

MIKOKO DEVELOPMENT FOUNDATION

MIKOKO YOUTH PROGRAMS Quarry Youth Activities Manual



Volume 1

Basic support for Mikoko Naturalist Trainers & Peer Educators

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Foreword

Tanzania Portland Cement Public Limited Company (TPC PLC) is the largest cement producing company in Tanzania. It is part of Heidelberg Cement Group. It was established in 1966 with the principal activity of manufacturing and selling cement.

Despite its commitment in production of cement the company committed to green industrial development through its valuable project of Quarry Rehabilitation Project at Wazo Hill Quarry Site where trees have been planted after extraction of minerals from the ground.

The project have contributed to the rehabilitation of the lost biodiversity and bring back to life the lost ecosystem of the area, at the moment Twiga Cement has managed to improve local communities livelihood through supporting of different community projects and other more youth programs at schools including greening programs.

In the future Twiga Cement will continue supporting youth and children in career programs inclusive environmental education, climate change and child protection this is to complement environmental policy of United Republic of Tanzania for investing in capacity building at quarry sites and gravel pits.

This book is taking important role in ensuring that Twiga Cement will keep and continue its core efforts of environmental education and capacity building through Quarry Rehabilitation Project.

Preface

For long time Wazo Hill Quarry Site has been used as green initiative center for demonstrating various programs regarding capacity building and awareness on environmental issues.

Through "Connecting Community with Biodiversity Project" in Quarry Life Award 5th Edition has seen the value of Wazo Hill Quarry Rehabilitated Site as a Center for Excellence for Nature & Environmental Education and see the great opportunity to consider partnership with Mikoko Development Foundation the youth environmental organization with experience in nature training programs related to career and extra curriculum programs.

This book has a series of well-tailored and designed activities that will support youth mental and physical growth during participation in the programs and activities as instructed by the team of experts from Mikoko Development Foundation.

Group age the book target is for trainers aged between 27+ years who are able and well encouraged to support children and youth aged between 5 to 26 years. The core program compliance has to keep tracking records for all participant for the whole year regarding the program and activities at school, community as well as biodiversity or greening projects that will help them win badges and awards for participating Twiga Youth Naturalist Award that is high level youth competition program in Mikoko Development Foundation towards supporting connecting community with nature to achieve green habitable Tanzania.

As basic idea and complement the milestone achieved by Tanzania Portland Cement Company Limited this book has officially endorsed Twiga Youth Naturalist Award that will be conducted under Mikoko

Development Foundation regarding to Mikoko Youth Program based on nature and environment activities guided under Science, Technology, Research/Robotics, Engineering, Arts, Mathematics and Sports/Scuba (STREAMS).

Mikoko Development Foundation will continue producing activities in the future to help and assist youth and their leaders understand the contribution of quarry in their class subjects and help improve their class performance.



.....
Olais K. Raphael
Executive Director
Mikoko Development Foundation

About Mikoko Development Foundation

On the high range of service MDF registered in United Republic of Tanzania Mainland took place of the two reputable youth organizations named NAELEVA and Mikoko Scout Group, the story started in 2006 when youth voluntary group founded named NAELE for planting 30,000 trees in Kigoma under Jane Goodall's Roots & Shoots then in 2013 registered as new organization named NAELEVA.

In 2017 a new youth initiative for planting 40,000 new mangrove trees and achieved to work with Vodacom Tanzania Foundation then in 2019 that took place of the two organizations to secure its primary mission and services to the Tanzania communities through supporting them in Green Habitable Tanzania despite of Climate Change Challenges.

Organization is using a highly valued team of experts in MDF towards delivering quality and standard services to Tanzania local communities.

Mikoko Development Foundation is an NGO dealing with environment, health, agriculture, entrepreneurship, youth activities and education programs in Tanzania centered Kisiwani, Ubungo Dar es Salaam. The vision of Mikoko Development Foundation is a green habitable Tanzania with a balanced ecosystem for all living organisms in peaceful co-existence.

