



**ENHANCING THE RESULTS OF FOREST RESTORATION EFFORTS
WITHIN THE PANIGAN-TAMUGAN WATERSHED IN BAGUIO DISTRICT**

Project Terminal Report

For the Period: July 14, 2017 - October 31, 2018 (15 months)

I. IDENTIFYING INFORMATION

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| Project Title | Enhancing the Results of Forest Restoration Efforts within the Panigan-Tamugan Watershed in Baguio District, Davao City |
| Project Reference No. | SS17-303M-CO-M |
| Project Type | Sites |
| Project Site | 5 barangays within Panigan-Tamugan Watershed, Baguio District Davao City (Tambobong, Tamugan, Gumalang, Wines and Tawan-tawan) |
| Grant Type | Medium |
| Type of Community Beneficiaries | Watershed Stakeholders (Farmers, IPs, BLGUs) |
| Ecosystem or Resource Base Classification | Watershed |
| Project Status/Duration | One Year (July 15, 2017 – July 14, 2018) Approved No-Cost Extension (July 15 – October 31, 2018) |
| Proponent/Address | 2 nd Floor Almacen Building, Km. 11 Catalunan Pequeño, Davao City |
| Contact Person/Designation | Chinkie T. Peliño-Golle Executive Director |
| Total Project Cost | P1,476,500 |
| Approved Grant Amount: | P800,000 |
| Counterpart Contribution | P676,000 |

II. SUMMARY ASSESSMENT

This project aimed to capitalize on the gains of previous reforestation projects in Panigan-Tamugan Watershed. Indeed, with sustained support for Panigan-Tamugan watershed, two concrete results from previous projects gained momentum and played a major role in the success of this project.

One is the organization of the Bantay Bukid volunteers and the other is the conduct of the watershed stakeholders summit, both of which were started in 2012.

Our Bantay Bukid partners played a critical role in the project's reforestation of Panigan-Tamugan riverbanks, exceeding the target number of hectares planted despite the unavoidable challenge posed by climate change effects that caused high seedling mortality. With the Bantay Bukid volunteers' consistent monitoring and maintenance of reforestation sites, seedling mortality from tree planting activities of the group along with other visiting stakeholders were replaced and maintained to maturity.

In the 5th year of the Watershed Stakeholders Summit conducted in 2017, we provided a venue for the LGU to concretize its support to Bantay Bukid volunteers in the form of financial incentives amounting to P2,000/month and provision of P300,000 to IDIS for the implementation and monitoring of the Bantay Bukid Program. For 2018, the Watershed Stakeholders Summit likewise resulted in Mayor Sara Duterte's allocation of P19.6M worth of funds from the City Government of Davao for the completion of ground delineation of all the conservation areas scheduled for implementation from January 2019 – February 2020.

This project witnessed and benefitted from a season of good collaboration among watershed stakeholders in Davao City. All sectors from government, non-government, academic institutions and the private sector gave tangible support to our community partners in Panigan-Tamugan watershed. With boosted morale, our Bantay Bukid partners have become active and reliable watershed stakeholders. They successfully implemented the expansion of riparian forest corridors, with four nurseries set up and maintained, numerous tree growing activities in partnership with 6 schools and other private institutions resulting in more than 11,000 hills planted, regular forest patrolling and apprehension of environmental violators, bayanihan clearing and clean-up drives, monthly community-based water monitoring, and IEC activities.

Generally, the major targets of this project were achieved with various stakeholders providing their corresponding counterparts. The momentum should be continued and with support from FPE, we can see the project outputs contribute to the full fruition of the following:

- Formulation of Panigan-Tamugan Integrated Watershed Management Plan utilizing the results of the Watershed Characterization Study
- Riparian forests established along the whole stretch of Panigan-Tamugan riverbanks with planted trees monitored and maintained to maturity
- Bantay Bukid volunteers provided with conservation trade-off for watershed protection services in the form of livelihood (one target is collaboration with DTI in capacity building and product development – bamboo straw, coffee or cacao processing, etc)
- Continuing promotion of initiatives and expansion of membership of Bantay Bukid and Bantayo Aweg volunteers in Davao City and in other areas in South-Central Mindanao
- Effective enforcement of environmental laws with clearly marked and delineated boundaries of conservation and non-conservation areas, which is now with the LGU budget appropriation
- Secured tenurial instrument that would guarantee rights to ownership of Bantay Bukid and protection of PTW

III. PROJECT DESCRIPTION

Rationale

Panigan-Tamugan Watershed, a sub-watershed located within Davao River Basin has again been chosen as the project site because of utmost ecological importance. It has been home to various biodiversity, both flora and fauna, as reported in the Resource and Socio-Economic Profiling conducted in 2013. The presence of notable biodiversity in the area including the Philippine Eagle, underscores the importance of Panigan-Tamugan Watershed for protection from the continuing threats of deforestation, monocrop plantation expansion that are massively using synthetic chemicals and other unregulated economic activities.

Sustainable management is also needed to ensure that protection and conservation of the biodiversity within is advanced and water resource quality and quantity is maintained for the benefit of all watershed stakeholders and beneficiaries.

According to the Initial Results of Watershed Characterization conducted in 2016, this watershed is only one of the forty-two (42) sub-watersheds inside the Davao River Basin with primary drainage which is the Tamugan River. There are also nineteen dead creeks in Panigan River while thirteen active creeks in Tamugan River.

