

Proposal for Support to Restore the Watershed in Culion: A Sustainable Water Management Initiative

Project Location: Sitio Pinutukan, Brgy. Malaking Patag, Culion, Palawan

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Date: November 9, 2024

Introduction and Background

In Sitio Pinutukan, located in Barangay Malaking Patag, Culion, we are working to tackle a critical issue: the degradation of the local watershed, a vital resource that supports both agriculture and daily life for the indigenous *Katutubo* farmers. The communities in Pinutukan have traditionally relied on subsistence farming and fishing as primary sources of income. Due to limited infrastructure and resources, many families live below the poverty line, facing high levels of food insecurity and limited access to modern agricultural practices.

In recent years, the people of Culion have been confronted by severe environmental challenges. Persistent droughts, worsened by typhoons and shifting climate patterns, have strained water availability, directly impacting agricultural productivity and daily life. Traditional slash-and-burn farming, or *kaingin*, practiced for generations, has gradually depleted the land and eroded the watershed, making the area more vulnerable to flooding and drought. Furthermore, a recent pest infestation has decimated much of the region's rice crops, threatening food security and economic stability.

This proposal outlines our project to restore the watershed in Pinutukan, thereby improving water conservation, supporting sustainable agriculture, and enhancing economic resilience. With funding and partnership from your organization, this project will implement critical infrastructure, introduce sustainable farming techniques, and create a replicable model that promotes environmental stewardship and self-sufficiency for the community.

Project Objectives

The project's objectives focus on creating sustainable solutions that address both environmental and economic challenges faced by the people of Culion:

1. Water Conservation and Management

- Develop a network of cascading ponds, small dams, and water tanks to capture and slow rainwater runoff. These structures will allow for the gradual recharge of the water table and establish a water reservoir, providing a stable water source for agricultural and household needs throughout the year.

2. Agricultural Productivity and Economic Resilience

- By providing consistent water access, the project aims to support year-round farming, reducing dependency on seasonal rains. Increased agricultural output will boost local incomes, create new employment opportunities, and lay the foundation for related small businesses, such as produce markets and crop processing.

3. Sustainable Soil and Land Management

- Restore soil health and prevent erosion by planting native, deep-rooted trees like Narra and Ipil-Ipil around the watershed. These trees will stabilize the land, improve water retention, and contribute to the recharging of the water table.

4. Educational Outreach and Sustainable Farming Transition

- This project will serve as a model for sustainable farming, encouraging local *Katutubo* farmers to adopt year-round cultivation methods in place of *kaingin*. Through training sessions, we aim to demonstrate the long-term benefits of these practices, including higher crop yields, enhanced food security, and environmental preservation.

5. Enhanced Food Security and Community Livelihoods

- Reliable water and sustainable practices will increase food production, benefiting community nutrition and income. The shift to sustainable farming will help break cycles of poverty by fostering self-sufficiency and resilience, especially critical in a community where farming is essential for survival.

Infrastructure Requirements

To achieve the project objectives, the following infrastructure developments are necessary. An illustration of the location of ponds, water tank and dams is attached to the end of this document.

1. Cascading Ponds and Dams

- Construct a series of unlined cascading ponds and small dams to capture and store rainwater and water from the seasonal stream,

allowing gradual water absorption and recharge of the water table.

2. **Water Tanks**

- Build water tanks to provide consistent water sources for both agricultural and domestic needs during the dry season.

3. **Deep Well Construction**

- Dig a deep well to serve as a dependable water source, ensuring water availability during prolonged droughts and supporting agricultural activities when rainfall is scarce.

4. **Reforestation Efforts**

- Plant native, deep-rooted trees like Narra and Ipil around the watershed area to stabilize the soil, absorb water, and support local biodiversity.

Expected Budget Requirements

The construction of the cascading ponds, dams and deep well is a significant component of our budget, primarily due to the remote location and the specialized equipment and machinery required. The community of Pinutukan in Malaking Patag, Cullion, is situated in a region with limited road access, making transportation of heavy-duty equipment both costly and logistically challenging. Earth-moving machinery, well-drilling rigs, and materials like concrete and reinforcement steel—which are essential for the integrity and durability of the dam and well structures—are difficult to transport and install due to the rugged terrain and the lack of local availability.

High Equipment and Transportation Costs: Given the community's location, construction equipment must be transported by boat or through makeshift roads, adding substantial costs to the project. For instance, transporting and using drilling rigs for the deep well and earthmovers for dam construction necessitates additional handling and skilled operators, all of which contribute to higher labor and operational expenses.

