SUSTAINABLE VISION JOURNAL

Spring 2024 Issue 1

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JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANGE

OUR MADAGASCAR PROJECT

Building Vision, Realizing Positive Change

United Nations Sustainable Development Goals

BUILDING UP SELF-RELIANCE IN COUNTRY

Biological Wastewater Treatment

TREE CONSERVATION IN KENYA

2024 Fellowship Program

Redesigning Water Management Infrastructure in Antananarivo

Sustainable Vision Journal

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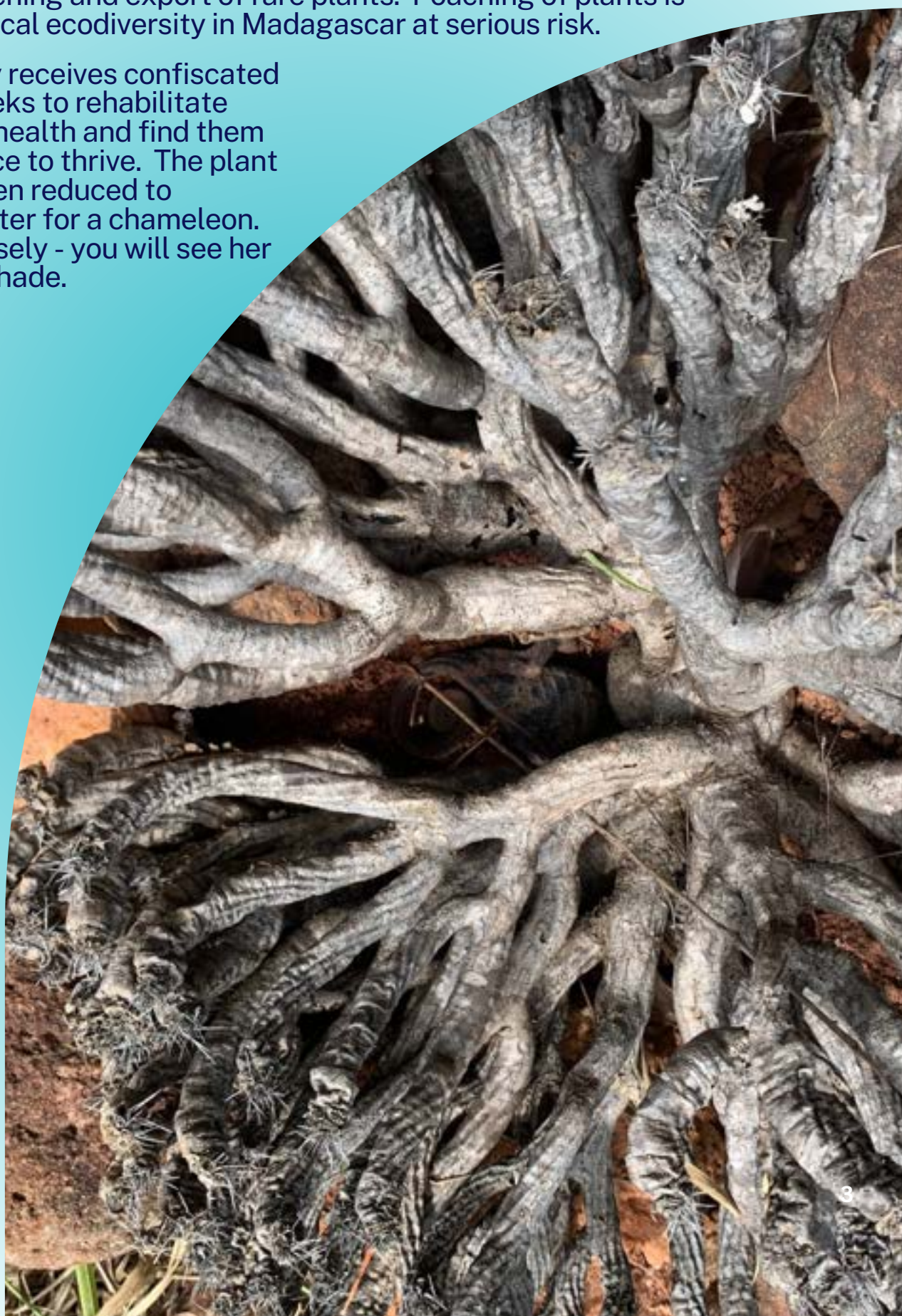
COVER ART
Kenneth D. Coman Sr.
with assistance from ArcGIS

JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANGE

This poached plant didn't make it. But still - there is some hope.

In a recent Tour through the Botanical Gardens in Antananarivo - the Foundation was introduced to an existing challenge in Madagascar - which is poaching and export of rare plants. Poaching of plants is putting botanical ecodiversity in Madagascar at serious risk.

The University receives confiscated plants and seeks to rehabilitate them back to health and find them a suitable place to thrive. The plant shown has been reduced to providing shelter for a chameleon. If you look closely - you will see her hiding in the shade.



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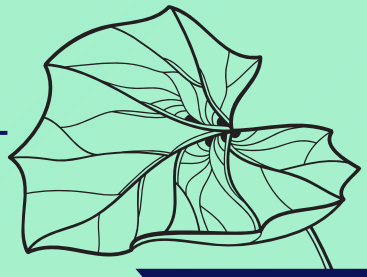
CONTENTS



CONTENTS

JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANGE

LETTER FROM THE **EDITOR**

"We seek to build vision for a brighter tomorrow through better decisions today."

Dear Donors, Fellows, Professors, and Friends!

This Launch Edition of the Sustainable Vision Journal in 2024 is central to the Jacquelyn Jestine Sanders Foundation Goals of becoming more and more Self-Sustaining and linked to global Goals for Sustainability.

As the Foundation has become more and more aware of the day-to-day difficulties faced in Africa and specifically Madagascar – we have chosen this year to ACT. This is what Jacquelyn would request of us. Our actions led us in January to gift Food Baskets to 100 families in need in Antananarivo. But we also saw that this kind of giving does not begin to solve or address the real underlying problems.

Madagascar has drastic weather conditions which mean that many months can pass before rain falls. There are parts of the Island that have not seen rain for years. **These are lands suffering deeply from famine.** This makes improving Rainwater capture, storage, and management crucial to maximizing use of all available resources when it DOES rain. And similarly – Wastewater recycling becomes a very important part of a complete solution! Therefore, we are investing heavily in helping the University of Antananarivo solve their own Water shortage problems. This is good for the University – and it is good in setting an example for other projects across Antananarivo and Madagascar.

As you read through some of the gathered data that is related to ongoing research and planning for the University Water Infrastructure – consider that THIS is how we mold a better tomorrow – by acting today. Let us learn from our mistakes – let us learn to work better together – to collaborate for a better tomorrow. We strive this year to build up a systemat that functions, and that is scalable so that it can be expanded next year and even eventually reproduced on other Universities within and outside of Africa.

I hope you will enjoy the tour through all of what is happening at this time! If you have questions or ideas about how we can improve our work – contact us. We value nothing more than the opinions of our Network.

All the Love!

Kenneth D Coman Sr.

MANAGING EDITOR

Let us agree that a Future for the next generation ... is worth investing in.

- Want to support the JJS Foundation ?
- Buy some Ad Space in the next edition. We are super flexible - a donation will do!
- No - we do not have a large readership. But - **what we do matters. We are actively investing in the Future.** Invest with us!
- Ad Sponsors are valued Partners!

JJS
JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANGE

JJS Foundation "Fellowship"
What does that mean?

Dear Fellows & Students,

The Jacquelyn Sanders Foundation is committed to investing in the future for the next generation. We do this because it is the right thing for all of us to do. We want a vibrant, diverse, colorful and healthy planet where future mankind, plants and animals can thrive together.

In creating a Fellowship Program we invite our brothers and sisters at the University to invest with us in the future. We say to you - let us work together to solve some of today's problems. We want to leverage all of that knowledge you have been gathering, for a better future.

To invite you to a Fellowship - is to say "Let us work as brothers together for a better future!" If you choose to accept our invitation - this does not mean that you will be gifted something. On the contrary, we ask you to invest your time, your heart, your energy into solving problems which are plaguing the lives of our Brethren today. Let us band together in unison and respond to the technical challenges - as Engineers and as Brethren.

The Foundation recognizes that many students are struggling to meet the financial needs of their education. This is precisely why we have initiated our formal Research Fellowship Program in 2024. We want to assist students on their path towards a better tomorrow. This is part of our Win-Win-Win strategy that requires us to invest in activities which have positive benefits for all involved.

We want to demonstrate that the solutions to the largest problems facing our time - CAN be solved with better decisions today. In fact, we are of the strongest opinion that many of the answers reside right in the young minds of the students living in the impacted zones.

"The Jacquelyn Sanders Foundation is committed to investing in the future for the next generation."

Investing in the Future together

In building this year's Fellowship around designing a solution to the Water Management Problems of the University of Antananarivo - We are planning to set the stage for implementing the solution next. We do this - for the benefit of the future students and staff of the University.

Question: But - I am graduating. Why should I invest in a solution for future students?

Foundation Answer: Because those future students are your brothers, your sisters, your children. This is a win for our family.

Question: Is there a "Win" in this project for me personally?

Foundation Answer 1: There is plenty of room for you to benefit from this relationship. The Foundation offers a Stipend to the Research Fellows. Those Fellows are paid for delivering needed research results.

The Water Management skills we are practicing this year are going to be very useful to you in your career!

Foundation Answer 2: You are also building up a Fellowship with one another through the JJS Project. How useful is it going to be to your career to have a brother who served with you in modernizing the University Water Infrastructure? This is an invaluable Asset - to have a like-minded brother or two that you have bonded with while in University. We invite you to bond around a Focus on investing in the future.

This is many Wins for you, the Student Researcher.

Question: Is there a "Win" in this project for the Foundation?

Foundation Answer: The Foundation wins via the life that you bring to our cause. We want you to join us in investing in the future as a way of life. Take into your hearts - the Future. And invest in it.

In that - the Foundation succeeds in our Goal. Furthermore - we hope that each of you will continue to support the Foundation as you enter your careers. We will need your help on future Projects!

JJS Foundation

Fellowship Programs 2024

JJS Staff
Photography by Nathan Coman, Ken Coman

Practice Engineering with the Foundation!

We are targeting a comprehensive Water Management Infrastructure System Plan for the University of Antananarivo this year. Can it be done? Only if you help us!

See a list of Roles on the Team that we are seeking to fill.

Yes - there is a Stipend! It is not a gift though. It is a partnership between us to work together for a better future for our children.

1 WASTEWATER MANAGEMENT FELLOWSHIP

Recycling Wastewater via engineered natural Lagoons for Agricultural (Tree) Conservancy

Work has been done already to plan for wastewater treatment at the University. But - is the ARAFA design correct and complete? This existing engineering plan needs to be reviewed and updated.

2 Fellowships

2 RAINWATER MANAGEMENT FELLOWSHIP

Rainwater Collection at the University could change everything! If we take advantage of the rainy season and build up reserves of rain water - we can have year-round running water for the lab, the toilets and even the garden!

Storage and stagnation are topics which must be considered as well as circulation, aeration, transport costs and solutions. These are some of the topics we need to further analyze together in order to succeed!

2 Fellowships

3 WATER FILTRATION FELLOWSHIP

Small scale Water filtration for Single Family settings in off-grid Madagascar Residences.

Question: How are we going to get all of that rainwater clean enough to drink? **Answer**: by filtering it! This is also the way we can provide houses in Antananarivo with clean drinking water. Let us build an easy to build filter system that will also be easy to maintain. This is within our reach. And - we will build filters on the University later which are scaled up models of your smaller design.

2 Fellowships

4 WELL WATER FELLOWSHIP

What is the viability of drilling deeper boreholes in order to address the ongoing Water Shortage at Univ of Antananarivo?

A full analysis of the existing well infrastructure needs to be reviewed and a plan needs to be drawn up for modernizing and optimizing the well infrastructure on campus.

2 Fellowships

5 ENVIRONMENTAL DESIGN / GIS FELLOWSHIP

Heard of Geographic Information Systems? GIS is a tool we need to make extensive use of on this project in finding suitable placement for cisterns, lagoons and other water management infrastructure. This fellowship is about deep analysis of the University from a geographic perspective. Extensive GIS software solutions exist for assisting in this endeavor. Some initial research has already been done and is profiled elsewhere in this Journal. Keep Reading!

Optimal native plant selection for Berm stabilization in Water Treatment Lagoons in Madagascar? Also part of the design. This Fellowship will explore strategic plants for the wastewater lagoons.

2 Fellowships

2024 FELLOWSHIP PROFILE

The JJS Foundation Fellowship 2024 at the University of Antananarivo employs and supports the research and documentation through University Fellowships this year. The onsite Coordination of these Fellows is being managed by one Antananarivo graduate Student in Economics - Nomena Sariaka.

In this Profile, we will ask this important 2024 Fellowship Team Leader a few questions about her motivations and aspirations. What does the involvement with the Jacquelyn Sanders Foundation mean to her?

2024 Fellowship Project Manager

Fellowship Profile: Nomena

"I'm particularly excited about the prospect of initiating impactful projects that will enhance sustainability efforts starting from our university campus and extending to the broader community."

Nomena Sariaka: 2024 Fellowship Project Manager

Foundation: Thank you for this Interview Ms. Sariaka! Can you tell us about your studies?

Nomena: I'm currently pursuing a Master's degree in Development Economics at the EGS Faculty of the University of Antananarivo. Alongside my academic pursuits, I'm actively involved as the Vice President of an environmental club within my department. Additionally, I'm passionate about painting and enjoy expressing myself through art in my spare time.

Foundation: We hear you are interested in environmental issues. Tell us about that!

Nomena: In my role as Vice President of the student environmental club, I've honed essential skills such as conflict resolution, proactivity, and rigor. These competencies have been instrumental in driving the success of our projects and initiatives aimed at fostering sustainability and environmental awareness on campus.

