502 overall likes over a period of 1 year.

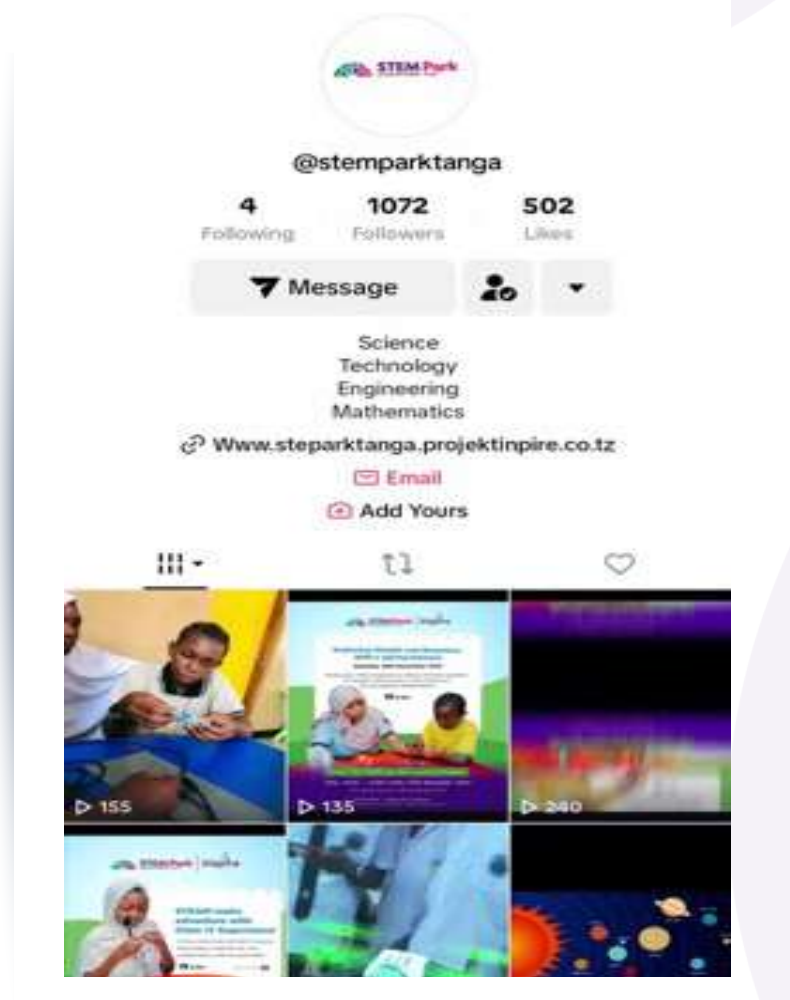


Figure 36: Image Displaying STEM PARK's TikTok Account

### **c) Magazines, Tv, and radios stations**

STEM Park Tanga has dynamically connected with the community throughout the year by actively participating in interviews on television and radio platforms, as well as providing comprehensive coverage of our events in both mediums. These engagements have played a pivotal role in amplifying the reach and impact of our STEM education programs in Tanga.

Television interviews have provided a visual platform for us to articulate the essence of STEM education, share success stories, and discuss the innovative programs we offer. By being featured on various TV programs, we've been able to reach a diverse audience and convey the excitement and importance of STEM learning. We managed to engage with ITV, East africa tv, Tanga Tv, Star Tv, Wasafi Tv and TBC.

Radio interviews, on the other hand, have allowed us to engage with a broad spectrum of the community, reaching individuals who rely on the auditory medium for information. Through these interviews, we've been able to delve into the details of our programs, answer questions, and foster a deeper connection with the listeners. The Radio stations engaged are; Radio free africa, East Africa Radio, WASAFI fM, tk FM, Mwambao radio, Radio Maarifa, Ayo tv, Clouds fm and TBC Taifa.

Additionally, our events have been covered extensively in both TV and radio broadcasts, capturing the essence of the activities, showcasing the enthusiasm of participants, and highlighting the impact of our programs on the community. This coverage serves as a powerful tool for not only documenting our achievements but also inspiring others to get involved in the world of STEM.