Specialized Labor: Skilled technicians, engineers, and machinery operators are needed to properly implement these structures. However, due to the isolated location, additional costs are required to bring in qualified professionals or train local community members, which is essential to ensure that these installations are safe, durable, and operationally effective.

The total estimated costs for these components are high but necessary to create a sustainable water source that will serve as a model for surrounding communities. This investment not only addresses the immediate needs of water retention and supply but also builds the community's capacity to maintain and replicate the project for long-term sustainability.

The estimated budget for the watershed restoration project is outlined below:

Infrastructure Component	Cost Estimate (PHP)	Cost Estimate (US\$)
Cascading Ponds x 4 (20m x 20m)	PHP 1,000,000	\$ 17,000
Water Tanks	PHP 300,000	\$ 5,000
Small Dams x 5	PHP 500,000	\$ 8,500
Deep Well x 2	PHP 600,000	\$ 10,200
Reforestation (Tree Planting, Labor)	PHP 200,000	\$ 3,400
Total Estimated Budget	PHP 1,800,000	\$ 47,100

This budget includes the costs for materials, local labor, and maintenance, ensuring that the structures are built to withstand environmental challenges and provide sustainable, long-term benefits to the community.

Expected Benefits

This watershed restoration project is expected to deliver significant social, economic, and environmental benefits for the Pinutukan community and beyond. These benefits include:

Economic Resilience and Community Livelihoods

1. **Increased Agricultural Productivity:** By stabilizing water availability, farmers can cultivate crops consistently, improving yields and enabling crop diversification. These outcomes will reduce the community's vulnerability to food shortages and generate a more reliable source of income for households.
2. **Local Job Creation and Economic Growth:** Construction and maintenance activities for ponds, reservoirs, and wells will provide employment for local residents. Moreover, as crop yields increase, related economic activities, including crop processing, packaging, and local market sales, are likely to emerge, supporting overall economic growth.
3. **Small Business Development:** With a reliable agricultural foundation, community members will have the opportunity to establish small

businesses, such as produce stands or processing services, to generate additional revenue and strengthen local commerce.

Environmental and Agricultural Sustainability

1. **Water Table Recharge:** The cascading ponds, dams, and reservoirs will help slow rainwater runoff, allowing water to seep into the soil and recharge the groundwater supply. This process will ensure a sustainable water source for future generations.
2. **Soil and Land Restoration:** Reforestation efforts will prevent soil erosion, improve soil health, and create a more stable environment for sustainable agriculture. This will reduce reliance on damaging practices like *kaingin*, encouraging a shift toward more environmentally responsible methods.
3. **Enhanced Biodiversity:** The planting of native trees will support the local ecosystem, providing habitats for native wildlife and contributing to the region's overall biodiversity.

Improved Health and Quality of Life

1. **Food Security and Nutrition:** Reliable water access and improved agricultural practices will lead to more consistent food production, directly improving household nutrition and reducing the risk of malnutrition in this vulnerable community.
2. **Healthier Air Quality:** Reducing *kaingin* practices will decrease air pollution from burning vegetation, reducing respiratory health risks for children and adults in the community.
3. **Educational Impact:** This project will serve as an educational model for sustainable farming, equipping local farmers with knowledge and skills that promote self-sufficiency. By learning to manage their land sustainably, community members will gain tools to create a stable, resilient future.

Partnership and Support

We believe that the success of this project depends on collaboration with dedicated partners, and your support would be invaluable in achieving our goals. We seek your partnership in key areas:

1. **Funding for Infrastructure Development**

- Financial contributions would cover costs for the construction of ponds, dams, water tanks and the deep well, as well as the purchase of tree saplings and necessary tools.

2. Awareness and Community Engagement

- Through your organization's influence and outreach, we can raise awareness of sustainable practices and engage other stakeholders to support and replicate our project model in other vulnerable regions.

3. Technical Expertise and Advocacy

- Your extensive network and resources can connect us with environmental and agricultural experts to advise on sustainable watershed management techniques.

Conclusion

The restoration of the watershed in Pinutukan is more than an environmental project; it is a lifeline for the people of Culion. By creating a dependable water source, promoting sustainable farming, and laying the groundwork for economic growth, we aim to foster a self-sustaining, resilient community model that can be replicated in other regions.

With your support, we can build a sustainable foundation that empowers the people of Culion to overcome their challenges, achieve food security, and create lasting economic resilience. Together, we can restore hope, provide stability, and build a stronger future for Culion's *Katutubo* communities and beyond.

Proposed Locations of Ponds and Small Dams