Foundation: What does this JJS Foundation Fellowship mean to you?

Nomena: I'm thrilled to embark on a new adventure with the Jacquelyn Jestine Sanders Foundation for the 2024 Research Fellowship. As I step into the role of Project Manager, I see this opportunity as a gateway to effecting positive change within my community.

Nomena: In my capacity as Project Manager, I'm committed to leveraging my background in development economics, leadership experience, and passion for environmental advocacy to drive meaningful outcomes. I will oversee project planning, execution, and evaluation, ensuring alignment with our goals of promoting sustainable development and community engagement.

JACQUELYN JESTINE SANDERS

Who was Jackie?

Please let me introduce our Mother … the very namesake of the Foundation which my brothers and I created in order to honor her life. The many that knew her called her Jackie.. we called her Mom. She wasn't a typical Mother, although of course she did typical things … Such as raising us, teaching us right and wrong, and providing all the everyday essentials… food, clothing, and shelter.

This meant sharing food with a neighbor or friend that had less, crocheting a blanket or cap for the stranger who was cold. This meant stepping up with creative initiatives to generate funds for those with critical medical needs. It also meant volunteering for thousands of hours at the local community hospital & generating needed funds to support unprepared mothers at the pregnancy aid center.

Jackie was "next level" in having a heart to share her skills and possessions with others in need. She showed us through her actions what it means to care and what it means to Love others through everyday acts of kindness.

"JACKIE"

By Deborah Coman Melton
Foundation Board Member, Founding Donor

It meant raffling a crocheted blanket for Breast Cancer Awareness or making baby blankets for newborns in South America, because they deserved something nice as they entered the world.

These were further examples of her love for others. Mom was always willing to do the work to help others and never ceased to amaze me with her willingness to volunteer when & where help was needed.

Jackie loved helping others.. but she loved Jesus most of all. She was grounded by the scripture in Matthew that says we "should love our neighbor as yourself".

No project was too small or too big for Our Mother .. she knew that helping even one person was a blessing for all involved.

Involvement was always her aim and love was always her motive. Throughout her short but busy life, our mother Jackie thrived on staying busy and her energy was a marvel.

It is my goal to follow her example and follow her lead in improving the lives of others around me and in faraway places.

It is my hope that the Jacquelyn Jestine Sanders Foundation and all who are involved would recognize that the true motive for all of us in making the world a better place .. is LOVE.
Mom would be very proud ... may her loving Spirit touch each of us as we strive to care for each other and this beautiful planet that we all share.

"Let everything you do be done in love"

I Corinthians 14:16

Deborah Coman Melton
Jackie's Daughter

Empowering Madagascar

2024
By Joseph M. Nyaga,
Urban Planner, Kenya

Correspondent Bio: Joseph is a seasoned urban planner, holding a degree in Urban and Physical Planning.

With extensive experience, Joseph has worked on projects as wide ranging as New Zealand, USA and Canada.
As a consultant researcher/urban planner - his expertise extends to environmental studies, sustainability, resource management, real estate, geospatial analysis, community, and social development.

A Fellowship Program for Sustainable Development

In the spirit of continuing with the legacy of Jacquelyn Jestine Sanders, the Foundation is embarking on a transformative venture to improve the world we live in, with a keen focus on more brilliant solutions to global challenges – solved within the home country. At the core of this noble mission is the Foundation's Fellowship Program, an initiative designed to foster education, self-reliance, and sustainable problem-solving in developing nations. This year, the Foundation is directing its focus toward Madagascar, where not only education but also other challenges like water shortage present critical obstacles to both the community and the environment.

Empowering Minds for Sustainable Changes

In the quest for the betterment of lives and providing sustainable and resilient solutions to global challenges, the Foundation takes great pride in its education fellowship programs. This year, they are looking forward to sponsoring no less than 10 graduate students in Madagascar. In implementing the fellowship program, the Foundation will strategically align itself with Sustainable Development Goal 4, Providing Access to Quality Education. The sponsorship will cover study expenses as well as invest in the building of intellectual and technical capital in the region. According to the Foundation, the program bases itself on the fact that knowledge and information are the only key drivers of individual development as well as being catalysts for the progress of the general society. Through the fellowship program, the Foundation will be contributing towards the long-term sustainable goal of creating a cadre of professionals capable of tackling the diverse challenges being faced by Madagascar and the globe at large.

JJS Foundation Alignment with Sustainable Development Goals

Nurturing Solutions to Water Scarcity:

Madagascar, like many other developing regions, grapples with potable water scarcity issues. The Foundation recognizes the dire importance of addressing this challenge to improve the well-being of the community and ecosystem, which is in line with Sustainable Development Goal 6, Providing Access to Clean Water. The fellowship program strategically focuses on research and solving water shortage issues at the university. Through the Foundation's training and funding, students in water management planning will be nurtured into the next generation of water experts who can devise sustainable solutions. The initiative will go beyond providing theoretical solutions, as the Foundation aims to empower researchers to come up with and implement sustainable water management solutions. In so doing, the students will seek to implement practical measures such as wastewater recycling to support the university's tree conservation efforts.

Conservation and Biodiversity:

The rich biodiversity of Madagascar, home to unique species like the rusk, ebony and rosewood, is under threat due to water scarcity issues. The Foundation is aware of the university's struggles with preserving these precious species in the creation of a sustainable and green environment. The program also aims to modernize the water management systems by incorporating ideas like rainwater collection, storage, filtration, and wastewater treatment as solutions to the water shortage problems. As mentioned in the latter, the benefactors of the Fellowship program will spearhead the venture. With this integrated holistic approach, the Foundation will not only be addressing the immediate water shortage issue but also safeguarding the delicate ecosystem that supports the university's botanical garden. This ambitious endeavor not only aligns with the Foundation's mission to be neutral, bridge-building facilitators of positive change but also aligns with UN SDG 15, Promoting Life on Land.

Conclusions:

The Fellowship Program by the Jacquelyn Jestine Sanders Foundation for 2024 provides sustainable benefits for the great nation of Madagascar.

The program underscores and responds to the need for integrated Water Management solutions to the diverse needs and challenges which should not be considered disparate goals. All are interconnected elements of sustainable development. The Foundation's Fellowship Program in Madagascar has been meticulously designed to align with the UN's Sustainable Development Agenda.

The Foundation has a focus on education, drinking & wastewater management, as well as biodiversity and conservation, all fostering a sustainable future.

Through the generous support of donors and grants, the Foundation is focusing its efforts on nurturing a future generation of problem-solvers, professionals, and leaders who will contribute to the sustainable development of Madagascar and the globe at large.

Together, with the Jacquelyn Jestine Sanders Foundation, we can embark on this journey to change and contribute to a more sustainable, equitable, and resilient world.

Joseph Nyaga

- Urban Planner
- Studied at Kenyatta University
- Practicing Planning Professional

Where does this water go?

Figure A:
Sciences Building

A cistern located on campus used for storing rainwater. Many efforts have been made to collect rainwater on campus, but more could be done to aid rainwater collection practices.

Please note the concrete gutter located on the building in the background which diverts rain water onto the street below

- What is the volume of water running off of the buildings today?
- Are there Storage Tanks that need to be repaired or replaced?
- Do new Tanks or Cisterns need to be built?
- How many buildings are releasing massive amounts of water to the ground below?
- How many thousands of liters of drinkable water could be captured and used within the buildings?

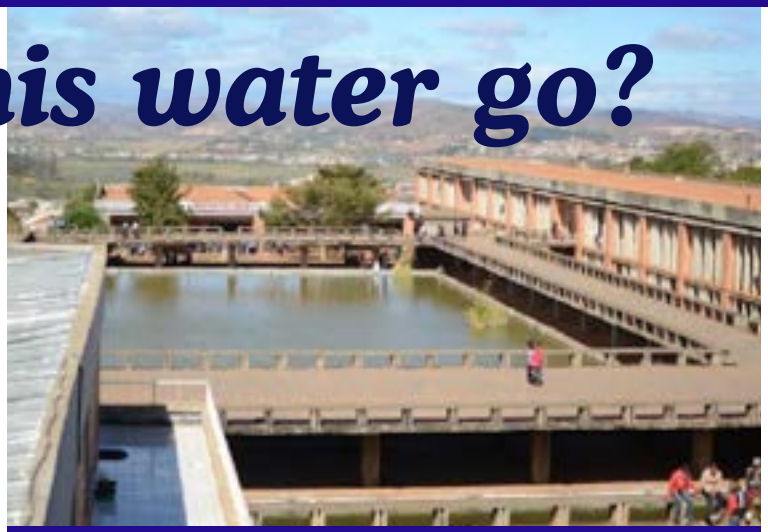


Figure B:
Courtyard Water Capture

Figure F. As previously mentioned, the University has already taken some measures to collect rainwater which have proven effective in providing some, of the schools needs. Here we see one of two rainwater collection ponds located near the central portion of the school grounds. While measures such as this no doubt provide plenty of water for the schools needs, it has been made clear by the faculty that more radical measures should be taken to ensure all of the needs of the Horticulture department., and their hundreds of specimens of at-risk plant life.

- Is evaporation a significant loss factor wtih these shallow structures?
- Can the water quality of this captured water be improved by transporting it to controlled (underground) tanks with continuous circulation?
- Are new tanks needed to increase Storage capacity?
- WHERE could new Storage be safely and efficiently constructed?

Figure C:
Mossy Vertical Riverbed

Many buildings on the campus show clear signs of lost opportunities to gather rainwater. The facade of this particular building not only shows the concrete water diverters on the roof that deliver rainwater uselessly to the ground, but also shows signs of wasted water where water flows down the side of the building actively enough to facilitate the growth of green moss.)

- Water going to the Gardens is good, in fact. But we could try to save some water back for those dry months of winter.
- We will need photovoltaic for circulation pumps.
- Filtrations will still be needed to have potable water after months of storage.

Figure D:
Cathedral Sciences de la Societe

The University features several structures, such as the “Cathedral sciences de la societe” which have arched structures which could gather large amounts of water with the addition of rain retention technologies.

The installation of water retention on just these structures alone would drastically increase the amount of water available to the University

- Larger structures are more efficient for gathering rainwater
- Where can Storage be located?
- How much Storage exists or can be repaired?

Nathan R. Coman

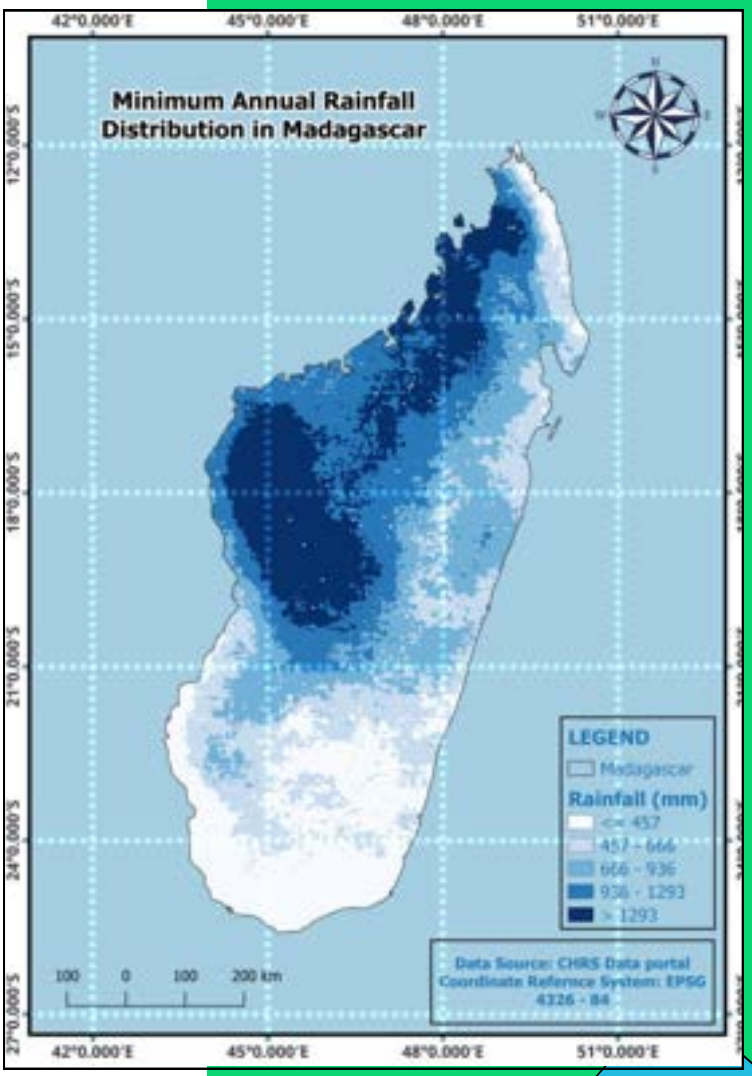
Finding Water for the Trees

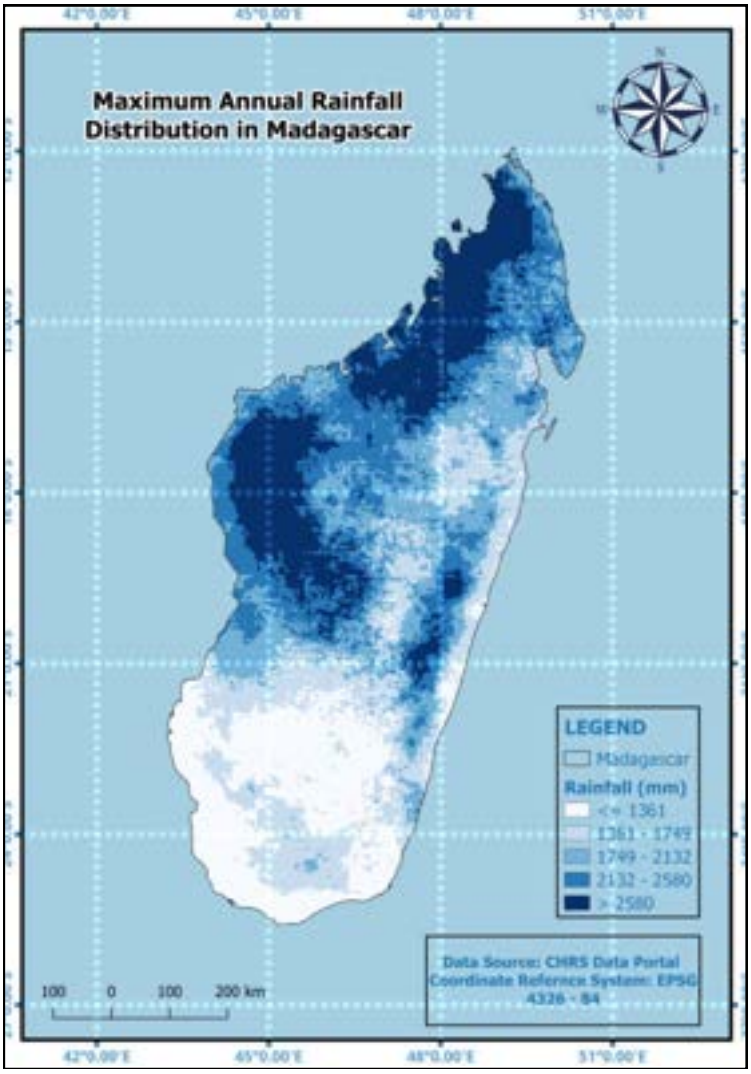
GIS Data for Madagascar

Minimum & Maximum Annual Rainfall over 9 years

The range between min and max needs to be considered! This is a large variance!