Figure 37: Image Showing the Minister of Education on EATV at STEM Park

#### d) Documentary recording with Prism Communication

STEM Park participated in recording documentaries of the Tanga Yetu projects. Recording involved coverage of all programs implemented under STEM Park, documentary interview as well as Tv session which was broadcasted by Tanga Television station.



Figure 38: Picture Showing Documentary Recording with Prism Communication

## 7. Rising **STEAM** Stars

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### a) **Saturday Sessions**

STEM Park has been conducting paid rising steam stars Saturday sessions. These sessions have been conducted from February to December. Up to date unique registration of students participated is 127.

This program was designed to provide in-depth and specialized STEM education experiences, these sessions serve as a valuable extension of our commitment to fostering a culture of curiosity and innovation. Participants in these Saturday sessions have had the opportunity to delve into diverse STEM topics, exploring the realms of science, technology, engineering, and mathematics in a hands-on and immersive environment.



*Figure 39: Students Engaged in RSS Saturday Session*



## **b) School Visits**

Schools from various areas in Tanga City Council and neighboring regions visited STEM Park to explore the wonders of science.

During 2023, the STEM Park Team conducted sessions during each school visit. These visits were categorized into;

Free visits for government schools and

Paid visits for private schools.

### **Notable:**

#### **primary schools visited for free included;**

Changa Primary School, Juhudi, Mwang'ombe, Gofu Juu, Nguvumali, Changa English Medium, Kisosora, Mpirani, Bombo, Chumbageni, Mbeza Mazoezi from Korogwe, and Mkuu Rombo from Kilimanjaro.

#### **The secondary schools visited for free included;**

Macechu, Chumbageni, Old Tanga, Kiomoni, Zingibari, Haki, Galanos, Maweni, Tanga Tech, Ummy Mwalimu, Toledo, Usagara, Hortein, Mkwakwani, and Mikanjuni Secondary Schools.

#### **paid schools visited at STEM Park included;**

St. Joseph English Medium School (Standard 7) - 62 students, Muzdalifah Islamic School - 36 students, Swafaa English Medium - 232 students, Burhan School - 141 students, A.B.A Islamic School - 32 students, and St. Joseph English Medium School (Standard 6) - 82 students.



*Figure 40: Students engaged in the explore downhill race exhibit during school visit*

### **Number of Schools Visited in 2023:**

RSS STEM Park Team reached out to a total of 33 schools during 2023, both primary and secondary, creating widespread impact and fostering a love for STEM education across diverse student populations.

### **c) Holiday/Likizo Camps:**

The Likizo Camps are engaging programs specially designed for students during school breaks, providing an immersive experience in science, technology, engineering, and mathematics (STEM). Throughout the year, Likizo Camps were organized during specific holiday periods, fostering a hands-on learning environment for participants.

### **The camps conducted in 2023 included the following:**

#### **April Likizo Camp:**

This was Conducted during the Easter holiday. During the April Likizo Camp 6 students participated. Participants dived into a range of STEM topics, combining learning with fun and interactive experiences, creating a memorable holiday learning adventure. This involved science experiment, exhibits interaction and technology sessions.



*Figure 41: Technology - Makey Makey session during April Likizo camp*

### **June Likizo Camp:**

The June Likizo Camp was held during the mid-year break and it involved 5 students. The program aimed to spark curiosity and creativity among participants, encouraging exploration and experimentation in various STEM disciplines.



*Figure 42: DNA Session During June Likizo Camp in STEM Park's Biology Lab  
This image captures a snapshot of the DNA model (Deoxyribonucleic acid) session held during the June Likizo camp, taking place in STEM Park's Biology Lab and emphasizing the integration of technology and biology in the educational experience.*

### **September Likizo Camp:**

In October, the Likizo Camp hosted 2 students, providing them with a unique opportunity to explore STEM concepts. Through carefully crafted activities and challenges, participants gained practical insights into the applications of STEM principles, contributing to their holistic education.

### **December Likizo Camp:**

Closing the year, the December Likizo Camp welcomed 5 students, ensuring a fulfilling end to the STEM-focused holiday camps. This program not only offered a dynamic learning environment but also fostered a sense of community among participants, creating lasting memories.

