Ecosociety Siaya (Kenya, Africa)

Empowering local farmers

Francis Otieno and team

The vision is to be a bridge that fosters prosperity for farmers, championing sustainable farming.

The Ecosociety is focused on tackling a critical issue: the insufficient production of food, a widespread problem throughout Africa.

Increase food production

The Ecosociety proposes introducing sunflower cultivation, complemented by bee farming, as a sustainable agricultural innovation. This initiative requires equipping our farmers with knowledge and techniques for effective sunflower management. Targeting 70 farmers with one hectare each, we aim to leverage Kenya's primary rainy season in March for optimal crop growth.

Sunflowers attract bees, facilitating pollination and enabling honey production—a nutritious food source with numerous health benefits. This integrated approach not only diversifies incomes through sunflower and honey sales but also enhances our agricultural sustainability and biodiversity.

The Ecosociety seeke support to realize this vision for a resilient and prosperous agricultural sector.

PROGRESS TO DATE

Have signed up 100 Farmers who own land to participate in this project.

1st Committee Meeting : to update the farmers on progress.

Second Committee Meeting we held was with the farmers, local administration, village elders, extension agricultural officers, and our team (TTGD- Siaya. The president, secretary, and the treasurer).

3rd Committee Meeting : Carried out meetings to key officers and received an offer of sunflower seeds worth 100000 Kenya shillings.

They have an agronomist in place ready to support the farmers.

ABOUT KENYA SIAYA

According to the 2019 census, the population of the Siaya county was 993,183 people.With population density of 393 people per square kilometres. The county is dominated by females at 53% against 47% male. An analysis of both quantitative and qualitative primary and secondary data reveals that key gender issues in Siaya county are poverty related.

Gender-related challenges in the county from the most to least severe,key informants identified food insecurity, lack of clean and safe water and insufficient health care services.

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES

SEARLY CHILCHILDHOOD EDUCATION WITH PHYSICAL PREPARATORY CENTRES

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES
For **TTGD Eco-Society Kenya SIAYA**

TARGET NUMBER
to work with famers totalling to 100. The average family's house hold is 5 members in average.

CROP CHOICES
Sunflower and Bee keeping

The coverage area of land targeted is 100 acres.Siaya has favourable weather suitable for Sunflower production and bee keeping.

The crop is drought resistant , can be inter-cropped with maize, beans and sorghum, it’s easy to cultivate and matures within three months.

Sunflower farming in Siaya has a potential that if exploited can transform its economic fortunes. “It is the new Gold”.

In addition to edible oil, Sunflower provides high quality feeds for livestock from its by-products, provides nectar for bees and thereby supports agriculture and also enhance soil conservation and protection.

ESTIMATES
Per acre, farmers can earn up to 300,000 Kenyan Shillings (2325 USD) from edible oil and can earn up to 500,000 Kenyan Shillings (3875.96 USD @exchange rates of 129) from selling seed cake to animal feeds.

VALUE ADDITION AND MARKET

Sunflower farming and edible oil extraction will ensure that edible oils importation is minimized as the economic revolution and agricultural transformation stays on course.

There is ready market for edible oil, since kenya imports more than 90% of edible oils for local use.

According to data from the Agricultural and food Authority, the country’s import bill for edible oils has been increased at an annual rate of 15% occasioned by high demand locally.

Since Sunflower oil is a non-genetically modified vegetable oil, Sunflower oil has always been high-priced oil in many import markets .In a typical year, Sunflower oil accounts for 12% of global edible oil consumption and 9% of total vegetable oil consumption, including biofuels and other industrial uses. Sunflower oil is highly priced and in high demand, making it the perfect choice.

TTGD-ECO SIAYA, In partnership with the local farmers, will provide farmers with essential inputs I.e quality seeds, fertilizer, and guidance . Will directly purchase products from farmers , guaranteeing a reliable market for them. As we source from farmers, we process and do value addition for distribution and marketing. In return a yearly percentage as a bonus will be accredited back into the farmers accounts.

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES (Continued)
For **TTGD Eco-Society Kenya SIAYA**

NUTRITIONAL VALUE
Sunflower farming addresses nutritional security in Kenya by providing readily available sources of high quality edible oil which is a crucial component of balanced diet .Sunflower oil is cholesterol-free and can be used as a stable cooking oil allowing farmers to supplement their food supply and potentially generate income through selling excess oil produced on their land.