A weakness of this data set is that the color scales are not consistent from one graph to the next. This leaves room for improving these charts.





Roxie's Corner

"We are all faced with balancing priorities.

It's true!

On the other hand...

If You and I do not invest in tomorrow - who will?"

Dr. Roxanne Vegan,
JJS Foundation Volunteer

JJS JACQUELYN JESTINE SANDERS FOUNDATION
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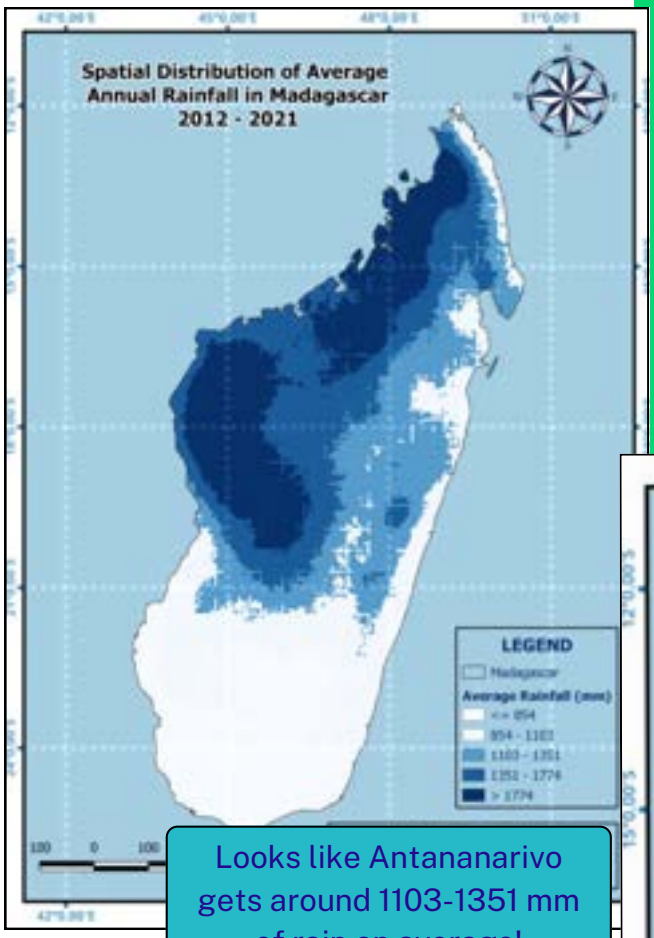
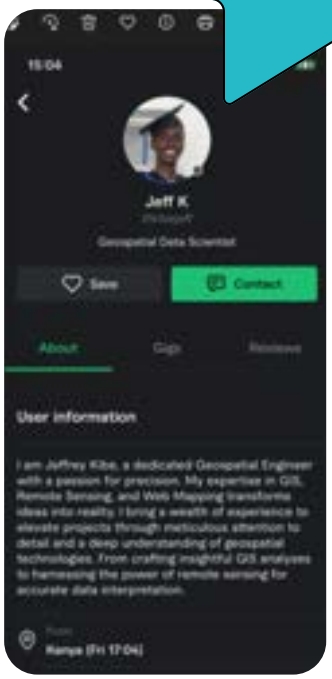
GIS Data for Madagascar

Average Annual Rainfall over 9 years



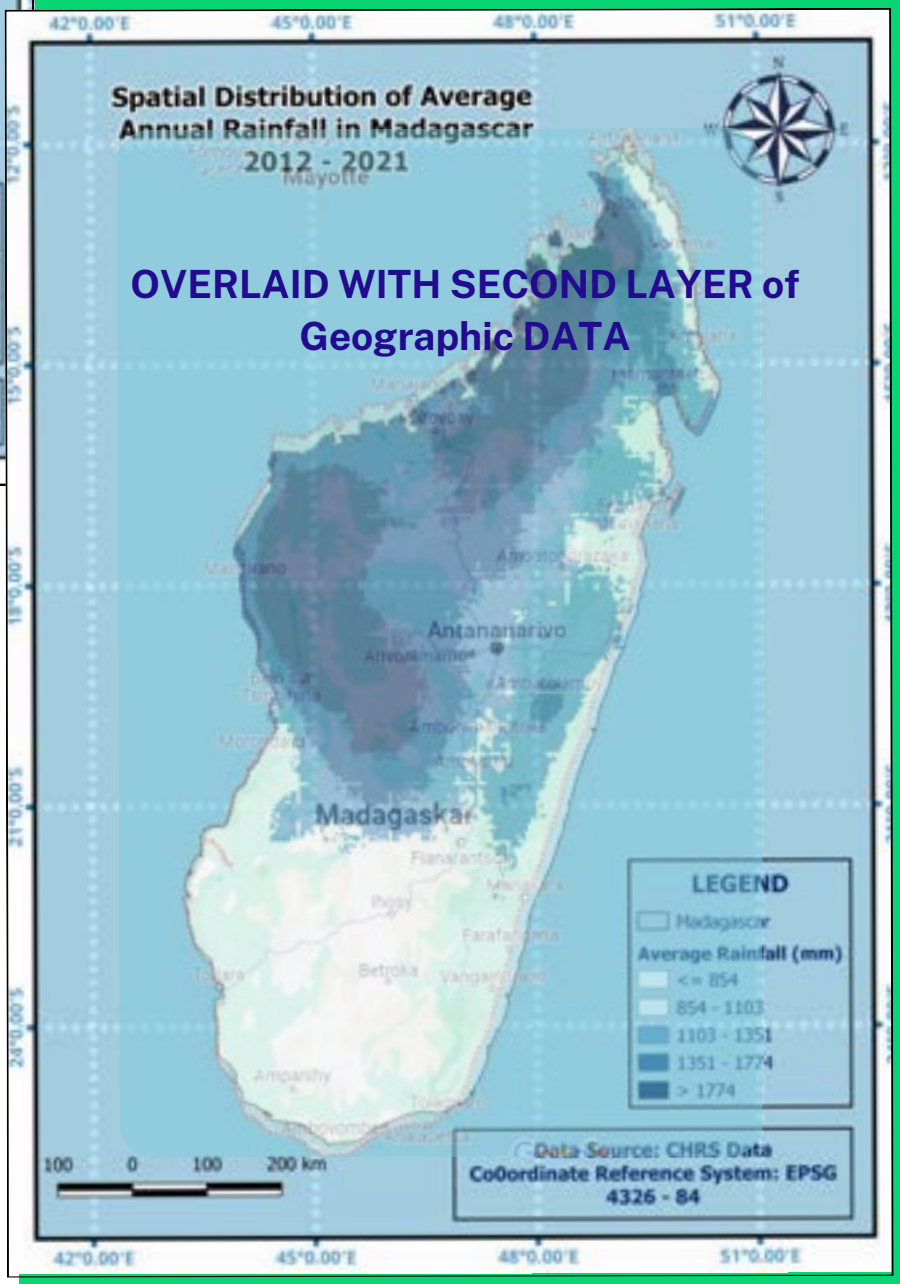
Looks like Antananarivo gets around 1103-1351 mm of rain on average!



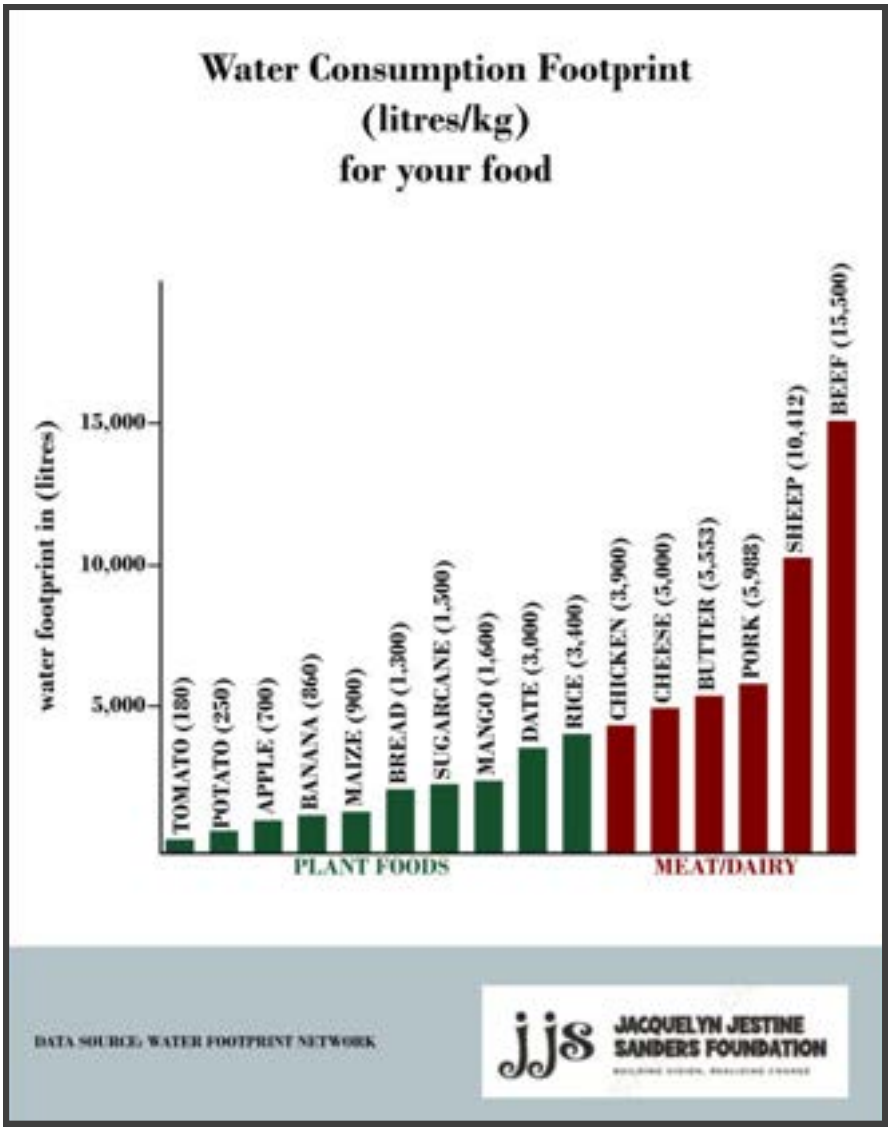
Notes to Fellows:
Our Kenyan GIS Correspondent, Jeffrey Kibe has been gathering and analyzing imperative geospatial data that is available. Software in use here is "qgis". These next few pages are a starting points for the Water Management Planning Foundation's project in Antananarivo.

On the next few pages, starting points for Research are presented. Please consider this and all data you encounter to be Opinion. You must look at multiple sources and make your own Opinion in the end.

If you disagree with any of the data here, or if you feel a factor is missing in the analysis so far - GREAT! You are on your way to helping us take our research and planning to the next level!



Roxie's Corner: Water Consumption



Water Consumption

Plant-based vs. Meat-based

GIS Research Fail Case - but Why?

Calculating the average Rainwater Collection potential

The Chart below was contracted from an independent Researcher - he will remain unnamed.

The data received back from the engagement was not plausible.

All data that is found or cited ... **is Opinion.**

We, as Planners, must see all data we find to be opinion... and we will meld all the opinions we find into our own opinion.

The Opinion below fails the Plausibility Test.

The first Fellow to correctly identify what is wrong with this data ... will receive a Commendation.

A Few Pending University Water Design Questions:

Rainwater
When we know how much rain COULD be captured. How much can we store?

Stagnation
How are we going to keep that stored water fresh. How do we avoid stagnation?