About Young Environmental Scientist (YES)

Young Environmental Scientist Program is a youth based program aiming to deliver key knowledge and skills based on science and environment styles and achieve local problem solving initiatives. Aim of the program is to support young adults achieve their dreams and building practical foundations for youth to love science subjects and achieve better grades including become key problem solvers in their local communities.



Photo: *Children listen to Trainer during Mikoko camp program*

The program is designed to achieve smart and green schools through youth programs such as school mapping, tree planting, climate change programs, 3D Animation program, Public Service Announcements, science experiments inclusive science test and agriculture projects founded by Mikoko Development Foundation the organization specialized in Environmental Conservation, Agriculture, Ecotourism, Capacity Building and Entrepreneurship.

Mikoko Development Foundation has a vision of extending a long-term partnership with organizations and companies in helping youth and kids generation towards sustainable use of natural resources in selected schools in United Republic of Tanzania.

This is to help kids towards understanding sustainable use of natural resources through Mikoko or Environmental Clubs in Schools.

Mikoko Development Foundation will provide a technical support through volunteers who will offer a clear Students Go Out (SGO) in Youth Nature Outdoor Program model with application of Science, Robotic/Research, Engineering, Arts, Mathematics and Scuba/Sports (SREAMS) that will help create and build their direct understanding of nature and environment with the actual relationship to their class subjects studying.

Program Objectives

- To design valuable environmental and biodiversity educational tools through integrated Science, Technology, Research/Robotic, Engineering, Arts, Mathematics and Scuba/Sports (STREAMS)
- To contribute to biodiversity conservation in Tanzania through Mikoko Youth Programs.
- Improve methodology of teaching science to youth through environment.
- Create Mikoko Digital Club that will provide education on biodiversity and environmental conversation.
- Register 5 million youth on MOMS who will have free access to learning science related subjects online.
- Monitor plantation and growth of 10 million trees in five years.
- Register teachers who will use the available resources to teach youth science through environmental conservation.
- Increase self-confidence and team-building skills

About Tanzania Portland Cement Public Limited Company

TPCC in which Heidelberg Cement holds a majority stake is the leading cement producer in Tanzania and operates a cement plant near the coastal city of Dar es Salaam.

Tanzania Portland Cement Public Limited Company. (TPC PLC) was established by Cementia Holdings AG of Switzerland in 1959. In 1962, Cementia Holdings AG in collaboration with Tanganyika Development Company (now Tanzania Development Corporation) started to build the cement factory at Wazo Hill in Dar es Salaam. The Government of Tanzania owned 20 percent of the company's shares. Construction of the factory was completed in mid 1966 and the first bag of cement produced in Tanzania came out of the factory at Wazo Hill.

In 2006, shares held by the Tanzania government were sold to the general public. Today share holdings at TPCC are as follows: Scancem International - 69.3percent; General Public - 30.7percent. The 30.7 percent held by the general public is actively traded on the Dar es Salaam Stock Exchange.

Tanzania Portland Cement Company Ltd. operates an integrated cement plant at Wazo Hill outside the capital Dar Es Salaam.

The company manufactures sells and distributes construction cement in Tanzania. The company manufactures two brands of cement; Twiga Ordinary (TZS 727:2002, Cem I/42,5N) and Twiga Extra (TZS 727:2002, Cem II/A-L/32,5R)

TPCC, and the Tanzanian cement industry as a whole, makes significant contributions to the Tanzanian economy through government taxes, employment, technology improvements, international business standards, community development programs, and by performing its core activity: making available cement for building the country.

About Wazo Hill Quarry Site

Description:

The Wazo Hill area with an elevation of approximately 100m above sea level is the highest fossil reef and it is one of the largest carbonate occurrences on the Tanzania coast. The quarried landscape looks barren while heaps of topsoil are deposited on the edges of mined blocks as a source of materials for planned restoration.

