



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 wide-spread 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 seeks 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 of 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.