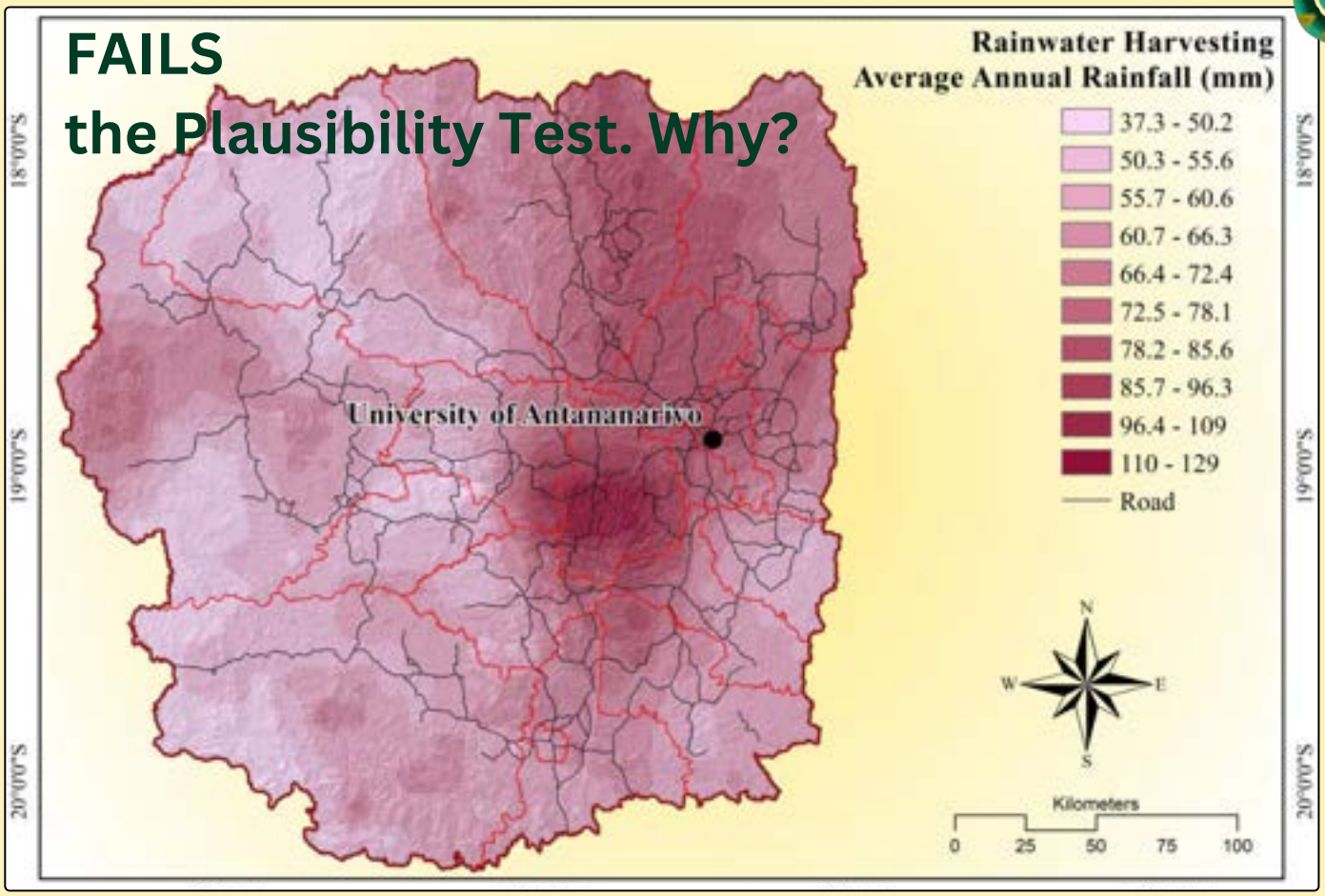
Photovoltaic?
Is electric power going to be needed to circulate this water continuously?

Debris
How can we keep organic matter out of the storage tanks?

Storage in Tanks?
What kind of Tanks will we use? Do we want to use Tanks? Do we want to send any of this rain water to a fresh water lagoon? What is the priority?

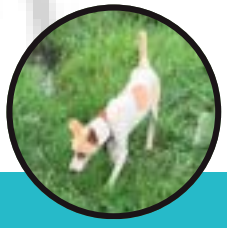
Freshwater Pond?
What is the impact of storage in a pond in relation to evaporation? How can we reduce evaporation?

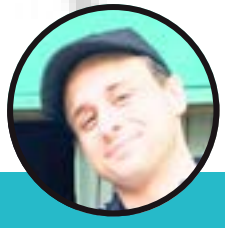
Rainfall Average at the University?



BULLETIN BOARD

Still haven't forgotten the great time we had feeding those in Need with the Impact Youth back in January. So great to see young people striving for a better tomorrow and impacting the Community.





University Elevation Data

An important factor in Pond Placement.

By Jeffrey Kibe
Commentary by K. Coman

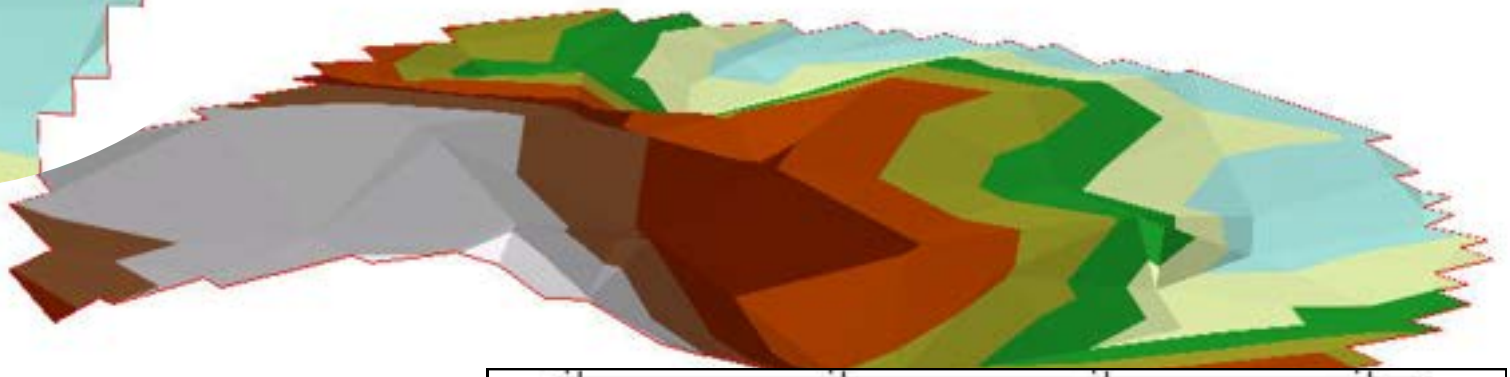
A Number of factors are important to consider in designing water storage - especially if we are talking about protecting drinking water from contamination by wastewater.

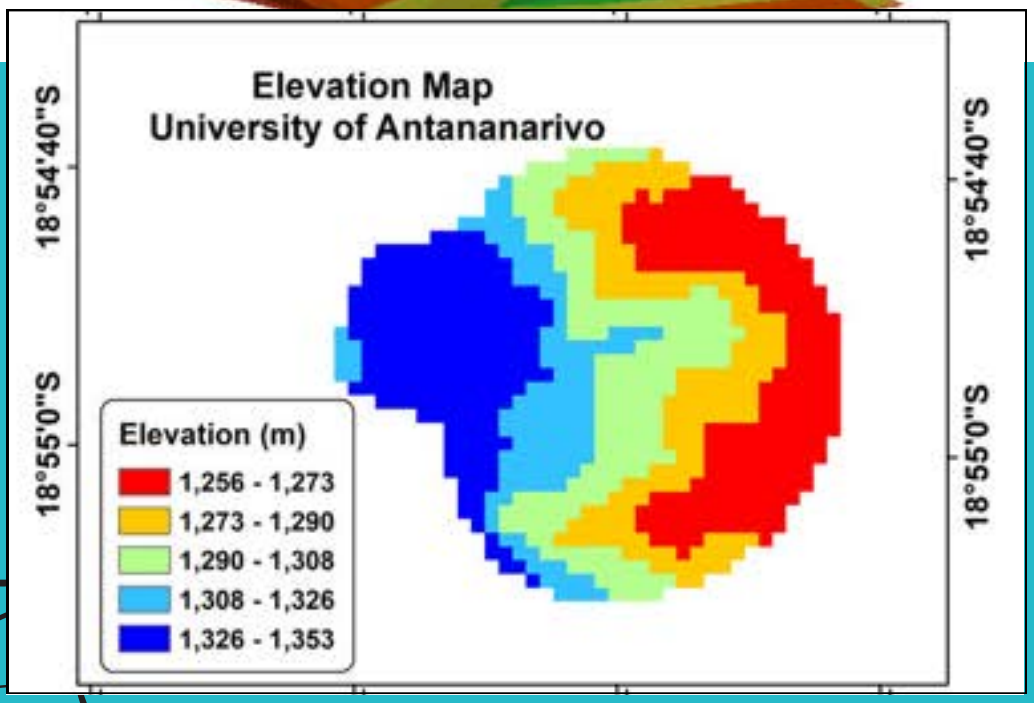
Elevation is at the top of the list in considering Pond or Lagoon Placement.

In the Business of
Realization

We seek to advance Jacquelyn's mindset to DO what we can do to make the world a better place for our children. As we are faced with the challenges of the world –

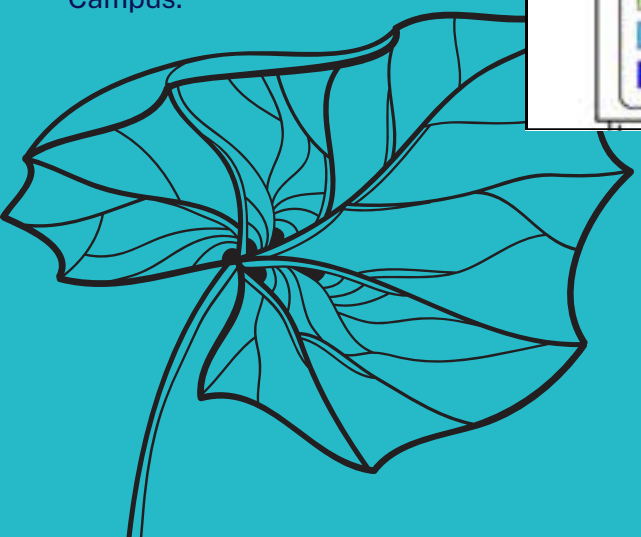
we seek to build vision for a brighter tomorrow through better decisions today.





Elevation is one of 5 factors examined in doing suitability analysis.

As shown in the clips here - there is nearly a 100 meter difference in elevation from the highest to lowest elevation points on the Campus.



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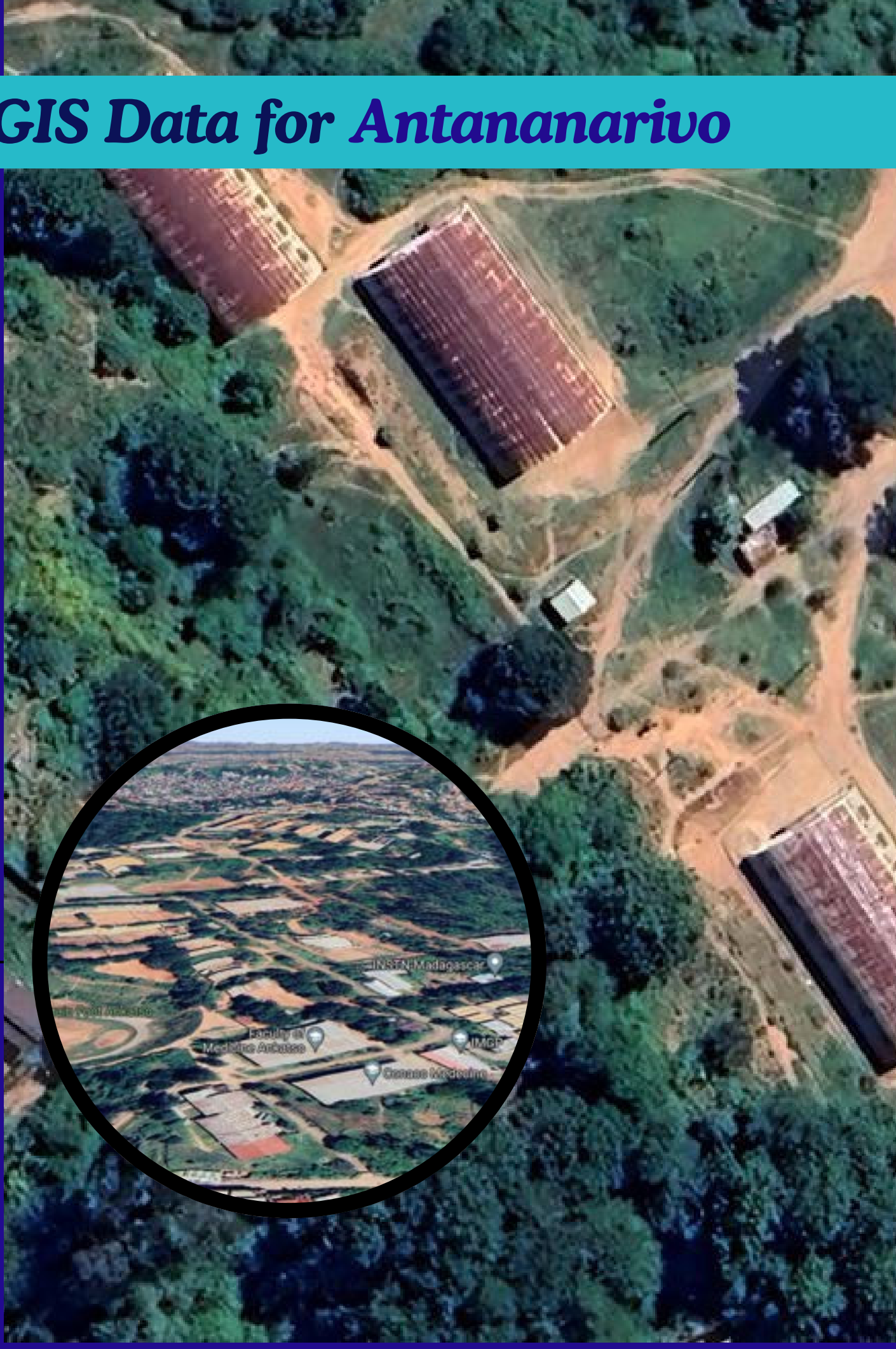
BUILDING VISION, REALIZING CHANGE

GIS Data for Antananarivo



A few perspectives on the University of Antananarivo with Google Earth.