Water is pounding in depressions created by excavation works and undulations at the bottom of the quarry landscape. Mining activities included excavation of the overburden red soils and blasting of the underlying limestone rock. The red soil together with the topsoil which is rich in organic matter, grass and tree roots is removed and stockpiled as spoil material. The spoil material is kept along the edges of the quarried blocks for easy distribution during the restoration phase. Remnants of large boulders can be seen over the quarry site.

Topographical description:

The quarry is located at Wazo Hill which is north-west of the Central Business District of Dar Es Salaam City, as indicated in Figure 1. The central coordinates of the site are 6°38'44.2" South and 39°09'26" East. The average site elevation is 100 meters above sea level. Administratively, the area is located in Wazo Ward, Kinondoni District, about 25 km north of Dar Es Salaam City. The rich rock material extends for about 2.5 km parallel to Dar es Salaam- Bagamoyo Road.

Habitat, flora & fauna description:

Few trees such as baobab have been left untouched for protection and aesthetic reasons. The ongoing quarry rehabilitation and renaturation (through trees and grasses planting and caring) is attracting various species of fauna including birds, reptiles, small mammals, insects and butterflies. The scattered heaps of topsoil have attracted invasion of exotic trees species such as *Leucaena leucocephala* particularly along the quarry boundary and edges. Water ponds formed in depressions after removal of limestone rock and as part of rehabilitation work are attracting animals.

Quarry Day Camp Programs

Introduction

This is a camp where children spend the day at Quarry Rehabilitation Site and then return home at the end of the day where they are participating series of programs that help them grow well mentally and physically.



Plants for agriculture project that youth will learn at the center.

Youth development experts agree that children need a variety of experiences in their lives to help them grow into healthy adolescents and adults. For children to develop positive behaviors, their experiences must produce." (American Camp Association)

Center has divided its programs into four main projects now including Nature Class, Agriculture Learning Site, Community Biodiversity Museum and Youth Activities.

The center is established for the benefit of children and youth aged 5 to 26 years. In addition, the group of 27+ years are the trainers who are empowered to support youth activities at the center. Every group has a role to play in conservation and management of nature.

Why your child participate Quarry Day Camp Program?

i. Support youth and children decision making

The camps help children and youth learn about justice and making good choices that help and support them in making decisions. On the other hands, children or youth see the results of their decisions.



Photo: Children from Rightway Primary School play fun games portraying nature stories.

When children play games and youth participate in hands-on activities it will support them grow mentally and physically well that will support them in making decision and understand about the good things for their personal life or others related to actions and decision for actions.

ii. Career, leadership development and life skills

Children develop skills, learn hard work, participate in group activities and multitasking programs at the camp and for children participate in group assignments and nature games.



Photo: Student presenting her group to the activity assembly after hands-on activity.

On the other hands children and youth will learn about different programs and activities related to entrepreneurship and self-employment such as urban agriculture and aquaculture projects.

iii. Connected to nature, biodiversity and others

Youth and Children will feel free, enjoy nature, feel they are an important part of nature, and start conserving the environment for greening programs at their club level.

They will feel connected to each other through team support and team bonding that will bring about individual responsibility within a team.



Photo: *Students from Rightway Primary School give smile during day camp at Wazo Hill Quarry Nature Learning Center*

During hands-on activities youth develop their talents, ability to communicate to others and language skills including career improvement with personal ability to understand the environment with decision making within a team including creating friendships.

iv. Develop child and youth identity

Youth and children feel comfortable during youth program and activities engagement in a way that they feel fit to the role they play in their groups, family and community while creating better friendships.

No child or youth allowed violating program rules and regulations this helps keep children and youth safe from harm this stated

under Mikoko Development Foundation Children Protection Policy.

Individual benefits from Quarry Day Camps

Quarry Day Camps can provide an excellent experience for your child to learn and develop. According to the Search Institute, young people have seven developmental needs:

1. Physical Activity
2. Competence and Achievement
3. Self-Definition
4. Creative Self-Expression
5. Positive Social Interactions
6. Structure and Clear Limits
7. Meaningful Participation



Photo: *Students conducting Simple Scientific Research at Wazo Hill Quarry Nature Learning Center*

The quarry day camp experience is uniquely positioned to provide all of these developmental needs for children. Consider camp as the

perfect partner to family, school, and community youth activities in helping your child learn independence, decision-making, social and emotional skills, character building and values - all in an atmosphere of creativity and enrichment under the supervision of positive adult role models.