### **STEM Camp for Class Seven Graduates:**

In 2023, following the Class Seven exams, STEM Park initiated a specialized program within RSS designed to seamlessly transition students into secondary education. This tailored STEM Camp, which attracted 10 students. The program provided a comprehensive set of activities aimed at preparing students for the challenges and opportunities ahead.

### **The program included crucial elements such as;**

Career Guidance sessions,

Immersive Hands-on Learning Activities,

A dedicated Computer Course to enhance digital literacy,

And focused Pre-Form One Preparation in key subjects like Physics, Chemistry, Biology, Mathematics, and Geography/Astronomy. This initiative marked a strategic step in empowering students with the skills and knowledge needed for a successful journey into the secondary education landscape.



*Figure 43: Students Exploring the Bunsen Burner Session during STEM Camp for Class Seven Graduates*

### **Class Four Program:**

This was Tailored for younger students, the Class Four Program saw participation from 1 enthusiastic learner, introducing them to the wonders of STEM. The program provided age-appropriate activities that aimed to ignite curiosity and lay the foundation for a lifelong interest in STEM fields.

### **Fly for the future**

The Fly for the Future program was a comprehensive initiative that aimed to teach primary school students how to fly drones manually and through coded ways. The students were taught the basics of drone flight control and how to use programming languages such as Scratch and block codes to automate flight paths and data collection. They were also taught how to read printed maps and stories to guide their flight missions.

This program started from 11 to 16 April involving 8 schools from which each school contributed 25 students making a total of 200 students. Although the students did not fly drones to actual mangrove destinations, they were able to practice their drone flying skills in a safe and controlled environment. The program took place within the boundaries of Tanga

STEM Park, and the students were given printed maps and stories to create simulated flight paths. This approach allowed the students to gain valuable experience in flying drones and collecting data while learning about the importance of mangrove conservation.

The Fly for the Future program was a great success, and it provided primary school students with an opportunity to learn about drone technology, data collection, and environmental conservation. The program fostered teamwork, creativity, and critical thinking among the students.

### **Schools that participated were:**

- Juhudi Primary School
- Changa English Medium primary school
- Majani Mapana Primary School
- Mwang'ombe primary school
- Nguvumali Primary School
- Saruji Primary School
- Bombo primary school
- Amboni primary school.



*Figure 44: Snapshot from the "Fly for the Future" Program at STEM Park*



*Figure 45: Students Flying drones during "flying for the future " activities*

#### d) STEM Park After Dark

In 2023, STEM Park hosted four captivating After Dark events, offering adults a unique entry into the world of Science, Technology, Engineering, and Mathematics (STEM).

The following are dates and participant numbers;

S/N	DATE	NUMBER	STATUS
1.	25/12/2023	15	Free
2.	29/07/2023	13	Paid
3.	26/08/2023	21	Paid
4.	20/11/2023	30	Free



Figure 46: Adults enjoying scientific experiments during after dark event

## 8. Paid Programs

The Marketing Department at STEM Park Tanga is dedicated ensure there are many paying programs for revenue raising.

In this year, the Marketing Department at STEM Park Tanga has been actively involved in promoting STEM education and engaging with the community through various programs and events. Below is a detailed summary of the programs and activities organized.

### a) Venue Renting

This involved renting the STEM Park venue for hosting external events, such as weddings,kipaimara, workshops, and conferences.

S/N	NAME OF EVENT	AMOUNT PAID
1.	Usiku wa vyombo	200,000
2.	Kukodisha venue kwa ajili ya breakfast	50,000
3.	Kukodisha venue kwa ajili ya lunch	70,000
4.	Girl guide event	40,000
5.	Harusi	400,000
	<b>TOTAL</b>	<b>760,000</b>

### b) RSS Sessions

Throughout this year, RSS Sessions engaged 127 students, enhancing their interest in STEM. Students developed problem-solving and teamwork skills. The table below shows all the details about the whole program...



S/N	MONTH	NUMBER OF STUDENT	AMOUNT
1.	FEBRUARY	9	45,000
2.	MARCH	12	60,000
3.	APRIL	8	45,000
4.	MAY	20	100,000
5.	JUNE	10	50,000
6.	AUGUST	9	45,000
7.	SEPTEMBER	16	80,000
8.	OCTOBER	12	80,000
9.	NOVEMBER	15	95,000
10.	DECEMBER	4	45,000
		<b>TOTAL</b>	<b>645,000</b>

### c) School Visit

STEM Park Tanga We have successfully visited various private schools in Tanga to persuade them to visit the STEM Park as part of marketing and sales programs. Those schools are..

