

“Birag for Life Learning Center”



MESSAGE: “*Be like a plant*”

- Stay grounded.
- Connect with the roots
- Keep growing
- Bear Fruits and
- Give to others

1. Introduction:

Birag Organic Farm is dedicated to becoming a model Organic Farm, training and research center. Birag is partnering with local farmers and markets to develop sustainable farming techniques that insure the right use of soil land and water while increasing productivity and quality. Leading edge water harvesting and conservation technique, soil building and agricultural practices will be used to grow organic crops and medical herbs.

The farm with 6, 7 hectares sits at 750-800m on a gentle north facing slope in the Bhanu Municipality -5, Tanahu district near Dumre just opposite to Bandipur. Outside of the monsoon season the land has no source of water for irrigation. As a model agriculture center the farm will demonstrate how to practices of rainwater harvesting and conversation. What Birag faces here in developing the land is exactly marginalized farmers in the hills of Nepal are challenged with their field.

In the hills the fields are mainly rain-fed. A mono crop of maize or maize millet fallow or maize wheat systems comprises the majority of the farmed upland terraces. Some legume crops are intercropped with maize and millet. In BIRAG bullocks plough about 40% of the terraces and 30% are large enough for small tractors. The rest of the land is not suitable for arable crops. The soil has its own challenges as well. Organic matters are very low and the soil is mostly a light in three to four months of the year during June to September the monsoon season. There are prolonged dry periods and water availability is aggravated by the effect of climate change. Crop failure is a high risk under such rain fed farming condition. Birag is bringing a model research and training center to the area to help the farmers overcome these problem of the rain fed, dry land farming system. Most farmers are unaware of alternative farming practices. Birag aims to turn these pieces of land into a productive thriving farm and become a beacon of information, training and research to be shared by all. As farmers learn they can practice in their land teach and inform other. Birag is a key and integral part of creating much needed change in the

farming practices where farmers learn to adopt better technologies and to produce enough to move above subsistence living.

2. Vision, Mission and Goal:

Vision:

Organic production, processing, value addition and tourism for improved livelihood peace and prosperity of rural communities in the hills of Nepal.

Mission:

To develop a suitable integrated rain fed hill farming model through effective mobilization of available local resources that could demonstrate the improved livelihood of farming communities.

Goal:

Management and operation of an economically viable upland /rain fed organic farm integrating with livestock, forestry medicinal plants and develop as a learning center.

3. Objectives:

- To test and demonstrate the technologies on agriculture and forestry to increase the production and productivity of upland farming system without environmental degradation.
- To test and demonstrate various techniques for rain-water harvesting and use study the impact in downstream water source in the longer run.
- To develop an agriculture livestock and forestry (agro-forestry, integrated model farm and link it with agro /community tourism to make the agriculture business in the hill terrains attractive, profitable and eco friendly.
- To develop Birag as a model farm for Organic farming and a learning center for leader farmers, extension workers and researchers.
- To provide policy feedback to local and central government based on the experience and learning on the mitigation and adaptation measures to climate change, organic farming and community tourism.

4. Strategy and Implementation Summary:

4.1. Rain water harvesting studies and demonstration.

In many regions of the world "water security" aggravated by climate change and increasing demand is becoming an alarming factor of the life in the 21st century. In tropical and sub-tropical areas including Nepal, food security is not possible without water security.

Development of small and micro dams and ponds, watershed management programmes including gully management and various water harvesting techniques are important to enhance water security and identify adaptation measures against the impact of climate change.

Birag intends to undertake some studies to improve the production and productivity of rain-fed farming system benefitting poor and marginalized communities'. Storage of water in different mud ponds allow recharging the water into sub-surface. This may be helpful to re active the spring water down-stream. The Birag will be developed in to a good site for rainwater harvesting, efficient use of water and moisture conservation studies and demonstrations. Studies in the initial stage may be focused on the following aspects:

- The possibility of using mud ponds and plastic ponds to collect rain water for irrigation and their effect on ecosystem and spring water down - stream.
- Size of catchments area and amount of water collected in the ponds, evaporation and seepage/percolation losses.
- Cost-benefit analysis of using mud plastic and cement ponds for rain water harvesting.
- Construction of check dams in seasonal small streams and formation of small reservoirs.

4.2. Studies and demonstration on alternative technologies to chemicals on crop and livestock production

Mitigation of climate change refers to human interventions aimed at reducing the emissions of greenhouse gases (HGS) such as CO₂, Methane, and Nitrous Oxide etc. at the source of through enhancing carbon sinks. Agriculture

production practices also play a vital role in reducing the emission GHGs .For example emission of Methane gas from animal waste can be reduced by proper management of FYM and animal urine. If FYM is well protected from sun and rain the cattle urine is collected and properly applied in the field this simultaneously provides more nutrients to the crops. These inputs together with the careful on farm preparation of compost and the use of bio-fertilizer can replace the use of chemical fertilizers without compromising crop yields. Cattle urine is also valuable in preparing botanical pesticides which can be used at local level .Similarly there are number of alternative pest management technologies which all together can replace the use of chemical pesticides in crop production. All these alternative practice are helpful in reducing the GHG emissions and producing healthy food items .Therefore BIRAG would like to test demonstrate and promote these alternative practices for agriculture production.

4.3. Support to local community for their livelihood improvement.

The major characteristics of the farmers and farming system around the Birag Organic Farm are characterized by the following:

- Small land holding (Below than 1 ha.)
- Subsistence farming
- Un-irrigated upland with medium to low soil fertility
- low to very low crop yields
- lack of s off –season vegetable and cash crop production
- low to very low household incomes and poor living conditions

Although this village is not far from the National Highway (Just 4-5 km away from the Prithvi Highway and connected by mud roads), improved and appropriate technologies such as FYM management, animal urine collection and utilization, recently released improve varieties of maize and wheat rainwater harvesting, off season vegetable and cash crop production etc. have not been adopted by the farmers. Some of the households have formed groups but are limited to savings and credit schemes only. There are therefore much potential and good opportunities for improving farming practices and the

adoption of appropriate technologies for efficient use of water income generation and livelihood improvements.

The Birag Organic Farm intends to support the local community to improve their agriculture income generation and livelihoods. Some of the activities could be as follows:

- Training and coaching to farmers on (i) the group approach for agricultural and community development(ii) planning at the household and group level,(iii) participatory monitoring of the group programme and activities and (iv) savings and credit,
- Capacitating to farmer groups on agriculture production practices such as(i)FYM improvement and animal urine collection and utilization (ii) off-season vegetable production such as tomato, onion, cucumber, cabbage, cauliflower, beans etc,(iii) cash crops such zinger, turmeric, coffee etc. and(iv) agro forestry practices for the dry and land hill condition.
- Demonstrate on different methods of rainwater harvesting and efficient use of irrigation water:
- Demonstration support for (i) improvement of cattle sheds and animal urine collection (ii) off season vegetable production (iii) fodder and forage crop cultivation, (iv) agro - forestry practices (v) bee keeping medical plants etc.
- Seed support for improved varieties of maize and wheat

5. Major Business activities

Major Business activities of Birag Organic Farm will be as follows:

- Livestock farming
- Organic Fruits, Vegetable and Spices production
- Cultivation of flowers, Medicinal Plants and Bee keeping
- Natural Health Home and Learning for Life
- Visiting learning and training center
- Farm house along with community based tourism

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