In today's pressure-oriented society, camp provides a non-threatening environment for Tanzania youth to be active, to develop competence in life skills, to learn about and enhance their own abilities and to benefit from meaningful participation in a community designed just for them, nature and biodiversity conservation at larger.

Yes, quarry day camp is for everyone! Don't let your child grow up without it!

Safety program

At TPC PLC safety is a priority for all workers and clients. This is to make sure that every individual is safe while working in the industry area.

Important Personal Protective Equipment during your trip to Wazo Hill Quarry Nature Learning Center, including reflector, mask, safety glasses, safety boots, and safety helmet.



Please open this video to learn more about Safety during your trip.
[Click Here.](#)

More details about safety programs for Mikoko Youth Program find details on <https://yes.mikoko.or.tz> that will help guide your group towards safe outdoor activities.

Only groups of 30 students are allowed to enter Wazo Hill Quarry Site for learning purposes; this allows youth and children to enjoy their trip in a safe manner while providing a team of trainers delivers the best program to impact everyone.

First aid kit

At Wazo Hill Quarry Nature Learning Center, there is a limited number of participants to enter the center for environmental education support activities. This allows our team to secure the health support strategy through supporting youth and children who are participating in activities at the site.



Photo: *First Aid Kit*

First Aid kit available at the center and only allowed to be used or accessed by an authorized person to help and support children and

youth during accident before reaching to the hospital for further medical support.

Science kits

Mikoko Youth Program science kits are a very important part towards supporting youth activities in field-based or outdoor environment.



Photo: *Science Kits ready for use by group of students*

These are tools that supports achieve your club target based on life skills, career projects, and academic related issues that will help youth be more interested in science subjects.

To book science kits, please visit <https://shop.mikoko.or.tz> and purchase materials for your club or home-based activities that will help build your kids and youth career towards life skills and science-based programs.

Activity/camp program

Before your outdoor project or activity, find a lesson plan or camp book program; this is to make sure you have everything in place,

including camp permission for students and objectives to achieve. Especially at Wazo Hill Quarry Site, you must make sure you have entrance permission and you have day camp program book with time table, schedule of achievement, assessment plan, safety procedure depends on the risk assessment and mitigation plan.

Every trainer shall make sure to obtain a book camp program for specific camp activities that will help to provide key information of the programs that will be available for the days and instructions belong to individuals. The camp book shall be available to parents and guardians in a way that every individual understands the impact of the camp on the individuals or participants who are involved.



Photo: *Students listen to camp trainer for the day camp activities at Wazo Hill Quarry Nature Learning Center.*

Contact digital@mikoko.or.tz to help you with camp book program that will help you easy your activity plan.

Quarry Nature Learning Center

Introduction

“The study of nature-based learning brings together research on access to nature, human health and well-being, and settings that support learning. Nature-based learning occurs in natural settings and where elements of nature have been brought into built environments. It includes learning about the natural world, but extends to engagement in any subject, skill or interest while in natural surroundings.”

Dr. Louise Chawla



Photo: *Trainer at Quarry Nature Learning Class delivering tree-planting lesson.*

This nature class marks the milestone achieved by Tanzania Portland Cement (PLC) towards Quarry Rehabilitation Project by which one of the components is Capacity Building and Environmental

Awareness now Mikoko Development Foundation seems the great chance of partner with Twiga Cement through Quarry Life Award and establish this class to support the initiative of bring life to urban

ecology with support of mental and physical development to youth and children aged between 5 to 26 years who can be served through this valuable facility.

