* **Irrigation Strategies for Maximizing Biomass Energy in Fuelwood Trees: A Study in North Shewa, Ethiopia**
* Climate-Resilient Integrated Landscape Management Irrigation Strategies for Enhancing Water, Energy, and food production systems in Ethiopia(suggested title)

**Description of research initiative**

The research will be conducted on selected watershed with irrigation potential areas of north Shewa with joining partner for this research initiatives for the LEAWEF program.

---- The issue of Co-Principal Investigators and Co-operation Partner can be discussed with planned meeting to elaborate this research initiative; to enhance to enhance biomass energy of fuel wood tree species and also to increase the soil fertility status of degraded watershed lands

----- Brief outline in what ways you would like to potentially contribute to a LEAWEF project

Proposing the research proposal, if accepted to conduct the research with concerned partners on the selected irrigation potential sites of watershed, from seed collection of fuel wood tree species, rasing seedling in nursery, site selection and planting fuel wood tree species. Then appropriate follow up and monitoring, data collection during the research project life span and reporting monthly and quarterly basis to Debre birhan Agricultural research center, Amhara regional Agricultural research institute, other concerned partners and research initiatives for the LEAWEF program. Finally we will expect to meet the objectives of the initiated irrigation Strategies for Maximizing Biomass Energy in Fuelwood Trees: A Study in North Shewa, Ethiopia.

**Objective**

* To determine the appropriate irrigation frequency and time to enhance biomass energy of fuel wood tree species in North Shewa
* To identify the effect of planted fuel wood tree species on the soil fertility status in North Shewa

Design: RCBD farmers as a replication

Using line planting methods and space between plants and between lines will be 2m and 5-10m

Fuel wood tree species (Acacia species for the highland

1. Seedling planted in the field (Irrigated up to field capacity once in a day for two month)
2. Seedling planted in the field (Irrigated up to field capacity once in a day for three month)
3. Seedling planted in the field (Irrigated up to field capacity once in a day for four month)
4. Seedling planted in the field (Irrigated up to field capacity twice a day for two month)
5. Seedling planted in the field (Irrigated up to field capacity twice a day for three month)
6. Seedling planted in the field (Irrigated up to field capacity twice a day for four month)

Detail write up will be discussed with copartners and will be write with the guide line