RAW MATERIALS
Kenya and Siaya in particular has a wealth of raw materials (Oil Sunflower seeds) with the development of hybrid varieties and Oil-based Sunflower seeds .Short harvest period means that farmers can plant up to 2 times a year, therefore, establishing a Sunflower Oil extraction plant in Siaya, will have a stable supply of raw materials.

SOIL MANAGEMENT
In the process of farming sunflower, a number of farming practices will be essential to manage soil in the fields .These include; tilling, cultivating, adding fertilizer and lime ,growing cover crops ,applying compost or manure, rotating crops and other practices.
-Sunflowers' deep roots aerate the soil, which improves drainage and structure .This allows other plants to grow better by improving water movement and root penetration. Sunflowers root system can help control soil erosion.
Dealing with soil contamination : Sunflower can absorb heavy metal radiation; zinc and copper from contaminated soil. This process is called phytoremediation and is less invasive than digging out the soil or using other treatments.
Salt Tolerance : Sunflower can help remedy fields with salinity issues that can hinder crop production. It is beneficial to pollinators and other beneficial insects.

WASTE MANAGEMENT.
Sunflower are considered oilseeds. Sunflowers are processed into cooking oil, meal and confectionary products. Distinct varieties are used for oil and for confectionary purposes. Meal is a by-product or the oil extraction process and is used primarily as an ingredient in livestock feed rations.
Sunflower stalks can be upcycled in various ways, one of which includes improving soil quality and reduce fertiliser use in farms. Sunflower stalk contain many nutrients and can help with nutrient cycling and organic matter dynamics.
Improvement of production process through conserving raw materials and energy, eliminating the use of toxic raw materials, monitoring the product cycle from beginning to the end by, identifying and eliminating potential negative impacts of the product; and enabling the recovery and re-use of the product where possible, incorporating environmental concerns in the design and disposal of a product. There will be in place various mitigation measures as they arise.

MACHINERY.
To establish an Integrated and Sustainable Agribiz Development Facility (ISADF). In this, machines for processing and packaging of sunflower oils and honey products. Energy sources would be electricity, solar energy, biofuels

MAN POWER.
The use of government agricultural extension officers, agronomists and local labourers.

TTGD EcoSociety Uganda FIGA

David Livingstone Eseru **Jancita Ayo**

and team

The vision is to foster a knowledgeable, creative and innovative society that is well equipped to face daily life challenges through improved agriculture and quality education.

The Eco-society is focused on integrating agriculture and education in order to build a prosperous society which is not only knowledgeable but also equipped with food security and social development skills.

Integrate Agriculture and Education for Development

Eco-society Uganda FIGA seeks to integrate education and agriculture in order to foster equitable social development. The group believes that when the communities are financially empowered through agriculture, the society will be able to afford quality education for their children. The marginalized community has just land as their source of survival and building on the available resources is the way to go.

The integration will manifest the value chain of agriculture through interlinked benefits
On the education side, the intended school will not only be for children, but also a learning center for parents on different development skills for self and family sustainability.

PROGRESS TO DATE

- Identified two pieces of land for the Early Childhood Education and Physical Preparation Center. They have done community engagement on the prospects of involvement in the TTGD Sustainable Agriculture plan. The community is eager to be involved.
- Distributed trees for environmental conservation and had career talks in so far two schools.

ABOUT UGANDA

Uganda is a landlocked country in East Africa whose diverse landscape encompasses the snow-capped Rwenzori Mountains and immense Lake Victoria. Its abundant wildlife includes chimpanzees as well as rare birds. Remote Bwindi Impenetrable National Park is a renowned mountain gorilla sanctuary. Murchison Falls National Park in the northwest is known for its 43m-tall waterfall and wildlife such as hippos.

SEARLY CHILDHOOD EDUCATION WITH PHYSICAL PREPARATORY CENTRES

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES
For **TTGD Eco-Society Uganda FIGA**

TARGET NUMBER
- We target 150 - 300 farmers from three districts (Ngora, Mbale and Tororo).

STATISTICSNGORA- 165,800
721.3 km2 Area
229.9/km2 population density
2.7% population change (2014 ‘n 2020)

TORORO – 597,500
1,192km2 Area
501.3/km2 population density
2.5% Annual Population Change (2014 ‘n 2020).

MBALE – 586,300
518.0km2 Area
1,132/km2 Population Density
3.1% Annual Population Change (2014 ‘n 2020)

On average, a family in Eastern Uganda is about 10 members.
We are targeting about 100 families across the three districts.