Mikoko Development Foundation will continue supporting Environmental Education and Awareness to Dar es Salaam schools as part of its commitment through efforts made by Olais Raphael (BA NRAM) who see the best chance of supporting nature through science based solution who founded Mikoko Development Foundation (MDF) and Young Environmental Scientist (YES) Program.

QNLC has aim of supporting about 15,000 youth and children in the coming five years plan through Mikoko School Clubs based in Dar and Pwani Region for the aim of achieve green habitable street.

For Children & Youth (5 - 26 Yrs)

Environmental education courses

Through environmental education activities, most of Mikoko courses available to support youth and children engagement outdoor-based projects that help to build their mental and physical development with raising awareness on climate change initiatives at their localities in which the efforts made by Twiga Cement has impacted number of individuals at grassroots level through school and quarry engagement programs.

This session allows connection between individuals and nature, especially quarry environment, which allows kids, and youth to learn from doing that will influence their level of making decisions and climate justice.

The list of courses will allow kids and youth to become good leaders regarding quarry and gravel pits through dimensional programs that will be provided by trainers available at Wazo Hill quarry site.

Activities designed to complement with government of United Republic of Tanzania Environmental Policy for Quarry Sites and Gravel Pits and Tanzania Portland Cement PLC has shown a better example for investing in nature-based projects and solutions through Quarry Life Award.

Find more activities at <https://yes.mikoko.or.tz/qla.html> that will help customize your trip at Wazo Hill Quarry Site.

Mental and physical based activities

Through the project of Connecting Community with Biodiversity, the team created five important activities that enhance youth and children to become well engaged in nature hands-on activities

through the following activities that will influence their mental health and physical development.

i. Games and physical exercise

These include a list of games for children aged between 5 to 9 years that allows them to engage in fun projects that are hands-on and make sure the games are portraying nature-based projects to the kids.

ii. Painting

Painting is a relaxing activity that allows you to use creativity and feel a sense of accomplishment when you complete a piece of art. You don't have to be a professional painter to enjoy the benefits this hobby has to offer. Painting can include canvas painting as well as other activities such as pottery painting. You can visit pottery-painting activities at Wazo Hill Quarry Site such as You Do the Dishes for fun workshops and take-home projects to work on.

iii. Journaling

Journaling can help you relieve stress, cope with depression, and manage symptoms of anxiety. Journaling helps you identify and work through any situations in your life that are causing stress, depression or anxiety.

This then allows you to create a plan for resolving any negative situations that may be harming your mental health. Journaling also gives you the opportunity to practice positive self-talk and reflect on positive memories.

At Wazo Hill Quarry Site, children and youth are involved in writing short stories about what they learn, observe, and share with the public as part of learning and fun.

iv. Reading

Reading is a relaxing activity that can take your mind off any stress in your life and transport you to another world created by the pages of a book and your imagination. Visit Community Biodiversity Museum to find your next book, attend an event, or join a book-reading event at the museum to find the fun part of the reading program while enjoying nature-based activities.

v. Gardening

Exposure to plants and the act of gardening can have a positive effect on mental health. You can enjoy the outdoors and all the beauty that plants have to offer by visiting one of Wazo Hill Quarry Rehabilitation Project, or you can start a garden of your own and find joy in caring for it.

You can find and grow plants that are native to Dar es Salaam City to benefit the environment. If you would rather take small steps toward gardening, you can start by taking care of houseplants or succulents.

vi. Farming

Agriculture education is important in public schools because students learn ways to efficiently feed a burgeoning population and gain a better understanding of food production and distribution.

List of activities designed for learning presents strategies to strengthen the impact of child labor reduction and youth employment policies and programs by considering the two issues together. First, it builds an understanding of the differences as well as linkages between child labor and youth employment. Then, it highlights concrete measures to improve policy and program coherence and support for

young people to access decent opportunities in agriculture. *(Integrated from FAO elearning academy to benefit Dar es Salaam residents through Wazo Hill Quarry Site)*



Photo: *Quarry Agriculture Learning Site at Wazo Hill Quarry Site that students can visit for learning puposes.*

vii. Fishing

Dar es Salaam City is full of shore fishing charters that will help you enjoy the beautiful weather of the city while fishing for a great catch. Fishing is one of the mental health hobbies for youth and children that is both relaxing and exciting at the same time. Being outdoors can help reduce stress and anxiety, and the anticipation of catching your next fish can be a thrilling experience.