The Importance of

ENVIRONMENTAL SUSTAINABILITY

Environmental sustainability involves making responsible choices that ensure the long-term health of our planet.

WHY DOES IT MATTER?

Our world faces severe environmental challenges, including climate change, loss of biodiversity, and resource depletion.

Understanding these challenges is the first step toward addressing them.

The JJS Foundation seeks to meet these challenges head on by engaging young talent right where the challenge exists!

THESE CHALLENGES IMPACT OUR DAILY LIVES...

From extreme weather events and health concerns to the loss of natural beauty.

It's time to recognize the relevance of sustainability in our own experiences.

PRACTICES FOR A SUSTAINABLE FUTURE

This section will introduce sustainable practices like efficient and responsible resource use as part of the solution to these challenges.

- Reduce, Reuse, Recycle
- Conserve Water
- Energy Efficiency
- Sustainable Transportation
- Reduce Single-Use Plastics
- Reduce Food Waste
- Green Energy Sources
- Reduce E-Waste
- Buy organic grown produce.
- Community clean-up

JACQUELYN J SANDERS FOUNDATION INITIATIVES

Communities and international initiatives are vital to progress.

Here are JJSF programs and projects aimed at addressing environmental sustainability:

RAINWATER FELLOWSHIP

Plan Rainwater Capture, Storage, Circulation & Transport

WASTEWATER FELLOWSHIP

Work on planning of Wastewater Recycling for Tree Conservation!

FILTRATION FELLOWSHIP

Work on planning of Rainwater filtering!

THE POWER OF COLLECTIVE ACTION

FELLOWSHIP

When individuals unite for a shared goal, their collective voice has the potential to influence policies, practices, and industries.

SUSTAINABLE FOCUS

Campaigns often lead to increased public consciousness, which, in turn, drives changes at local, national, and international levels.

SUSTAINABLE ENGINEERING

The collective push for sustainability has the potential to reshape our world towards more sustainable practices.

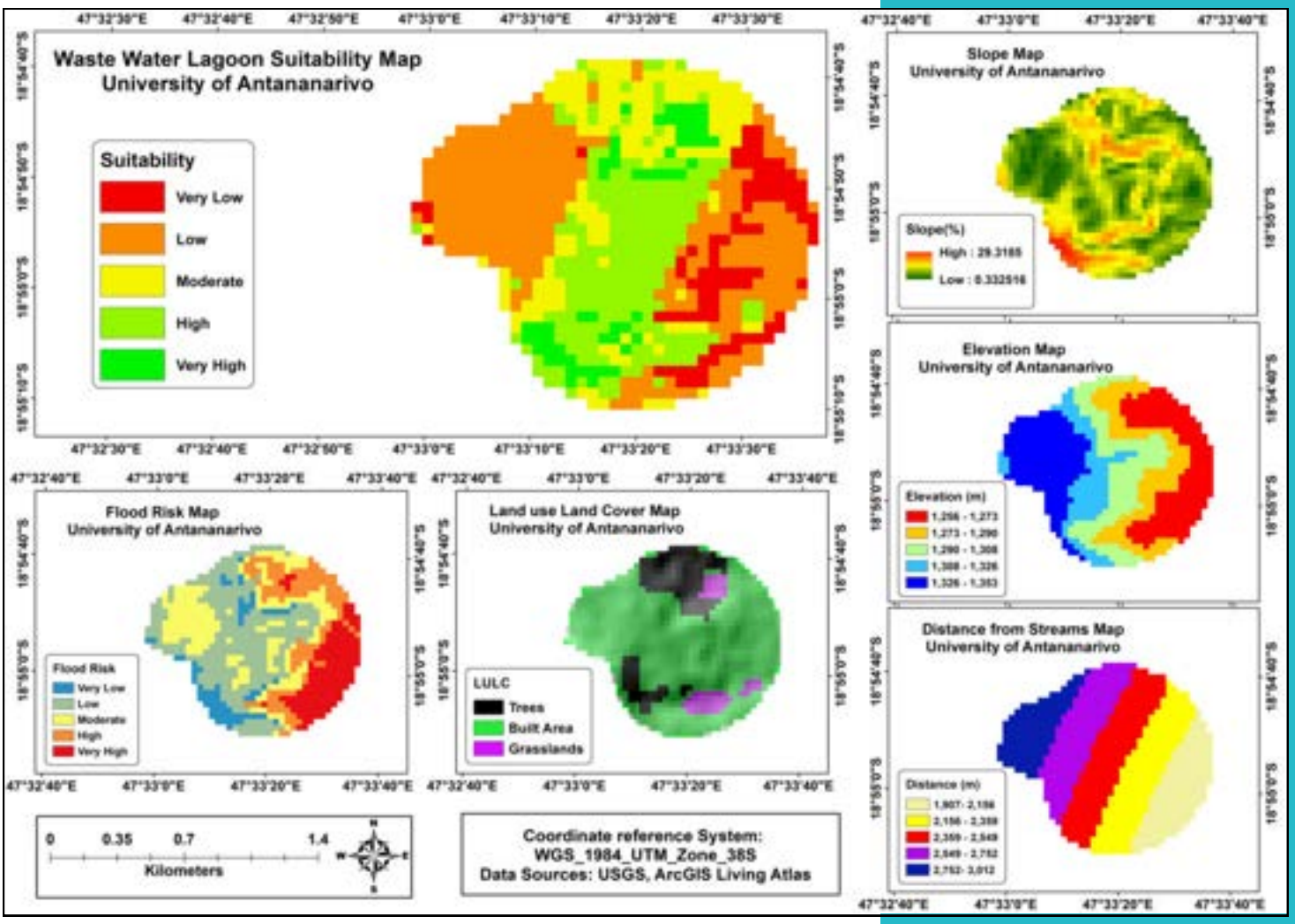
BETTER DECISIONS TODAY FOR A BETTER TOMORROW!

Take a step to make a positive impact, by reducing our environmental footprint to supporting sustainable products.

For more information: www.jacquelynsandersfoundation.org

JJS JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANCE

GIS Data : University Antananarivo



A number of factors must be considered in order to arrive at suitable positioning of the lagoons (as planned by ARAFA in 2020)

Based on the results of the weighted overlay, the most suitable locations were the ones shown in green, while the least suitable ones are represented in red. In the green zones, the risk of flooding was either low or very low, however, there can be seen patches of green in areas where there seem to be a very high likelihood of flooding.

However, this may be as a result of some factors outweighing the flood risk e.g grasslands and bare land, which are good sites for the lagoon due to their low slope and suitable proximity to the stream. Good distance from the stream is essential for discharge, although being too close brings with it the likelihood of flooding and criticism due to the perception of causing pollution.

GIS Research of Antananarivo Region

Jeffrey Kibe

Kenyan Correspondent

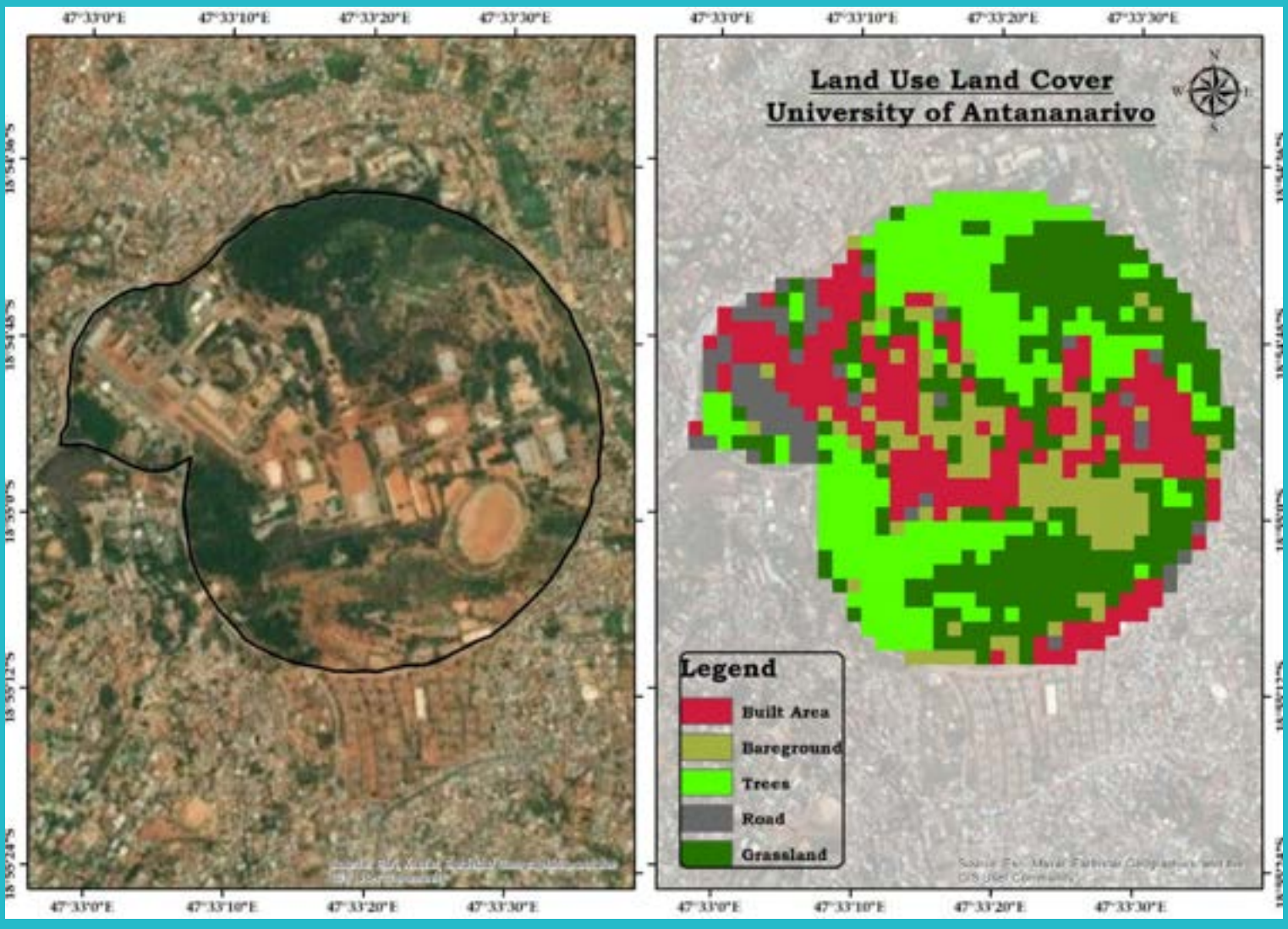
Wastewater Treatment Lagoon Placement Suitability Analysis

In order to establish the most suitable location for the lagoon, a weighted analysis was performed.

The different factors were assigned weights based on their importance for a total of 100% as follows:

- **Flood risk – 25%**
- **Land Use Land Cover – 30%**
- **Proximity to streams – 20%**
- **Slope – 12.5%**
- **DEM – 12.5%**

Using GIS software (ArcMap) the weighted sum was computed.



Proper planning is essential when establishing a lagoon and suitable location is crucial to ensuring safety, ecological balance, and proper infrastructural management.

Nevertheless, a lot of factors are considered depending on the needs of the stakeholders, location, availability of land, environmental accountability among many others.

With the criteria in place, GIS is applied to organize the different factors, combine them, and output the most suitable action plan based on the varying input data.

Rayan and Mowgli

A Tour through the Botanical Gardens begins here.

This Department Sign at UA says much!

This fine University in Antananarivo is no new entrant to education. It has been running for decades. You can see the 60s style in much of the architecture. The number of students is a dazzling 30,000+. The Sciences alone are 10,000 Students.

Those charming 60s style buildings were built upon 60s style infrastructure that is now failing. Will this University continue to be a **Hallmark of Education in Madagascar?** It depends largely upon whether the Infrastructure is renewed. There must be flowing water in the toilets and laboratories. Maybe there is room somewhere for a public swimming pool! The Foundation would love to help turn the University into a Garden of Eden Food Forest. But the first challenge is WATER!

Staff Journalist Nathan Coman at the University ... taking pictures of course! Look Out! Lizard!

PANORAMA MADAGASCAR

The Botanical Gardens of Antananarivo

The botanical garden located at the University of Antananarivo features some of the most unique plant species on the planet, as approximately 80 percent of the flora native to Madagascar can be found growing naturally only on the island.

These unique plant specimens have been carefully cultivated by qualified University staff for study by the students attending the University, as well as scientists conducting botanical research. Our team was privileged enough to be given a tour of the garden by none other than the president of the university himself, Professor Ravelomanana.

In this well maintained, and professionally kept garden are important specimens of many different native plant species. This includes Ebony trees, Rosewoods, and even orchideen, and even two immature Baobabs.

