ENVIRONMENTAL PROJECT PROPOSAL

ECOS 1-People and Earth's Ecosystem

Forest Guardians: Protecting and Rehabilitating the Forests of Tagbina, Surigao del Sur

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II. Executive Summary

This proposal introduces a community-based environmental project focused on reforesting degraded areas and protecting forest ecosystems in Tagbina, Surigao del Sur. The project addresses deforestation, biodiversity loss, and climate vulnerability through native tree planting, forest monitoring systems, and community education.

A key component of this project is its collaboration with Surigao del Sur State University – Tagbina Campus (SDSSU-Tagbina), particularly the ECOS 1 program for environmental education and student involvement. Local government units and barangay councils will also be engaged to provide logistical support and ensure alignment with community needs. Together, this community-academic partnership aims to restore forest cover, strengthen local environmental awareness, and promote long-term sustainability. Expected outcomes include increased biodiversity, improved soil and watershed conditions, stronger forest protection systems, and empowered youth and residents acting as stewards of the environment.

III. Introduction

In the Philippines, deforestation and forest degradation have long been drivers of ecological imbalance, particularly in upland and rural areas where logging, land conversion, and unsustainable agricultural practices threaten biodiversity and environmental stability. Tagbina, a municipality located in the heart of Surigao del Sur and nestled within the Diwata Mountain Range, is no exception. Home to rich forestlands, indigenous communities, and farming settlements, Tagbina faces the growing challenge of balancing economic needs with the urgent need to preserve its fragile forest ecosystems.

Despite the pressures, there is growing evidence that community-based reforestation and forest protection efforts can reverse environmental decline. For example, a 2020 report by the Forest Management Bureau (FMB) of the Department of Environment and Natural Resources (DENR) emphasized that localized tree planting initiatives, when combined with education and sustainable forest governance, significantly increase forest cover and enhance ecosystem services. In Mindanao, projects in Agusan and Bukidnon have shown that involving youth and local stakeholders in forest restoration leads to improved biodiversity outcomes and reduced rates of illegal logging. Moreover, digital tools and community watch systems have been increasingly adopted to monitor reforestation progress and empower citizens to act as environmental stewards.

Inspired by these successful models, this proposal seeks to launch the **ForestGuardians** initiative—a youth-led, community-driven project in Tagbina aimed at rehabilitating degraded forest areas, restoring local biodiversity, and building long-term environmental resilience through education, action, and collaboration.

IV. Methodology or Approach

The project will begin with the identification of approximately 50–100 hectares of degraded forestland across barangays such as Hinapuyan, Kahayagan, and Mahaba as pilot reforestation zones. Tree-planting layouts and native species plans will be designed for each site, including spacing guidelines, contour alignment, and erosion control techniques. In areas near riverbanks and uplands, additional interventions such as vetiver grass planting and brush layering will be implemented to reduce runoff and improve soil retention.

At the same time, local communities will establish community-led forest watch groups, trained to monitor and report illegal activities and forest health indicators. Native seedlings such as Narra, Molave, Lauan, and Balete will be sourced from the DENR, the Municipal Agriculture Office, and SDSSU's research nursery. Community nurseries may also be established for longer-term propagation.

A strong educational component will be integrated through school-based ForestGuardians Youth Clubs and barangay workshops. These will focus on topics such as biodiversity, climate change, watershed protection, and forest laws. The Computer Science department of SDSSU will support the project by developing simple digital tools for reporting, GPS mapping of planted areas, and survival rate tracking.

To ensure holistic impact, monthly site visits will be conducted to assess tree growth, survival rates, and community participation. Trained volunteers will use mobile-based logbooks and photo documentation to support transparency and accountability.

V. Scope of the Project Proposal

The ForestGuardians project focuses on implementing community-based reforestation and forest protection initiatives in select upland barangays of Tagbina. It includes:

- Tree planting on public and communal lands.
- Formation of youth and community watch groups.
- Capacity-building for forest management and monitoring.
- Development of digital reporting tools with SDSSU.

The project excludes activities on private or commercial lands without formal agreements and operations outside of Tagbina during its pilot phase. It also does not include logging, timber harvesting, or monoculture plantations.

VI. Timeline or Schedule

- Phase 1 (Months 1–2): Stakeholder coordination with LGU Tagbina, DENR, barangays; baseline forest and land-use survey
- Phase 2 (Months 3–6): Establishment of community nurseries; site preparation and training; first tree planting wave
- Phase 3 (Months 7–12): Monitoring of growth and survival; school engagement programs; launch of ForestGuardians Youth Clubs
- Phase 4 (Year 2–3): Continuous maintenance and replanting; impact evaluation; digital tool integration and public reporting

VII. Budget

Native seedling procurement and nursery setup	150,000
Tools, fencing, and planting materials	100,000
Digital monitoring tool development (by SDSSU)	75,000
Training, workshops, and IEC materials	120,000
Transportation, logistics, and documentation	80,000
Community incentives and school engagement kits	75,000
Administrative and contingency	100,000
Total Estimated Cost PHP	700,000

VIII. Evaluation Plan

Evaluation will include quarterly survival assessments of planted trees using drone photography and ground validation. Digital logbooks will be used to track maintenance, volunteer participation, and site status. Indicators include:

- Tree survival rate (target ≥ 80%)
- Number of active community guardians (target: 150+)
- Increase in forest coverage (GPS-based mapping)
- Participation in school programs and community events

Qualitative feedback will be gathered through interviews, reflection sessions, and barangay consultations.

IX. Sustainability Plan

The project will be sustained through continued academic collaboration with SDSSU and integration into LGU Tagbina's environmental development agenda. ForestGuardians Youth Clubs and barangay watch groups will be institutionalized and supported by local policies. Livelihood tie-ins, such as fruit tree planting and eco-tourism trails, will be explored to incentivize long-term care. Partnerships with national agencies (DENR, DSWD) and NGOs will be sought for scaling up.

X. Conclusion

The ecological future of Tagbina lies in the hands of its communities. Through the ForestGuardians initiative, local youth, residents, and institutions come together to transform degraded lands into vibrant ecosystems—restoring biodiversity, protecting watersheds, and inspiring a generation of stewards. With strong partnerships, technical support, and the spirit of bayanihan, Tagbina can lead the way in grassroots forest protection. We call on all sectors to support this vision and join us in building a greener, stronger future

XI. Appendices

- Sample infographic: "How Reforestation Revives the Land"
- Training module outlines (forest laws, biodiversity, tree care)
- Baseline forest health form
- Endorsement letter from SDSSU – Tagbina
- GPS-mapping dashboard prototype
- Mode of Verification: attendance sheets, tree tagging photos, app screenshots
- Sample letter of request for BLAZE publication coverage