Fishing is also an activity that creates feelings of self-fulfillment and success. Fishing requires skill and creates challenges to overcome. When you overcome challenges and learn the necessary skills to catch fish, you will feel a sense of accomplishment. Fishing is also an opportunity to bond with family or other friends.



Photo: *Fish Pond at Wazo Hill Quarry Site, students can visit for learning purposes.*

Fishing activities at Quarry Rehabilitation site is much exciting and help youth and children experience home-based fish farming and fishing skills to help them in their life skills experience and support their life sustenance program.

Please find more details about youth hands-on activities on <https://yes.mikoko.or.tz/qla.html> that will help you to achieve great preparations for your trip to Wazo Hill Quarry Site.

STREAM projects

Science, Technology, Research/Robotics, Engineering Arts, Mathematics and Scuba/Sports (streams) is the strategy used by Mikoko Development Foundation that will help hundred and thousands of youth and children in Dar es Salaam region become creative and innovative for the reason of protecting youth are ready and part of green jobs in the future.

For the list of activities and design strategies, please contact et@mikoko.or.tz or digital@mikoko.or.tz to get a list of activities and learning strategies that will help your school group have proper learning resources and impactful activities.

Nature exploration activities

The following activities are the one to help youth learn and connect to nature inclusive of climate change and quarry education projects.

i. Bird Watching

Researchers in Kentucky found that people who rested outdoors versus inside showed an increase in positive feelings and a decrease in tiredness. This means that simply watching a bird feeder for even as little as 10 minutes can be beneficial to your psychological health.



Photo: *Essentials tools of Beginning Birdwatching*

Now Wazo Hill Quarry Site has opened the door for visitors and people, especially children, youth and teachers who are key part in conservation of nature in Dar es Salaam based on urban ecology in Dar es Salaam City.



Photo: *Bird observed at Wazo Hill Quarry Site*

Are you interested in becoming a bird watcher at your locality or at Wazo Hill Quarry Site? Now the answer is simple just email et@mikoko.or.tz and visit <https://avibirds.com/birdwatching-equipment/> to find basic tools for bird watching.

ii. Insect Trapping

Insect traps used to track or directly check populations of insects or other arthropods. They typically use food, visual lures, chemical attractants and pheromones as bait and are installed so that they do not injure other animals or humans or result in residues in foods or feeds.



Photo: *Pit trap method*

In Mikoko perspective, basically guided by its basic principle of love of nature, live in nature, we are unable to kill any insects at Wazo Hill Quarry Site, so our definition will only be to catch and help learning goals to youth and children during nature class at Wazo Hill Quarry Site.

iii. Animal Trapping

Animal trapping, or simply trapping or gin, is **using a device to remotely catch an animal**. Animals may be trapped for a variety of purposes, including food, the fur trade, hunting, pest control, and wildlife management. (wikipedia.com).

How do you make a simple animal trap?

Dig a hole in the ground that conforms to the size of the nuisance animal, making it deep enough so the animal theoretically can't climb out. Cover the hole with a brush to disguise it. Place the appropriate bait for the animal on top of the brush. Wait for the animal to take the bait and fall into the hole. <https://animalpoachers.weebly.com/how.html>.

