Target.

TTGD-Eco Siaya targets to work with famers totaling to 100. The average family's house hold is 5 members in average.

AREA.

The coverage area of land targeted is 100 acres.

Activities (crop of choice, Sunflower. Bee keeping)

-Siaya has favorable 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.

ESTIMATE

-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.

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.

-Healthy plants need water, nutrients, Oxygen and a physical medium that allows seeds to germinate and grow well. To achieve those, Soil fertility or soil health is essential and these include; soil texture, soil fertility, soil structure, organic matter and soil conservation. 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.

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 stalk can be upcycled in various ways, one of which includes improving soil quality and reduce fertilizer 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.

TTGD-ECO SIAYA, is to establish an Integrated and Sustainable Agribiz Development Facility (ISADF). In this, machines for processing and packaging of sunflower oils and honey products.

Energy source.

. Electricity

. Solar energy

. Biofuels

MAN POWER.

. The use of government agricultural extension officer's

.Agronomists

. Local labourers.

In conclusion. TTGD-ECO SIAYA, will be keen on helping the farmers with adequate information and training on;

. Cultivation techniques, land preparation, planting, irrigation and pest management.

.Facilitation of soil sampling, Sunflower production and bee keeping.

.Development and dissemination on awareness of farming techniques.