1. Raskazone English medium school
2. Afecial English medium school
3. Sir John English medium school
4. Kana Central English medium school
5. Eckford English medium
6. Prince and princess English medium

Also We have succeeded in getting five private schools for educational visits, with an average of 30 students per visit. This resulted in a total of 503 student visits.

S/N	NAME OF SCHOOL	NUMBER OF STUDENT	AMOUNT
1.	St.Joseph English medium school(std 7)	62	200,000
2.	Muzdalifah Islamic school	36	70,000
3.	Swafaa English medium	232	464,000
4.	Burhan school	141	564,000
5.	A.B.A Islamic school	32	50,000
6.	St.Joseph English medium school(std 6)	82	250,000
		<b>TOTAL</b>	<b>1,598,000</b>

#### d) STEM After Darks

STEM Park's "After Dark" experience for adults embodies sophistication, exploration, and an engaging blend of science and entertainment. Through curated thematic nights and exclusive activities, we provide an enriching environment where adults can indulge in their curiosity and passion for Stem. This year, Stem Park successfully hosted four After Dark events, two of which were free. The payment was 20000 single and 30000 couples.

DATE	NUMBER OF PEOPLE	DESCRIPTION	AMOUNT
25/06/2023	15	FREE	-
29/07/2023	13	PAID	260,000
26/08/2023	21	PAID	340,000
20/11/2023	30	FREE	-
		<b>TOTAL</b>	<b>600,000</b>

### e) Likizo Camp

The Likizo Camp was a resounding success, with 18 students participating. The camp ran for several weeks (as shown below) during the school holidays and the table below shows all the details.

S/N	NAME OF CAMP	NUMBER OF STUDENT	AMOUNT
1.	Easter Camp(1 week)	6	50,000
2.	June likizo camp (3 weeks)	6	109,000
3.	September likizo cam (1week)	2	50,000
4.	December likizo camp (2 week)	4	115,000
		<b>TOTAL</b>	<b>324,000</b>

### f) STEM Camp for standard seven

The STEM Camp for Class Seven graduates hosted 15 students, providing them with specialized in STEM subjects for their upcoming academic year. The Following table below shows the details for the whole program of two month which start from 01/10/2023 to 30/11/2023.

MONTH	NUMBER OF STUDENT	AMOUNT
OCTOBER	10	400,000
NOVEMBER	5	200,000
	<b>TOTAL</b>	<b>600,000</b>

### g) Class four program

The Class Four Program had 1 participant student. The program aimed to ignite curiosity and build a strong foundation in STEM for one week. It generated 25000 as program fees

### h) Financial Summary

Financially, our department's efforts have contributed significantly to the overall revenue of STEM Park Tanga. The table below summarizes the payments received for each program:

S/N	NAME OF PROGRAM	AMOUNT
1.	VENUE RENT	760,000
2.	RSS SESSION	695,000
3.	AFTER DARK	600,000
4.	SCHOOL VISIT	1,59,8000
5.	STEM CAMP FOR STANDARD SEVEN	600,000
6.	CLASS FOUR PROGRAM	25,000
7.	LIKIZO CAMP	324,000
	<b>TOTAL</b>	<b>4,602,000</b>

## 9. Outreach Program

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The Tanga Primary Schools Outreach 2023 was a transformative initiative designed to bring educational opportunities to the young minds of the Tanga CC region.

This outreach aimed to empower students through career guidance and engaging STEM (Science, Technology, Engineering, and Mathematics) sessions. One of the key mother objectives of this outreach was to target schools that are at least 5 km from STEM Park, ensuring that students in remote areas had access to educational enrichment, career guidance, and hands-on learning experiences.