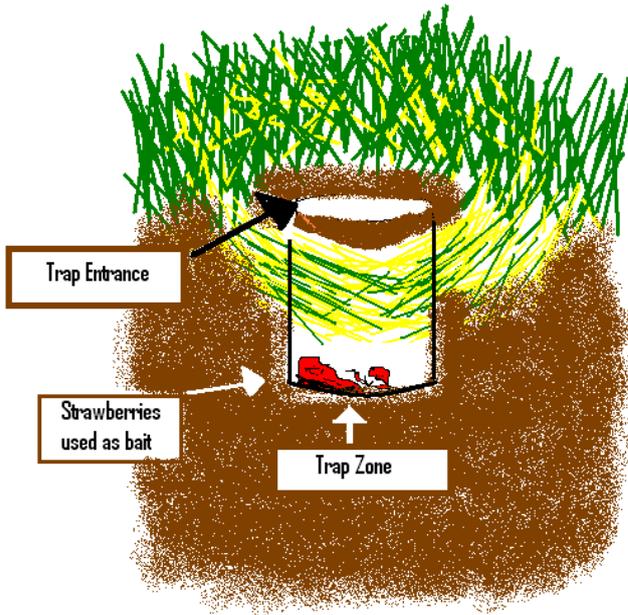


Photo: *Pit Fall Diagram*

iv. Trees Identification

All trees have clues and features that can help with identification. You just need to know what to look out for. This quick guide to tree identification will give you a few basic hints and tips.

Basic tree identification tips

The UK has at least fifty species of native trees and shrubs, and many more species of introduced non-native trees.

Many features give you clues to what species it is.

Look at the leaves or needles. Is it a broadleaf (usually deciduous) or is it a conifer (usually with needles or scales)?

Different features will be visible through the seasons. In winter, for broadleaf trees, you will have to use twigs, leaf buds and bark.

Take notice of the surrounding area such as hedgerows, fields, parks, woodland, or close to water. Some species are more likely to grow near water, in scrubland, parkland or in woodland.

Piece the clues together, including the overall shape and size of the tree, bark, leaves or needles, flowers, fruits, leaf buds, and twigs. The more features you can see, the more accurate your identification will be.

Find more details via Woodland Trust Website below (<https://www.woodlandtrust.org.uk/>)



Photo: *Mikoko Development Foundation - Director of Community Services & Partnership planting a Dalbergia melanoxylon (African Blackwood, grenadilla, or mpingo)*

v. Seeds Identification

The identification of seed is usually by comparison, comparing the seeds with a mental image of what something should be, with specimens in a reference collection or with illustration of seeds.

How do you identify a seed?

Seed Identification: using seed drawings, photographs, and descriptors. Many people use seed drawings, called "plates", to come to the identity of a seed they are looking at. Photographs of seeds may also be used for this. Good visualization skills are needed for this comparison type of seed identification.



Photo: *Trainer at Wazo Hill Quarry Site addressing about seed identification part of Quarry Rehabilitation Project.*

vi. Seed collection and storage

Seed collections are the first step in an extensive process that brings new plant materials to address individual resource concerns. Taking the time to identify superior plants and collecting the seed is crucial for solving these resource concerns. **(USDA).**

A **seed bank** (also called seed banks or seeds bank) stores seeds to preserve genetic diversity; hence, it is a type of gene bank. There are many reasons to store seeds. This is a method of storing seeds for future use that can also be part of the project activity at Wazo Hill Quarry Rehabilitation Project.



Photo: Seed Bank Facility | **Photo Credit:** Terraformation

Creative & Innovation activities

Introduction

Creativity and innovation are characteristics that people seek to develop to help them look at the world in new ways and form ideas to improve or add to it. They are active characteristics, meaning they have to be used deliberately to create something beneficial or authentic.

At Wazo Hill Quarry Nature Learning Center, we create and support youth creativity and innovation through showing youth and children how to think and not what to think in a way that will give a path through activities in a challenge model that they will be able to develop proper solution towards existing problems.

Why is youth innovation important?

The focus of our research is youth-led innovation, whereby young people instigate potential solutions to a problem, often one that they

have identified or defined themselves, and take responsibility for developing and implementing a solution.

What are examples of innovation and creativity?



