



Raya Development Association in Canada

Agriculture and Environment Restoration Project in Raya

Concept Note

(Draft)

Business Case:

Because of its suitable landscape and favorable climate for agriculture and livestock, the Raya region is one of the agricultural heartlands of Tigray, therefore, it is the preferable region to undertake agricultural projects such as this one.

Its proximity to the ports of Assab and Djibouti makes it auspicious for development of modern farming which will include agriculture-based industries and exportation of agricultural products.

However, the lack of modern farming techniques, chronic shortage of skilled workers and vicious cycles of recurring droughts, have become the main impediments to the farmers of Raya to breakthrough from the poverty threshold they have been experiencing for decades.

By focusing on agricultural projects that bring-about root-cause solutions, we believe that we can be an integral part of the farmers in Raya in their effort to stop the recurring food shortages and help them pave their way to not only become independent from food aid, but also to create sustainable agricultural growth and become exporters of agricultural goods.

In Raya, agriculture has been the main source of living since the founding of this region, as such, this project focuses on sustainable agricultural development solutions which incorporates the use of renewable energy, Introduction of modern agricultural techniques, planting trees and recovering lost indigenous plants through restoration and reforestation programs.

In addition to its fertile soil type, this region also possesses a huge groundwater reservoir in the Raya valley area which is nestled between the Karem and Chercher mountains. Unfortunately, lack of financing, inappropriate water governance and land management, compounded with global climate change has impacted the region's agricultural economy.

This project will open the way to modernizing traditional farming techniques for the local farmers and create job opportunities for the youth who are otherwise subjected to migrations looking for better lives elsewhere.

Objective:

For decades, NGOs and other charitable organizations as well as various government and international institutions have been providing aid to this region. They distributed food aid, built schools, provided health facilities, supplied medicine, and they even attempted to introduce sustainable farming techniques. However, the community tends to dive back into extreme poverty when the helping hands are no longer there. As grass-roots organization, the project team will incorporate extensive training programs to ensure that the farming techniques used in this project are retained by the farmers and adapted by the rest of the community to pave the path for continuous and sustainable improvement of agricultural economy in the region long after the pilot project is completed.

The purpose of this project is to establish a modern farmland prototype involving a group of farmers from the residents in the Raya region. This pilot project will use conservation farming methods suitable for semi arid environment designed to protect the environment and at the same time retain maximum ground moisture levels with less water.

This area is frequently exposed to droughts, and this project will help alleviate the region's dependency on rainfalls through borehole drilling and building inexpensive rainwater catchment systems (reservoirs) to prevent the overuse of ground water.



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The pilot project will be farmer-led experiment with farmers tilling and preparing the land, managing the irrigation systems, and harvesting the yields. In this process, the project team will provide training programs for the farmers on conservation farming to help them produce more sustainable yields with minimum impact on the environment.

The training will include, among other things, estimating the amount of water required per crop type during different irrigation seasons, selecting market-oriented crops suitable for the environment, correlating different cropping pattern, selecting suitable area for ground water recharging, and determining maximum water extraction from water wells which minimizes negative impacts of over irrigation and maximizes agricultural productivity without impacting the environment.

In addition to the outlined training ideas, the project team will also develop water management by-laws and guidelines, design hydraulic equipment including pumps and other accessories as well as farm infrastructures layouts.

Scope & Deliverable

- Laying out irrigation systems that uses drip irrigation for 20 – 30 farmers.
- Creating rainwater catchment systems using dried-up riverbeds near the farms
- Planting trees alongside the reservoir to prevent evaporation.
- Planting trees near and around the farms to help the soil retain moisture.
- Purchasing and installing water pumps to harvest water from pre-existing boreholes, ponds, and revers nearby.
- Provide training on conservation farming methods.

Out of Scope

- Drilling boreholes
- Purchasing modern farm-equipment such as tractors.

Resources:

Raya Development Association in Canada, Raya Development Association, and Raya International Development Organization will fund the project.

Stakeholders:

Southern Tigray Administration

Farmers participating in the project.

Raya Development Association in Canada

Raya Development Association in Germany

Raya International Development Organization.

Volunteers for the Project Team

1. Berhanu Tesfay Gebru (Sr. Engineer, Hydraulics, PhD candidate)
2. Yasien Kassie Mehamed (PhD candidate)
3. Goiteom Tukue Hadgu (Engineer)
4. Asefa Beyene Fantu (tbd)
5. Abraham Beyene (Engineer, Electrical)
6. Samuel Kiros (Finance)
7. Abraham Haile Gebrezgi (Business)
8. RDA Germany and RIDO to provide experts.



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Milestones

To be determined by project team

Project Timeline

To be determined by project team

Cost Estimate

To be estimated by project team

Risks

Regional stability, Inflation, government bureaucracy

Dependencies

Skilled workforce, paved roads, material availability

Next Steps:

Establish a project team

Data collection

Site selection

Prepare project proposal

Prepare project plan.