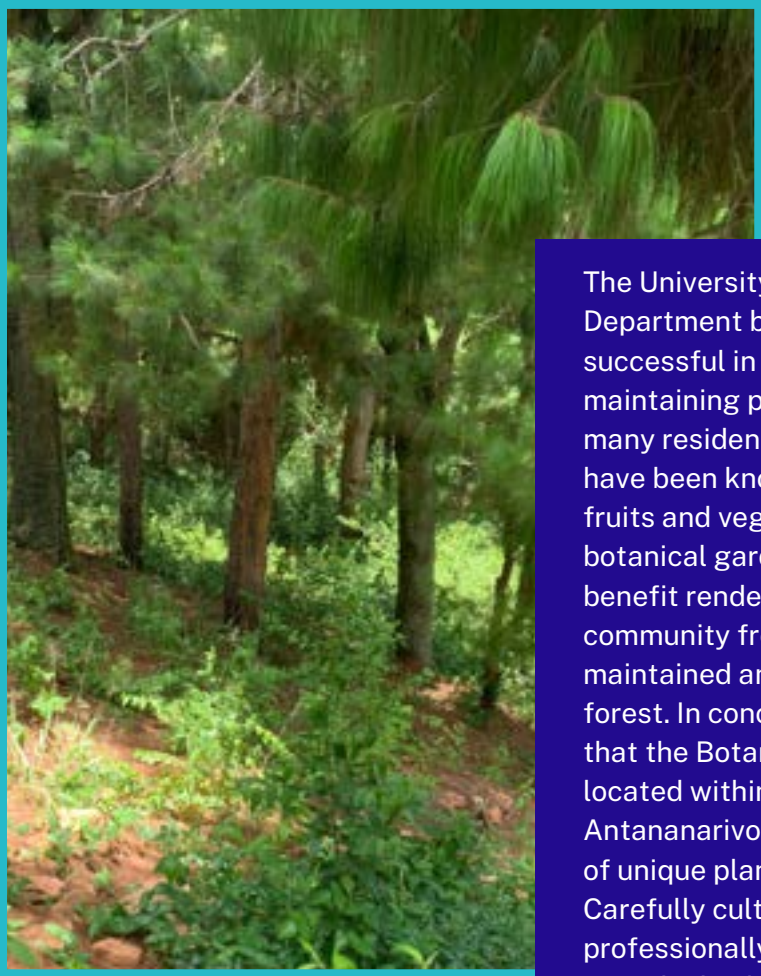
These specimens are no doubt a great benefit to the students pursuing botanical degrees, who no doubt gain priceless knowledge about the plant species unique to their homeland.

Featured in the botanical garden are several dedicated cloning labs and numerous green houses. Currently planned is construction of water treatment facilities which would allow the garden to survive the dry winter wihtout needing to use grey water for irrigation. There is no other way for the program to continue to expand in the future without a water solution for the University.

A short walk from the botanical research facilities were well over 1,500 larger tree specimens which have been planted approximately densely (a meter apart.) We were informed by Dr. Professor Vonjy (Botanical Director) that this spacing helps to create a more natural forest with its own biomass. This biomass in turn provides natural fertilizer that helps to encourage the natural proliferation of smaller plants and beneficial animals throughout the garden.

Foundation Lead, Ken Coman surprised Dr. Vonjy with the view that a large area of the Gardens is being managed in a permaculture fashion. The underbrush that has been embraced is, in fact helping with water retention .. and is adding significant biome diversity. They were in agreement on the profit from allowing nature to be free in this space.

It is interesting to note that the Government of Madagascar has turned to the University's Agricultural department on many occasions in the past, for advice on the proliferation and preservation of the unique endemic plant species that make the Island of Madagascar a treasure trove of unique ecology. Cooperation from the Malagascy Government is a welcomed benefit, and It was interesting to note that many plants seized by the Government from entities engaged in the illegal exportation of rare plant species, have been relinquished to the University's Agricultural department, so that scientific research can be conducted on plants that would otherwise have been illegally exported.



The University's Agricultural Department became so successful in growing and maintaining plant species, that many residents of Madagascar have been known to collect fruits and vegetables from the botanical garden, an unforeseen benefit rendered to the community from a well maintained and cultivated forest. In conclusion, it is clear that the Botanical Garden located within the University of Antananarivo is a treasure trove of unique plant species. Carefully cultivated, and professionally maintained, there is no doubt that the numerous samples being studied here represent a great benefit to both the students pursuing botanical degrees at the university, and for the scientific community in general. Surely such a well maintained garden represents a great scientific resource that will benefit the community for generations to come.

Unfortunately, we were informed that there is a thriving market for the illegal exportation of the rare species being studied within the University, and our team noted that several of the structures specializing in the study of unique vanilla species, and valuable rosewood specimens were securely locked, to dissuade thieves from attempting to steal invaluable specimens.

Nathan R. Coman

Finding Water for the Trees

Les Ambitions des Diplômés en Science dans les Pays en Développement : Catalyseurs du Progrès et de l'Innovation

By: RAZAIARISOA Nomenjanahary Fleurie Julda
Hydrogeochemistry Student, University Antananarivo

À l'ère de l'éducation supérieure en expansion à travers le monde, les aspirations et les ambitions des diplômés en science dans les pays en développement sont au cœur des débats sur le rôle crucial de l'éducation dans la promotion du progrès et du développement durable.

Dans ce contexte, deux aspirations principales émergent : d'une part, la quête de postes de prestige au sein de la fonction publique, et d'autre part, l'engagement à contribuer de manière significative à l'avancement de la société à travers l'entrepreneuriat social et l'action humanitaire.

Nombreux sont ceux parmi les nouveaux diplômés qui nourrissent le désir ardent d'occuper des postes de responsabilité au sein du gouvernement. Animés par un profond attachement à leur patrie, ces individus aspirent à jouer un rôle actif dans le façonnement de politiques et de programmes fondés sur des données scientifiques, visant à renforcer les infrastructures, à améliorer la santé publique et à promouvoir l'éducation pour tous. Leur vision transcendante dépasse les frontières nationales, car ils sont déterminés à promouvoir la coopération internationale pour le bénéfice commun de l'humanité.

En parallèle, un nombre croissant de diplômés en science se tournent vers l'entrepreneuriat social comme moyen de créer un impact durable sur la société. Inspirés par des valeurs d'équité et de durabilité, ces innovateurs cherchent à mettre en place des entreprises axées sur le développement durable et l'inclusion sociale. Leur objectif est double : assurer leur propre succès financier tout en contribuant à la résolution de défis sociaux et environnementaux pressants, en créant des emplois et en stimulant l'innovation.

Enfin, une autre facette essentielle de l'engagement des diplômés en science réside dans leur volonté d'aider les populations les plus vulnérables à travers des actions humanitaires et des projets de développement. Guidés par un sens profond du devoir moral et de solidarité, ces individus mettent leurs compétences scientifiques au service des communautés locales, en travaillant en collaboration avec des organisations internationales et des ONG pour résoudre des problèmes socio-économiques et sanitaires complexes.

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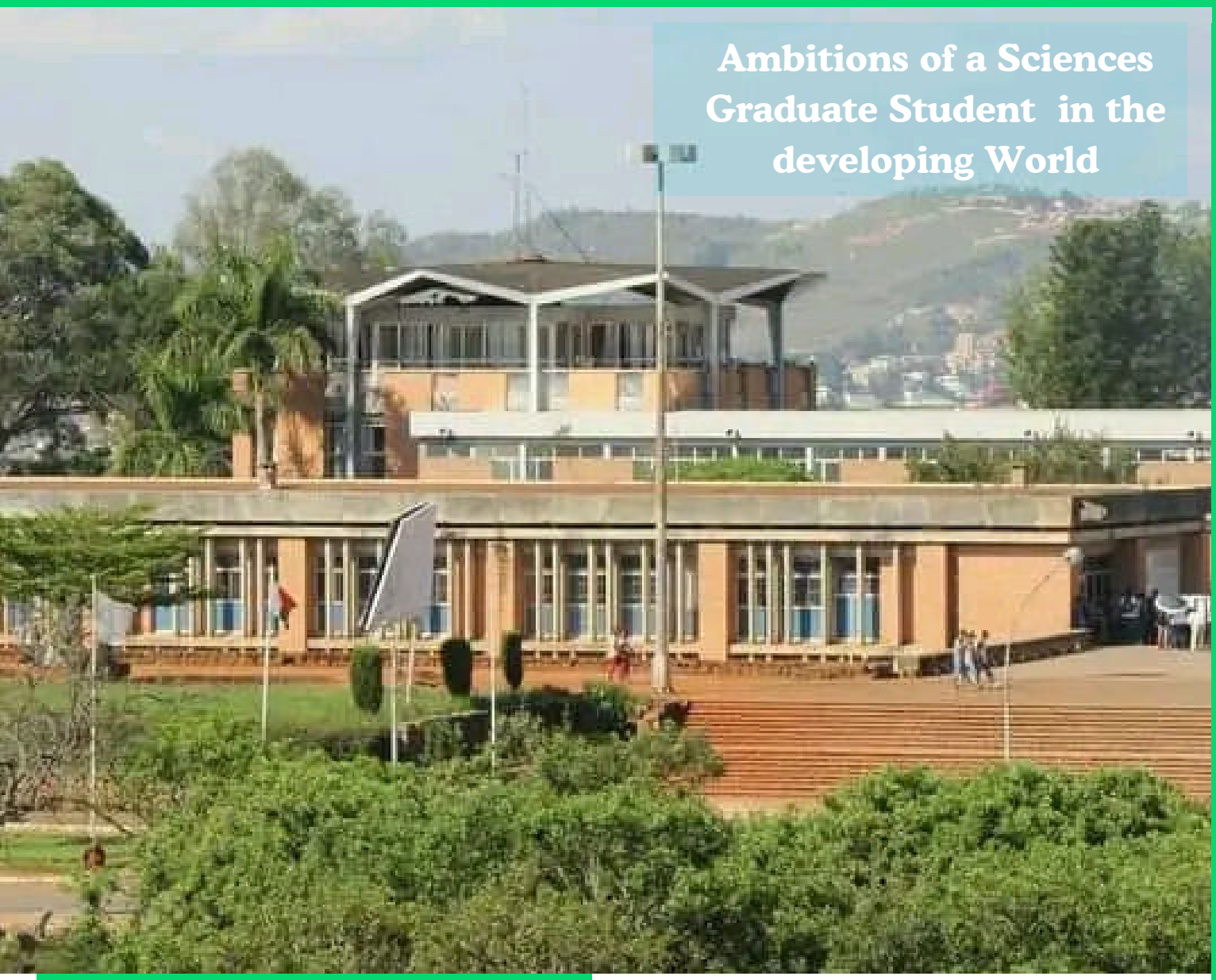


Ambitions of a Sciences Graduate Student in the developing World

En conclusion, les aspirations des diplômés en science dans les pays en développement témoignent d'un engagement profond envers le progrès et l'innovation. Que ce soit par le biais de responsabilités politiques, d'entrepreneuriat social ou d'actions humanitaires, ces individus sont les véritables catalyseurs d'un changement positif, contribuant ainsi à bâtir un avenir meilleur pour leur pays et pour le monde entier.

"In conclusion, the aspirations of science graduates in developing countries demonstrate a deep commitment to progress and innovation. Whether through political responsibilities, social entrepreneurship or humanitarian actions, these individuals are the true catalysts for positive change, helping to build a better future for their country and for the entire world."

Fleurie Julda

Water Management Assessment

By: Jeschick Ymakini SIBO
Economics Student,
University Antananarivo

The university relies on a mere two functional tanker trucks out of ten, with capacities of 15 and 20 cubic meters, respectively. These trucks navigate long roads to deliver water to Ankatso 1 and the study area, attempting to meet the demand that far exceeds supply. However, due to the limited number of trucks and their inadequate capacity, the frequency of water deliveries is insufficient, leading to long queues and rationing among students.

The University of Antananarivo, nestled in the heart of the Malagasy capital, is a dynamic learning center, but it faces major challenges in terms of water access. Despite the picturesque setting and its proximity to Lake Mandroseza, students and residents in university zones face a terrible reality. The complex topography of the region, combined with infrastructure wear and tear, hinders the provision of running water, resulting in temporary solutions that do not fully meet the needs.

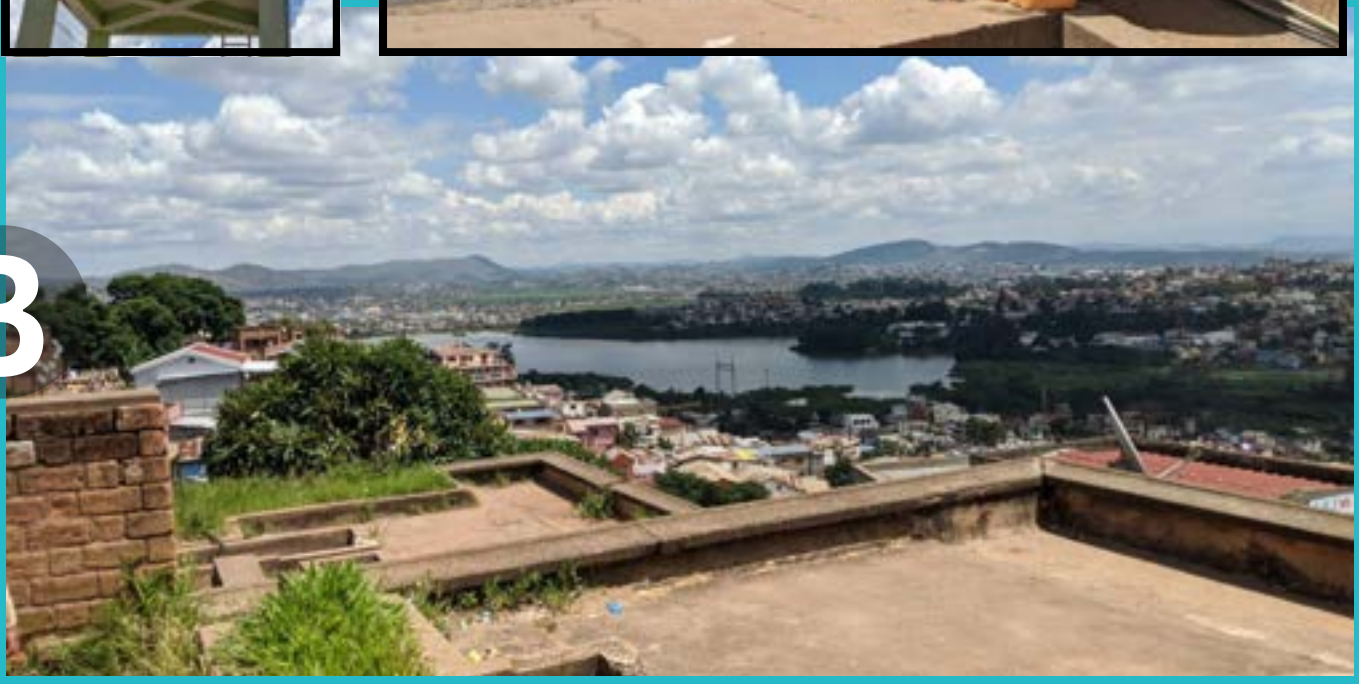
At the foot of the university hill lies Lake Mandroseza, a vital water source for the city. However, logistical, and structural challenges prevent water from reaching the University of Antananarivo with ease. The uphill battle against gravity, coupled with aging pipes and pumps, leads to inefficiencies in water delivery, leaving certain areas of campus without access to water.