### **Selected Schools:**

The criteria for selection focused on identifying schools located more than 5 kilometers from STEM Park, ensuring that the program could reach students in remote areas and also this approach aimed to extend the benefits of STEM Park's educational initiatives to those who face geographical challenges in accessing such resources. The chosen schools for the outreach program included

- Kiruku Primary School,
- Maere Primary School,
- Mwakidila Primary School,
- Pongwe Primary School,
- Ziwani Primary School, and
- Kwanjeka Primary School.
- Kiomoni Primary school
- Ndaoya primary school
- Mafuriko primary school



Kigandini Primary School  
Kisimatui Primary School  
Pande Primary School  
Maranzara Primary School  
Mleni Primary School  
Putini Primary School  
Ribawa Primary School  
Tongoni Primary School  
Mwarongo Primary School  
Kibafuta Primary School  
Mabambani Primary School  
Kirare Primary School  
Kwakaeza Primary School  
Makolonya Primary School  
Usagara Primary School  
Yusuph Makamba Primary School  
Ukombozi Primary School  
Mwenge Primary School  
Mwakizaro Primary School  
Mwahako Primary School  
Mnyanjani Primary School

### **Activities:**

The 2023 Tanga Primary Schools Outreach activities were thoughtfully selected by the STEM Park team to provide a diverse and enriching experience for the participating students. These activities included;

- The volcano eruption experiment,
- Blowing up a balloon experiment,
- Making a flying airplane,
- Crafting a catapult, and
- Constructing a Da Vinci bridge.

Each activity was designed to engage students in hands-on exploration, fostering a deep understanding of scientific and engineering principles.



*Figure 47: Instructor demonstrating to students the activity during school outreach program*

## Implementation

The Tanga Primary Schools Outreach 2023 unfolded its transformative journey in May, radiating educational enlightenment across the Tanga CC region. Divided into two dynamic weeks for phase one, each week featured visits to three selected schools, ensuring a comprehensive impact. The thematic focus added a layer of intrigue, with the first week centering around the fascinating Mpemba effect theory.



*Figure 48: Students received career guidance inspiration during school outreach programs*

## First Week: Theme - Mpemba Effect

During the first week of the outreach program, the thematic focus was on the Erasto Mpemba Effect, showcasing the accomplishments of this great Tanzanian scientist.

Erasto Mpemba discovered a peculiar phenomenon while he was a student at Magamba Secondary School in Lushoto, Tanga, in 1963. This observation, later coined as the "Mpemba Effect," describes the curious phenomenon where a liquid, typically water, initially heated can freeze faster than the same liquid starting at a colder temperature, under similar conditions.

Students were not only introduced to the scientific principles but also received career guidance inspired by Erasto Mpemba's story, motivating them to pursue a passion for science.

## Kiruku Primary School

On 11th May 2023, The day started with an inspiring career guidance session, igniting the flames of ambition among students.



*Figure 49: Students learned on how to launching a paper plane into the sky*



The stage was set for STEM exploration, starting with showcasing the principles of acid and base through the captivating "Blowing up a Balloon" experiment. The supervisor of the "Flying Airplane" activity, unfolded the concepts of elasticity and flight, leaving students in awe. Total students participated were 197

### **Maere Primary School**

on 12th May 2023 witnessed career guidance, offering valuable insights into potential career paths.

The scientific journey continued with demonstration of acid and base reaction in "Blowing up a Balloon experiment" followed by showcasing the principles of flight in the "Flying Airplane" activity. Total students participated were 137.



*Figure 50: Students learned on how to blow up the balloon by using acid and base during school outreach*

### **Mwakidila Primary School**

On 13th May 2023, STEM Park team visited Mwakidila primary school, the team started with the empowering career guidance, paving the way for an engaging session which will lead students in understanding the relationship between gas and volume through the "Blowing up a Balloon challenge. then demonstration of the dynamics of potential and kinetic energy and flight in the "Flying Airplane" activity. Total students participated were 206.



*Figure 51: Balloon-blowing competition among the students of Mwakidila during school outreach*

## **Second Week:**

### **Theme - Dr. Hassan Mshinda**

As we entered the second week of the outreach, our attention turned to the theme dedicated to the renowned Tanzanian scientist, Dr. Hassan Mshinda. Being Tanzanian, the objective was to inspire local youth to take pride in their roots and nurture a passion for scientific exploration. Children were enlightened about Dr. Mshinda's impressive academic journey, which included earning a Master of Science in Applied Parasitology and Medical Entomology from the University of Liverpool in 1992 and later obtaining a Ph.D. in 2000 from the University of Basel in Switzerland. This focused approach aimed to instill pride and motivation in the emerging generation of Tanzanian scientists.