Photo credit: *Key Differences*

The invention of the motorcycle make them realize that they can also ride bikes without making any extra efforts; they just have to click the switch and its starts automatically. In this example, the thought of creation of a new traveling motorcycle is creativity, but the actual invention of it is innovation. By Key Differences [Link](#)

Comparison Chart by Key Differences

| BASIS FOR COMPARISON | CREATIVITY | INNOVATION |
|-----------------------------|---|--|
| Meaning | Creativity is an act of creating new ideas, imaginations and possibilities. | Innovation is the introduction of something new and effective into the market. |
| Process | Imaginative | Productive |
| Quantifiable | No | Yes |
| Related to | Thinking something new | Introducing something new |
| Money Consumption | No | Yes |
| Risk | No | Yes |

Children protection education

Child protection is the term used to describe the actions of certain organizations, such as Children's Services, the police and Health organizations, in their efforts to make sure children are safe from abuse and neglect. Child abuse can be physical abuse, emotional abuse, sexual abuse, exploitation, and grooming.

UNHCR Core principles include the child's survival and development, best interests of the child, non-discrimination, and children's participation. Sphere, Minimum Standards for Child Protection in Humanitarian Action, and its core principles and standards for child protection work.

Please find Child Protection Policy and Guidelines from [Mikoko Development Foundation Website](#).

Environmental awareness

Environmental awareness means exactly what you may think: an awareness around the natural environment and the choices that either promote its well-being or cause it more harm. It is also the awareness that the earth is in need of protection for its survival.

At Wazo Hill Quarry Nature Learning Center the team of experts is waiting and ready to help and support your group towards series of outdoor and approved hands-on activities that supports and attract list of youth and children ideas in a way that critical and investigative nature projects is done to inspire youth become Young Environmental Scientists.



Photo: *Mikoko Naturalist Trainer addressing key concepts of environmental education to children from Rightway Primary School who visited Wazo Hill Quarry Nature Learning Center.*

Award winning programs

At Wazo Hill Quarry Nature Learning Center, our team is able and highly skilled to provide they can support to youth and children development based on mental and health strategies. List of badges and awards available to youth and children based on their age and level of education.

Please visit <https://yes.mikoko.or.tz> for more information about award-winning program through Mikoko Development Foundation. If you have group of youth who are interested in hands-on based activities, please contact team of experts via et@mikoko.or.tz. At Quarry list of activities is treated as Quarry Youth Program. This program helps and supports youth to become aware of quarry youth activities and how they are operated including safety procedures and child safeguarding guidelines.



Photo: *Children from Rightway Primary School participating hands-on activities at Wazo Hill Quarry Nature Center.*

Total number of 1,432 youth and children won Tree Planter badge level 5 after successfully plant and grow their trees at school, in the next years, the progress will be under Mikoko Development Foundation by which youth and children aged 5 to 26 years will be able to complete their milestone to achieve their respective badges.

Quarry Agriculture Learning Site

The quarry agriculture-learning site has been improved and recorded as important part in making positive impacts to the community of Dar es Salaam and outside of Dar es Salaam communities through online learning resources.

The site including of normal agriculture skills, demonstration of box garden, kitchen garden, soil education, pets control and management, green house.

Currently site has planned to demonstrate kitchen garden and normal agriculture skills including of USDA soil education and assessment of the agriculture site with production capacity.



Photo: *Students participating assessment of garden area for determine production capacity with profit.*



Photo: *Kitchen Garden developed at Wazo Hill Quarry Learning Center*



Photo: *Box garden at Wazo Hill Quarry Nature Learning Center*

For more information about agriculture learning site please visit <https://yes.mikoko.or.tz/qla.html> and find suitable resources to help youth and children in your club obtain basic life skills education based on their local environment to help them identify some important opportunities.

Community Biodiversity Museum

Community Biodiversity Museum is a key important area at Wazo Hill Quarry Nature Learning Center in which most of the information will be available including records of educational books, list of activities conducted at the site, important information recoded by Tanzania Portland Cement PLC for public information, youth activities and competitions for community services and achievements.



Photo: *Community Biodiversity Museum After setting.*

For more updates about Community Biodiversity Museum please visit <https://yes.mikoko.or.tz/qla.html> and find suitable information for your group or club.

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