CROP CHOICES
- Passion fruits and Coffee for Mbale
- Maize, Groundnuts, pumpkins, pawpaws, Cassava for Ngora and Tororo

These crops are high demand and therefore have a high market which can yield good profits. Local market availability. Adaptability to our climatic conditions.

ESTIMATES
100 acres of coffee - 800 tones per year

100 acres of Maize - 100 tones per year

50 acres Passion fruits - 2,600 tones per year

50 acres of pumpkins - 15,000 - 30,000 pounds per acre

Pawpaw yield per acre 1230 pounds = 2460 pounds per year (two time harvest)

100 acres of cassava - 6,400 tons per year

BENEFITS

- The crops address mul-nutritional issues among children. Sales ensure financial growth and hence ability to afford other family demands.
- Opportunities for mixed income. Some crops maize provide feeds for poultry and livestock.
- Locally made materials
- High market demand for the crops. Yes, how much Food 20% re-plaughing 40% and 40% for sale.
- Resources through value addition and branding

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES (Continued)
For **TTGD Eco-Society Uganda FIGA**

Manpower 'n shortfalls : Extension services from the extension workers, local unskilled labor

Shortfalls : Financial limitations and Inadequate Technology facilities

Machinery Required : Tractors, Hand hoes, Ox-plaughs, Weeding machines, Processing machines for value addition, Computers for data management, Spraying pumps, Irrigation facilities,

Water : Water collection facilities, Production wells, Motorized boreholes, Electric/solar powered pumps, Water Tanks,

Soil Management : Mulching, Crop rotation, Organic manure, Fallowing,

Pest Management : Chemical spraying, Biological methods

Crop rotation strategy : Intercrop legumes with other crops, Rotate legumes with other crops

Post Harvest Losses Management Strategies : Set up ware houses, Harvest management through appropriate preservation like drying, Improve on traditional methods of storage

Energy sources : Solar energy, Biogas, Hydro electricity, Biomass, Wind energy, Geothermal energy, Agro voltaics

Biodiversity promotion : Through mixed farming practice. Through integration of local and imported technology, Through inclusive choice of farmers and farming methods

Waste Reduction and Management : Recycling, Exhaust value chains for example making animal feeds from waste crop products and using animal waste for manure.

Climatic Effects on Agriculture : Unstable rain seasons, Long dry spells Floods

Solutions to the climatic effects on agriculture : irrigation during dry spells, taking alternative farming activities, Creating drainage channels during flood seasons.

Opportunities for value addition, potentially increasing income and reducing waste : Milling centres., Fruit processing for juice, Proper storage

Engaging the local community in sustainable agricultural practices : provision of seeds, Practical teaching, Grouping, Periodical meetings, Provision of farming tools

Example EcoSocieties. United & with a unique identity

Thabang Makwetla and team

The vision is to become a social enterprise that tackles rural and peri-urban poverty and unemployment by initiating income generating projects.

The Ecosociety wants to local communities to be able to access nutritious food. Currently, these communities experience under-nutrition and malnutrition. This triggers body and mind issues.

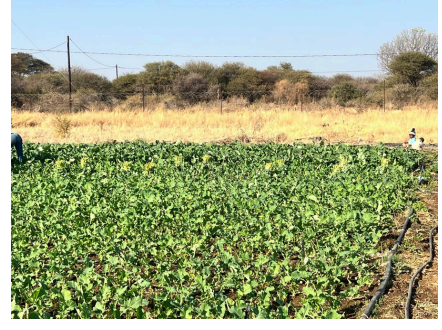
Grow nutritious food through hydroponic

The plan is to deploy hydroponic farming. These are large transparent plastic-like tunnels where you can grow crops with mineralised water. No soil is being used. As plants are in a closed environment there is limited risk of bugs. It also improve temperature control.

Creation of child care facilities

Along with hydropinic farms, a complementary service will be introduced. Instead of carrying their child during work, mothers will be able to drop their children at a child care center located on the farm. Children will get access to a meal and activities.

They have currently planted two types of Kale as well and spinach under 2 hectares. We are about to plant tomato seedlings under a 1 hectare.



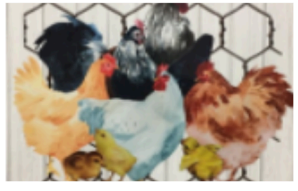
The last picture is a is a typical day on the farm. Mothers harvesting while their children (on the right hand side of the picture) play in the field with limited to no stimulation. Through the Early Childhood Education Program, they aim to resolve that.