### **Pongwe Primary School,**

on 18th May 2023, experienced Ms. Antonia's tailored career guidance. Mohamed led students through the aerodynamics journey in "Flying Airplane," followed by introducing principles of physics with an exciting "Catapult" activity. Total students participated were 207.



*Figure 52: A student joyfully releases a paper plane into the air, during school outreach*

### **Ziwani Primary School,**

on 19th May 2023, immersed in Antonia's career guidance emphasizing education and perseverance. Mohamed unveiled the magic of chemical science in the "Volcano Experiment," while Max inspired curiosity in the laws of motion through an interactive physics experiment, the "Catapult." Total students participated were 319.



*Figure 53: Students are enjoying a scientific experiment during a school outreach program*

## Kwanjeka Primary School

The concluding chapter of the Tanga Primary Schools Outreach 2023 unfolded at Kwanjeka Primary School on the 20th of May 2023. Antonia, through her motivational career guidance, encouraged students to set ambitious goals for their future. The day continued with Mohamed introducing the principles of engineering through an engaging activity involving elastic and non-elastic materials. Max then delved into the intriguing physics behind catapults during the culminating "Catapult" activity.

All students actively participated and enjoyed the session, making each school visited during the outreach a canvas for inspiration, fostering STEM exploration, and marking a remarkable journey for both the students and the Tanga Primary Schools Outreach 2023 team. Total students participated were 296..



*Figure 54: A student conducting a scientific experiment during school outreach program*

## **Challenges:**

The Tanga Primary Schools Outreach 2023 encountered challenges that highlighted the program's resilience and adaptability during its implementation in the first and second weeks.

### **Kiruku Primary School:**

The total number of students from standard one to seven did not reach 300, posing a significant challenge to the outreach team's goal. Some students left the session early due to hunger, returning home for food.

### **Maere Primary School:**

Maere Primary School's distance from people's residences required students to cross a river to get to school, and heavy rain during the outreach period impeded attendance.

### **Pongwe Primary School:**

Navigating diversity at Pongwe Primary School presented unique challenges, particularly in accommodating students with disabilities and special needs. Tailoring career guidance and STEM activities to meet individual requirements demanded an extra layer of adaptability, needing more time and support for students with diverse needs during career guidance and activities.

The timing of the outreach coinciding with a half-term vacation contributed to lower attendance levels.

### **Tanga Library Outreach:**

As part of the broader educational initiative, the STEM Park team extended its influence beyond schools, making a notable stop at the Tanga City Library on July 22nd.



*Figure 55: Students receiving instruction from the instructor during Library outreach program*



*Figure 56: Students explore magnetic bed exhibits during outreach program*

The library's space became a vibrant area for learning and exploration as exhibits were carefully arranged, inviting library attendees to immerse themselves in captivating displays. A dedicated career guidance session was conducted, offering valuable insights and inspiration to those in attendance. The day was elevated with dynamic STEM activities, showcasing the wonders of Augmented Reality (AR), a thrilling Volcano Eruption experiment, the construction of a Da Vinci Bridge, and the creation of a Hydraulic Bridge.



*Figure 57: Fueling a love for science during library outreach where young minds ignited with curiosity to engage in science*



*Figure 58: Students are building a Danvi bridge during library outreach program*



*Figure 59: Students explore blind spot exhibit during a library outreach program*

# Conclusion

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STEM Park Tanga's annual report for 2023 reflects a year of growth, impact, and dedication to advancing STEM education in Tanga City. As we move forward, we remain committed to our mission, empowering minds, igniting innovation, and contributing to the development of a skilled and inspired generation that will shape the future of Tanga. We express gratitude to our partners, participants, and the community for their continued support on this transformative journey.

Together, let's build a future where STEM education is accessible to all, and where the seeds of curiosity blossom into innovations that propel Tanga City towards a brighter tomorrow.

Gallery: <https://maxel.pixieset.com/stemparktanga/>







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