In residential areas, water is mainly used for domestic purposes, while in study areas, it is essential for sanitary facilities and students' daily needs.

The water supply by tanker truck occurs seven times a week for Ankatso 1, while the study area receives water deliveries two to three times a week. This highlights the critical importance of these shipments in meeting the daily water needs of students and residents in these areas. Despite the regularity of deliveries, the limited capacity of the tanker trucks and the high demand for water often result in insufficient supply, leading to long queues and frustration among those awaiting their turn.

“The university relies on a mere two functional tanker trucks out of ten, with capacities of 15 and 20 cubic meters, respectively.”

@ University Antananarivo Ankatso



As you can see in Photo 3, there is a Lake Mandroseza next to the University campus. **It is this reservoir that supplies water to the entire city**, and that's where the Water Supply trucks depart from.

The current infrastructure (pipes and pump) cannot bring the water from Lake Mandroseza up to the university. The lake is reported to contain 800.000 cubic meters of water. That is 800 million liters of water!

1 *Elevating Water on Campus for water pressure and transportation.*

2 *Large Plastic Water Storage Containers seen across Campus.*

3 *Photo of Lake Mandroseza near the University - taken from the roof of a student housing.*

When the Rains Come

The Fellows offered some candid shots of Water on the University Campus. Here we see that Water is in abundance part of the year. and there are signs all over of efforts to store water for the harder times that follow.

Without a ready supply of running water - the University Students rely upon Water Delivery Trucks which come periodically. They must gather and store water for their daily needs.

4 *The rainy season leads to lots of flooding. Here a Football field on Campus now resembles wetlands.*

5 *Rainwater in abundance ... at times.*

6 *There are times when the water is in excess.... before the dry times return.*

The water supply by tanker truck occurs seven times a week for Ankatso 1, while the study area receives water deliveries two to three times a week. This highlights the critical importance of these shipments in meeting the daily water needs of students and residents in these areas. Despite the regularity of deliveries, the limited capacity of the tanker trucks and the high demand for water often result in insufficient supply, leading to long queues and frustration among those awaiting their turn.

A 20m³ tanker truck,
which supplies water almost daily to the heights of Ankatso

Furthermore, the construction and maintenance of the piping from these reservoirs fall upon the students, who must contribute financially to their upkeep. This adds to the burden already placed on students grappling with water scarcity.
Disparities in water access exacerbate existing tensions among students, hindering their academic pursuits. Unequal access not only affects their physical well-being but also impedes their ability to focus on their studies. As a result, addressing these disparities is crucial for fostering a conducive learning environment.

While initiatives to drill boreholes offer hope for mitigating reliance on tanker trucks, their success remains uncertain. The transition to alternative water sources requires careful planning and investment to ensure long-term viability. Furthermore, the cessation of free water supply, although controversial, deserves serious consideration as it could lead to a paradigm shift, responsible use, and equitable distribution of water.

In conclusion, the challenges of water access at the University of Antananarivo underscore the need for comprehensive solutions. Investments in infrastructure, strengthened community initiatives, and innovative water management policies are essential to ensure equitable and sustainable access to this vital resource for future generations.

Jeschick Ymakini STBO

@Ankatso

Tree Conservation in Kenya

By: Jeffrey Kibe
Kenyan Correspondent

Kenya, known for its rich biodiversity and breathtaking landscapes, has been facing several challenges in terms of preserving its natural heritage. Being home to more than 1,100 tree species, out of which, 40 are endemic, it is a cause for alarm when over 120 species are endangered and on the brink of extinction. Over the years, the country has witnessed an accelerated shrinkage of previously forested areas at an alarming rate of 12,0000 ha per annum.

The shrinkage can be attributed to encroachment by commercial agriculture, expanding infrastructure, a growing population, poor funding of conservation initiatives, charcoal demand, and reliance on wood fuel. As a result of growing concerns over the effects of a diminishing forest cover on climate change, the country has become host to numerous tree conservation initiatives dating as far back as the 1977, Green Belt Movement.

Despite more recent initiatives such as; Trees Campaign of 2006, The Greening Kenya Initiative 2010, and the Accelerated National Tree Growing Campaign 2022, Kenya still faces a deficit of tree coverage. Therefore, the government of Kenya, has launched an initiative to grow 15 billion trees by 2032, which is projected to increase tree cover across the country by 30%.

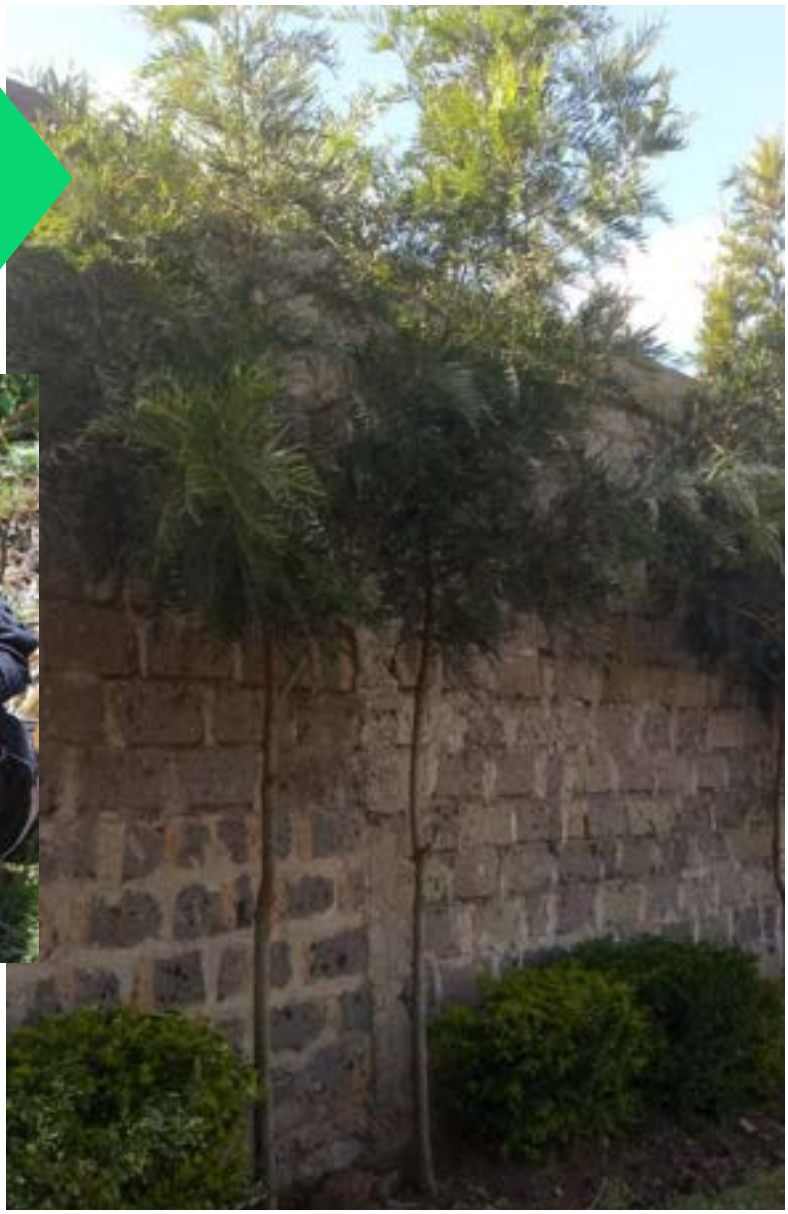
The initiative's primary focus has been to plant trees in previously forested areas, with relatively good rainfall coverage. Nevertheless, it goes without saying that other frontiers located within arid and semi-arid areas, despite stretching across over 80% of the country's landscape, have not been adequately explored owing to the low and unreliable amounts of rainfall.

Since, the initiative heavily relies on rainfall, which in recent years has become unreliable and unpredictable, the success rate of the initiative depends on the resilience of young trees to harsh climatic conditions and the availability of alternative sources of water.

In terms of funding, the allocation of the necessary resources for tree growing and management has been inadequate. For instance, the funds allocated in the national budget for forest conservation in 2022/2023 and 2023/2024 were Ksh 10.15 and 14.3 Billion respectively. However, those figures fall short of the requisite 600 Billion projected for the 10-year campaign, which in retrospect would cost the government 60 Billion annually so as to sustainably achieve the 30% tree cover across the country.

Fortunately, other non-government organizations such as; Botanic Gardens Conservation International (BGCI), World Wide Fund for nature (WWF), Trillion Trees, and Green Belt Movement (GBM) have shown their dedication and willingness to contribute to the government's goals. Their contribution has been characterized through various incentives like providing seedlings, organizing workshops and tree planting drives, supporting grassroot groups made up community members through training, creating outreach programs aimed at creating awareness, and partnering with government agencies such as the National Environment Management Authority (NEMA) and the Kenya Forest Service (KFS) just to mention a few. For instance, in 2020, the KFS collaborated with the International Union for Conservation of Nature (IUCN) and BGCI to create a framework for the conservation of endangered tree species.

Right: A row of Young Deciduous Grevillia Robusta Tree Species



Above: Youth Members of the Visionaries 023 organization posing for a photo In front of an Araucaria heterophylla tree species during a tree planting event along Kiu River.

Bottom: Saraca Acosa tree Species Planted
A perimeter wall Along Mwihoko around Z- Corner.

Tree Conservation in Kenya

Young reforested Eucalypus Trees Planted along The banks of River Kiu, Githurai 45, Kiambu

Educalypus Trees Planted along The banks of River Kiu, Githurai 45, Kiambu

In order to protect, conserve, and enforce tree conservation laws, the Kenyan government has robust legal frameworks. The Land Act 2012, the National Climate Change Response Strategy, the Kenya Forest Policy 2014, and Forest Conservation and Management Act 2016 are all envisioned to sustainably address the country's ability to increase its tree cover. Furthermore, the Kenyan Constitution inaugurated in 2010 created a framework, which incorporated counties with the aim of better managing community land. As of 2024, January, most counties out of all 47 counties had incorporated an element of environmental conservation within their administration to ensure everyone was contributing to the national vision of attaining 30% tree coverage across the country.

The icing on the cake so to speak, has been the gazetting of the National Tree Planting Day, a public holiday to be observed and celebrated annually on 13th November. On this day, the entire populace of Kenya will join forces in support of the environment and the national 15 billion tree planting initiative. The trees species endorsed for this initiative depend on the local conditions, for extremely wet areas, eucalyptus tree species are planted to help accelerate the rates of evapotranspiration. Conversely, in dry areas, Moringa is best suited.

Since we are in the age of technology, the Cabinet Secretary for Environment, Soipan Tuya during the national tree planting day last year urged Kenyans to utilize 'Jaza Miti' an innovative application for documenting all tree growing activities. The event saw the planting of 120,000 tree seedlings at Kiu wetland in Makueni county. On the same day, different organizations, government agencies, and communities undertook in the exercise, whereby area chiefs were instrumental in supplying tree seedlings. In a press release, following the national tree planting day, Isaac Mwaura, the government spokesperson noted that over 150 million trees were planted on that day. Notably, availability of water, inadequate government capacity, low levels of investment, and illegal logging emerged as the main obstacles to tree conservation in Kenya.

In conclusion, for the government to achieve its 10-year tree conservation goals, it should focus on a wholistic approach that involves all stakeholders both public and private in the planning and mobilization of resources such as water, seedlings, training, and workshops. Moreover, it should foster sustainable logging and enforce strict laws on perpetrators of illegal logging activities to ensure accountability, discourage exploitation of forested areas, and instill a sense of personal responsibility. If you cut down one tree, plant 5 trees. Forestry and logging when practiced sustainably it can contribute to the economy of the country as witnessed in 2020 and 2021, whereby forestry and logging contributed 1.6% and 1.7% of the county's GDP respectively.

GREEN MADAGASCAR

Garden of Eden Level Botanical Bliss:

Bananas, Persimmons, Jackfruit, Pineapples, Avocados, Oranges & Tangerines, Plums, Pears, Mangos, Starfruit, Guavas, Passion Fruit, Lychee, Ramboutan, Peaches, Pomegranates, Coconut, Limes, Lemons, Coffee, Cacao, Vanille

A Food Forest is only a little Water Management away!

JJS JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANGE

A RICH FOOD FOREST REQUIRES NO MORE WATER THAN RICE

So many delicious and nutritious fruits and vegetables can be grown in Madagascar - if water can be managed well for the Garden.

The University has every chance to be a Symbol of the rising Green Island!

Is a Food Forest the answer in the middle of the capital city? Is the University the right place for this kind of endeavor?

A green Madagascar needs symbols of success. The largest University in the Land is the perfect place to lead by example! The University has every chance to be a Symbol of the rising Green Island!

Water is the Way!

The future depends upon those Ancestors who are still living - We must begin to build new opinions based on all the information available to us.