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES

EARLY CHILCHILDHOOD EDUCATION WITH PHYSICAL PREPARATORY CENTRES

TTGD EcoSociety Kenya TransNzoia

Inclusive & equitable access to production resources.



Henry Wanyama

Patrick Kapukha

The vision is to create an empowered society where people live in harmony, and i economically resilient to external socks and threats

The EcoSociety is focused on promoting Economic inclusion among marginalized housedholds tthrough equitqble access to quality education in early years oe education, promoting eco-friendly technologies along the poultry value chains for improved livelihoods and income..

Trans Nzoia Eco Society Livelihoods Enhancement & Economic Reintegration (LEER) Program objectives aim at:

- Increased school enrolment and retention through the creation of 50 New Functional ECD boards in marginalised villages to absorb 5,000 additional school-age going pupils enlisted annually.
- .Improved skills & income among the poor HH by engaging 50 household groups in IGAs focusing on poultry value chain impacting 2,500 youth acquire in eco-friendly poultry production skills using locally made organic feeds and fertilisers.
- 5 nnew agricultural Value chain businesses celebrated annually.

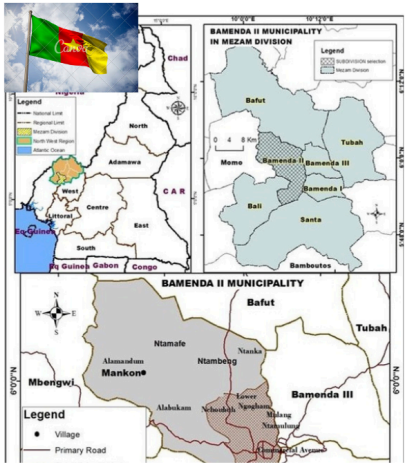
ABOUT KENYA TRANS NZOIA COUNTY

Trans-Nzoia County is a county in the former Rift Valley Province, Kenya, located between the Nzoia River and Mount Elgon, 380 km northwest of Nairobi. At its centre is the town of Kitale which is the capital and largest town

SEARLY CHILCHILDHOOD EDUCATION WITH PHYSICAL PREPARATORY CENTRES

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES

TTGD EcoSociety Cameroon Bafut



Namukong Muma Cosmos

and team

The vision is to be a bridge that fosters prosperity for farmers, championing sustainable farming.

The Ecosociety is focused on tackling a critical issue: insufficient food production, a widespread problem throughout Africa.

Increase food production

The Ecosociety proposes introducing Plantain cultivation, complemented by Cassava and Sweet potatoes farming, as a sustainable agricultural innovation. This initiative requires equipping our farmers with knowledge and techniques for effective Plantain and tubers management. Targeting 70 farmers with one hectare each, we aim to leverage Cameroon's primary rainy season in March for optimal crop growth.

Plantain and tubers can easily be tranformed and processed into flour, —a nutritious food source with numerous health benefits. This integrated approach not only diversifies incomes through direct sales but also enhances our agricultural sustainability and biodiversity.

The Ecosociety seeks support to realize this vision for a resilient and prosperous agricultural sector.

ABOUT CAMEROON BAFUT

Bafut is a town located in a modern commune in Cameroon, it is also a traditional fondom. It is located in the Mezam Department, which in turn is located in the Northwest Province. Bafut is famous for having preserved its structure as a traditional kingdom, under the leadership of the Fon of Bafut.

HEALTHY & DISASTER SAFE ECOHOMES

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES

Monika Bodera and team

The vision is to be one of the world's leading organisations providing leadership and training for communities with uncompromising principles of integrity, inclusion and thruth.

The Ecosociety aims to tackle two pressing issues: Firstly, the insufficient support for children identified as neurodivergent. Secondly, the limited economic and social opportunities available to women aged 50 and above.

Support neurodiversity

The Ecosociety aims to enhance support for children with special educational needs, including those on the autism spectrum, with dyslexia, anxiety, ADHD, and other conditions. The mayor has generously pledged a building for this purpose, set to become available in Q3 2024. To optimize the impact of this initiative, we will offer specialized workshops and courses for both teachers and parents. The effectiveness of these efforts will be evaluated based on observable improvements in the students' school performance.

Empowering women in the age group of 50+

Limited job prospects, prevailing traditional attitudes towards women's roles as homemakers, and a scarcity of professional training opportunities for adults.