Those of us who are here today - must not be distracted by what may or may not be possible within our own lifetime. This is not relevant. We must begin in this day to build a future for our children's children.

The time to begin with new practices always was and remains - Now. We must look critically at the choices we are making today and ask ourselves "can we do better?"

The Answer is invariably yes! So then - Let us begin!

The young generation is our hope for the future. We must foster a love for better practices. Let us make better decisions at this stage for the sake of Tomorrow.

MAKE MADAGASCAR GREEN AGAIN

JJSF Water Engineering Team
University of Antananarivo

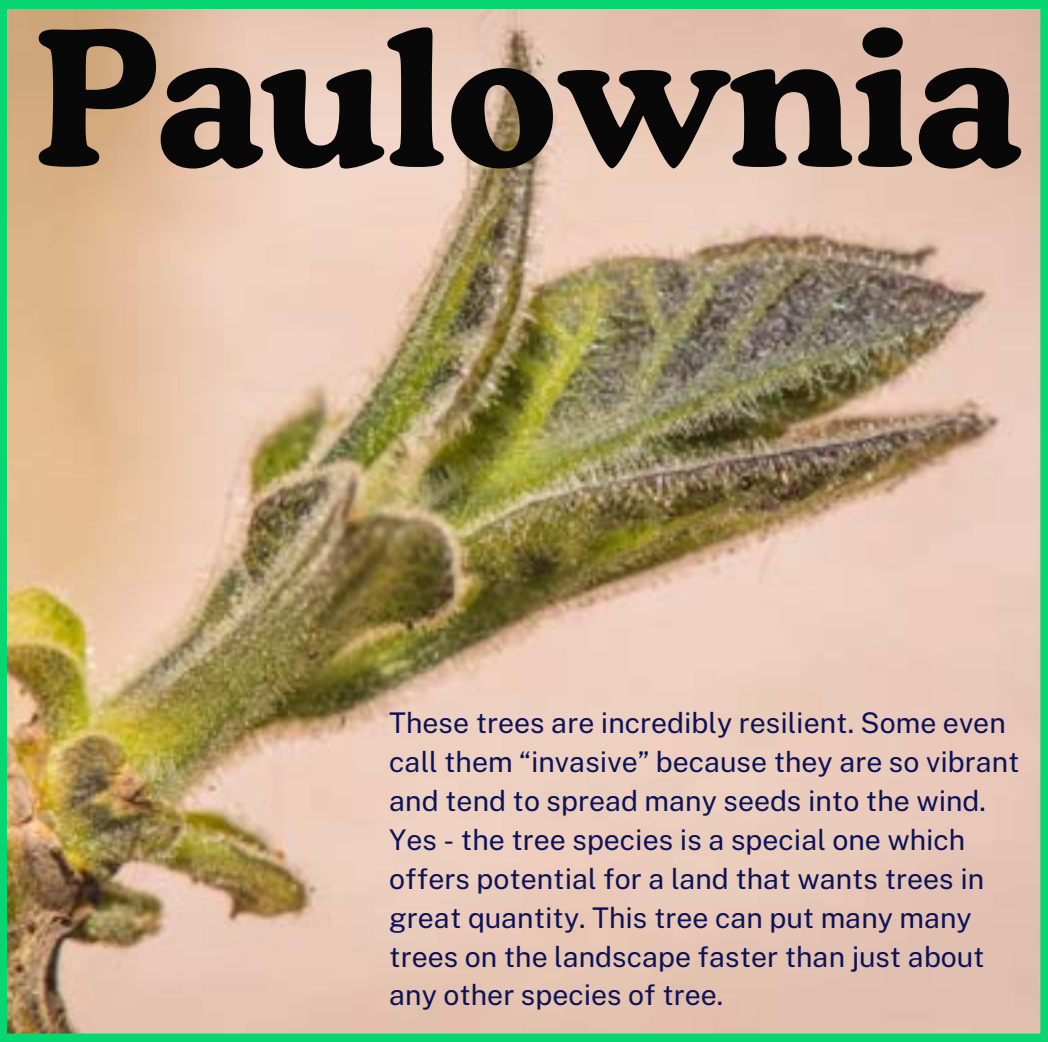
JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANGE

The Paulownia Tree, which is native originally to China - has been gaining more and more popularity worldwide.

This tree is cited by many as the fastest growing hardwood tree in the world. But that is not it's only claim to fame. For one, it is a very lightweight hardwood. It has traditionally been used in Asia for making furniture and musical instruments. The grain of the wood is pleasant, and if the wood is burned with a torch - the texture of the grain reveals more dramatically. This is a mechanism even for enhancing the finish of the wood.

Additionally - the Paulownia is a "regenerative" Tree - meaning that when it is coppiced - it regrows. And it regrows quickly. Those growing the trees for lumber will cut the trees to the ground every 2 to 4 years. The root system is large after a few years - and a coppiced tree will typically be larger than the cut tree within 2 years. This means that a Paulownia Stand can be harvested many times.

Paulownia



These trees are incredibly resilient. Some even call them "invasive" because they are so vibrant and tend to spread many seeds into the wind. Yes - the tree species is a special one which offers potential for a land that wants trees in great quantity. This tree can put many many trees on the landscape faster than just about any other species of tree.

Is the fastest growing Tree in the World an Answer for Reforestation in Madagascar?

The Paulownia Tree can grow three meters in one year! It shoots up like a rocket when conditions are ideal. Because of it's big elephant ear Leaves - it is sometimes planted ornamentally. It is a beloved spring flowering tree in Portugal. The purple flowers are easy to spot at a wide distance.

Paulownia are producers of biomass like no other. They produce seeds and leaves in great volume. That means the trees are not necessarily perfect for the Western front-yard. But - if you want to build a new jungle ... these trees are the way to get a stand of beautiful trees quickly. These trees can reach 6 or 8 meters within only a few years. And they can be ready for the first coppicing even by year three.

A google search of the Paulownia will reveal some debate about this tree. Some are scared by how aggressively these trees grow. But - that is precisely this tree's strength. You can harvest these trees repeatedly. Cut it down .. it just comes right back again with force!

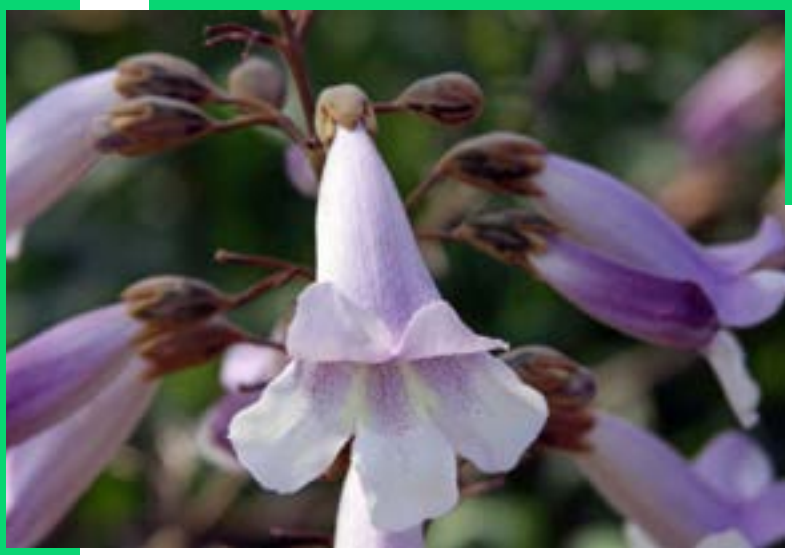
Additionally - Abundant Biomass means Abundant Charcoal from the Paulownia can be produced which is is going to be lightweight - and IDEAL for use in filter systems. This means there are multiple layers of value from these trees.

Paulownia. This Tree belongs in the assortment of trees being planted. It is the beloved tree of the Orient - which will grow like a wonder Tree in the Madagascar Sun!

Food Forest &
Paulownia Lover

Kenneth Dale Coman Sr.

Jacquelyn Sanders Foundation



Question & Answers about the Foundation:

Question: How much of a Contribution to JJSF goes into Overhead or Salaries?

Answer: It is a respectful question to ask "How much of my donation is going to be used to pay the Managers of the Project?"

One thing that we are proud of at the Jacquelyn Jestine Sanders Foundation - is that none of us take any salary. **Like you - we are donors. We take no salaries nor do we gain any profits**. We give our time and our money to support the goals of the Foundation.

As a 501c3 Non-Profit Organization - All donations going into the Foundation account are on a one way street towards being used for Realizing Positive Change. This is the one reason why we exist. The Foundation exists for the purpose of a better tomorrow. We invest in tomorrow as a lifestyle. In fact - to invest in tomorrow is to invest in continuing thriving life on Planet Earth. We use donations exactly for these purposes.

So - be at ease. A donation to the Jacquelyn Jestine Sanders Foundation - is simply - an investment in tomorrow for all of our children.

We have had roughly zero overhead up until this year. As we look forward into the projects ahead - some overhead costs are likely to arise. But our continuing efforts remain to keep our overhead as low as is humanly possible. Furthermore - our Annual Report for 2024 will detail all of the finances for those who are interested.

"Like you - we are donors. We take no salaries nor do we gain any profits"

Question: Why is the JJSF Charitable Strategy Unique and Effective?

Answer: Let us take our **Cornerstone 2024 project in Madagascar** this year as an example. We are investing this year to help Graduate Engineering Students at the University to make first use of their engineering skills to design a desperately needed Drinking Water and Wastewater Management Infrastructure for the University. 30 thousand students and the related Faculty will benefit greatly from modernized water infrastructure. But that is only the tip of a very large iceberg we are standing upon. The real winner is the country which is exercising the use of it's educated human capitol.

Now - normally - the planning of such a Project alone - would cost 10's of thousands of dollars. But - without such a set of detailed plans - how will the University build a solution that is efficient, complete, correctly sized, and maintainable? So - this means that a University with a failing Water Infrastructure System - must first invest very significantly in Engineering. This can be prohibitive in critical projects getting started.

This is where JJSF comes into the picture. We are organizing and financing the Engineering Planning for the University. The unique approach we are using saves money and does much more in the process. Why? How?

The Foundation is simply a facilitator of the solution. We are encouraging Graduate Engineering Students to USE their training - to address a very real problem facing not only their University - but their entire country. The Water Infrastructure of the Country - needs attention on all levels. Who should address this desperate need?

Question: What do you mean by Win-Win-Win?

Answer: All parties in an activity can win together. We call this Win-Win-Win activities where there are no losers. We are actively engaged in practicing multi-layered investing in the future. Our goal is to demonstrate that giving in love - is actually profitable in that we can all win together. If many parties win because of any activity - the return on the (time and energy) investment is higher.

We assert that the latent solution to the technical dilemmas facing developing nations today - is residing right at their Universities. The living solutions to the problems are there studying and also living the problems facing their land first hand. They are in the very best position to see and understand the problems. And with some assistance - they are probably also the best positioned to also realize the engineered solutions, based on sound engineering.

We, at the JJS Foundation, believe it is far better to support a solution for the problems by working with those living in the impacted zone. This means for us - cooperating with a University to fund engineering by the students. When we succeed, the University will not only solve it's Water Problems - but it is also building a Center of Competency around a critical engineering need facing the country. This empowers the Competency Center to use those skills again on the next site in the region. This is scalable, efficient, and allows the joy and pride of solving the problems to be owned by the landsmen. That pride of success is priceless. It is also part of the profits that come from cooperating with a University that is rich in human capitol.

This is a Model we are actively seeking to practice, refine, and hone. It is a hallmark of the JJSF charitable strategy - building bridges and making central use of human capitol in the impacted region to solve the engineering challenges.

Question: What can I do to aid the Foundation's Cause for a better future?

Answer: **This is the way.** This is the way to help developing nations develop. Let us assist them in bringing their intellectual resources into action to solve the problems of the day.

This is the way that we do more than solve the Water Management problems of a University. If we do this work well - we can begin to impact the future of the region by teaching the young engineers in the land how to employ those critical problem solving skills they have been training.

Where you come in: We need help in funding our Fellowships Program. We can fully fund a Research Fellowship for a graduate Student for $350. That investment will pay much or even all of the costs of a student for a year in many developing nations. It also allows some budget for ensuring a Professor is involved in the review of the work. We pay for study costs while directing research that is relevant for solving real problems. This is Win-Win-Win type of activity.

If you would like to invest in the future with us - Support a Fellowship. $350 will cover nearly all the study and living costs of a graduate student for one year. We will partner with that Student to make use of their engineering skills. We will team them with other students strategically and facilitate real engineering planning ... in preparation for Realization grant applications. Our next step is to build the engineered solutions with the young engineers.

We believe that: This IS the way.

Will you join us in Building Vision & Realizing Positive Change?

JJS JACQUELYN JESTINE SANDERS FOUNDATION
BUILDING VISION, REALIZING CHANGE

AD SPACE:

Water Infrastructure Engineering Competency Center Forming

For those Fellows who show high competency and commitment - an Internship working with Planungsbüro Coman may be a possible next step! That offer might mean working remotely for now - or it could also mean an opportunity for travel to Europe.

If you have interest in studying for a time in Europe, or even just visiting - then lets talk about it!

Planungsbüro Coman will be happy to accept an Internship Application from any Fellow that demonstrates motivation and competency!

Planungsbüro Coman is the Engineering Office of Kenneth Coman and his team.

Planungsbüro delivers energetic renovation planning services and heating system analysis and planning.

Our work also extends into the range of energy analysis.

Additionally - we have raised millions of Euros in governmental Grant money for our customers who are taking steps to improve their buildings from an environmental perspective.

We do lots of drafting of buildings and we also do lots of analysis of those buildings ... leading to recommendations for environmental or energy improvements.

Our team at this stage could really use a few experienced Water Management Engineers.

Where could we find some applicants? If you become aware of any engineering students looking for an opportunity for an Internship - tell them to apply for a Fellowship!

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COMAN

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