PROGRESS TO DATE

- A building has been offer for the delivery of the Early Childhood Education & Physical Preparatory Centre (Neurodiversity Centre)

ABOUT ITALY ABRUZZO

Abruzzo is an Italian region, east of Rome, with an Adriatic coastline and the Apennine Mountains. National parks and nature reserves cover much of its rugged interior. It also encompasses hilltop towns, dating to the medieval and Renaissance periods. Regional capital L'Aquila is a walled city, damaged in a 2009 earthquake. The Trabocchi Coast, with sandy coves, is named after its traditional wooden fishing piers.

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES

Ecosociety Eternal Spring Paradigm (Sarawak, Malaysia) Normalizing Miracle

Ooi Kah Aik (Jeff) **Mark Stephen Lee**

The vision is to embrace Fractal Operation Command thriving with conscious decisions and harmonious living to nourish both individual and collective aspirations.

The Ecosociety is focused on tackling a critical issue: Deforestation that is stopping nature's ability to heal itself and Pollution of development caused by human activity.

Increase harmonious human habitat with nature

Our EcoSociety is dedicated to acquiring and preserving land to safeguard the natural processes of Mother Nature, while fostering humanitarian and commercial development through our innovative modular construction system. This system is designed to minimize pollution, maximize efficiency, and produce the highest yield.

By collecting data from diverse biomes and utilizing advanced visualization technologies, we ensure precise allocation of resources for revitalizing human habitats in uncharted territories, as well as areas impacted by natural disasters and post-war recovery efforts.

Additionally, we establish community workshops and societal factories as building templates to facilitate parallel development across different scales and contexts, empowering diverse communities to thrive in harmony with nature.

PROGRESS TO DATE

Using a desktop 3D printer, they successfully created the master shapes for the eco-home panels, proving the potential for scaling up with a larger 3D printer. They designed geometrical architectural concepts and transformed them into a modular construction system, using 3D renders as visual guides for future assembly. Since the desktop printer has size limitations, the panels were printed in smaller sections, which were then joined and refined into full-sized panels. After creating moulds from these master shapes, they duplicated the parts needed to construct the eco-homes. Material choices will be guided by local availability and environmental considerations, ensuring sustainability in construction. These designs will be replicated for building additional eco-homes.

ABOUT MALAYSIA SARAWAK

Sarawak, Malaysia, has a population of about 2.9 million, composed of diverse ethnic groups. The largest indigenous communities are the Iban, Bidayuh, Orang Ulu, Melanau, and Penan, each with unique cultures, traditions, and deep connections to the land. Sarawak is home to one of the oldest rainforests on Earth, rich in biodiversity, including endangered species like orangutans, proboscis monkeys, and hornbills. The rainforest is a vital ecosystem but faces threats from deforestation driven by logging and palm oil plantations. Conservation efforts continue to protect Sarawak's wildlife and indigenous heritage from these pressures.

HEALTHY & DISASTER SAFE ECOHOMES

Yagub Akoch and team

The vision is to live in a diverse society that is self-sustaining, healthy and harmoniously developing.

The Ecosociety is committed to ensuring children have access to education, a daunting task amidst the backdrop of instability. As is widely recognized, South Sudan is currently grappling with the challenges of an ongoing civil war.

Affordable quality education

Our goal is to establish three classrooms to accommodate between 70 to 100 children, providing them with access to six qualified teachers and a nutritious daily meal. To achieve this, we must identify an appropriate location, recruit dedicated teachers, and secure essential supplies including pens, textbooks, and paper. This endeavor requires meticulous planning and coordination, particularly challenging in unstable environments.

Expanding into health

The Ecosociety plans to expand its iniative into healthcare. The goal will be to start a local clinic.

PROGRESS TO DATE

- Distributed mosquito nets to children and their families
- Partnership with a school already established. The offering of the Early Childhood Education & Physical Preparatory Centres can be offered through this school which covers Primary 1-5 education. In this way, the costs of building a new school is saved.
- Exploring the contribution of about 1 acre of agricultural land with an existing water source is available.

ABOUT SOUTH SUDAN JUBA

Juba is the capital and largest city of South Sudan. The city is situated on the White Nile and also serves as the capital of the Central Equatoria State. Juba is the capital and largest city of South Sudan. The city is situated on the White Nile and also serves as the capital of the Central Equatoria State. It is the most recently declared national capital and had a population of 525,953 in 2017. It has an area of 52 km², with the metropolitan area covering 336 km²

SUSTAINABLE AGRICULTURE FOR ECOSOCIETIES

SEARLY CHILCHILDHOOD EDUCATION WITH PHYSICAL PREPARATORY CENTRES

For more information

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