In terms of vulnerabilities, 51% or 7, 183 hectares of the watershed is considered very high susceptibility to erosion while large part is also prone to landslide. *Please see updated maps at the annexes.*

The surface water of Panigan-Tamugan Rivers has also been identified as the City's alternative source of drinking water. In 2015, The Davao City Water District signed an agreement with the Apo Agua Infraestructura, for the development of a bulk water supply within the Panigan-Tamugan Watershed. Under the deal, Apo Agua Infraestructura will develop and supply around 300-350 million liters per day (MLD) of potable water from the Tamugan River to the pipelines of the DCWD, for distribution. The company is still on the process of securing the permits but scheduled to start the construction in July 2017.

To recall, there were two (2) studies that raised alarm signals on the insufficiency of Davao's groundwater in the long run, one by the Japanese International Cooperation Agency (1998) and by the Asia Geodyne Corporation (1998). It is thus strategic to utilize surface water that Panigan-Tamugan watershed could provide.

The project proponent tried to block the application of the Apo Agua Infraestructura in the Watershed Management deliberations but the WMC has approved and endorsed the project to the Davao City Council because it will provide solution to the growing concern of insufficiency of drinking water supply in the city.

Despite the importance to the sustainability of Davao, the project site needs continuous efforts for protection from the unsustainable practices: proliferation of monocultures and other agricultural practices, poor soil and water management measures leading to soil erosion and sedimentation of rivers, and pesticide contamination. Encroachment in forest areas is still a threat, leading to deforestation and forest degradation, among others. The economic condition of upland and forest communities being among the poorest of the poor in Davao could be one of the factors causing deforestation and forest degradation.

Another factor is the poor enforcement of environmental laws in which the cooperation and participation of the local communities are needed to assist the local environmental government agencies.

Lastly, the utilization of the Panigan-Tamugan surface water for drinking should be closely looked into because the abovementioned environmental threats will affect both the quality and quantity of the water.

In January of 2012-September 2013, the Interface Development Interventions was one of the nine (9) partners of FPE for its Up-scaling Forest Restorations in Forest Efforts in Key Biodiversity areas.

The project was able to produce the following outputs/results to name a few:

- Rainforestation of 60 has in the headwaters of Panigan and Tamugan Rivers which are now fully grown
- 42 Bantay Bukid trained and 14 of them passed the DENR exam and continuously conducting regular meetings and monitoring activities
- Watershed Action Plan for 5 years which has been adopted by the Watershed Management Council (WMC)
- Knowledge management products such as Resource and Socio-economic Assessment (RSEA) of the project site and a 3D map of Davao Watersheds
- Ground delineation of 20 kms environmentally critical areas (ECAs) identified in the Terrain Analysis study which became the basis of the City's Watershed Code.

In May 2014- November 2016, another project entitled Sustaining Forest Restoration Efforts within the Panigan-Tamugan Watershed for the Establishment of Riparian Corridor was implemented.

The project outputs include the following:

- 12, 678 seedlings were planted in the riverbanks of five barangays for year 1 and 19,000 seedlings were planted in both sides of the river for year 2. The total area planted in the last project cycle is 17.8 hectares
- Native trees planted include anitap, balite, barobo, vetiver grass, ulingon, mata- mata, guyabano, cacao, mangosteen, durian, lansones and malibago
- Community nursery of indigenous seedlings has also been established and still being maintained until now
- Enhanced participation of various stakeholders in tree planting activities and water monitoring during the project implementation
- Maps/names of creeks updated with the initial watershed characterization result
- Livestock dispersal (goat, chicken and tilapia fingerlings) as a livelihood support for riparian project partners
- Sustained commitment of community partners in tree growing/nurturing activities
- Nineteen (19) additional functional community forest guards trained and recognized by the LGU

This new project would like to capitalize what have been done, sustain what have been gained and improve the initial results of the previous Riparian Reforestation Project by considering the identified action points for follow-up activities, through the following:

- Expand the coverage of the rainforestation area by planting more areas of riverbanks (as riparian forest corridors). This time the project will assess the areas already planted in the previous project and conduct replanting to improve the vegetation, if needed. Aside from planting and re-planting native trees, this project will also plant bamboos at the 2nd layer or inner zone of the riverbank. The bamboos will provide support to the outermost layer of the easement and will also provide alternative source of construction materials for the local housing needs of the communities since the native trees will not be allowed to be cut down. Identification of bamboo has been raised by the community partners I one of our meetings with them.

- Promote the adoption of more watershed stakeholders of the Adopt-a-Riverbank Program by presenting the results of the previous projects to various for a including the annual conduct of the Watershed Stakeholders' Summit, school for a and other IEC activities. Video documentation and other IEC materials will also be utilized in the promotional activities.
- Continue to engage the trained/deputized Bantay Bukid in some activities such as guarding the rainforestation sites and upland / forest ecosystem. The Bantay Bukid will also take part in some capability building trainings and in regular monitoring of the rainforestation sites. This project will also help lobby for more support from the LGU and government agencies to the local volunteers.
- Lobby for the finalization and packaging of the Watershed Management Council Strategic Framework Plan and lobby for the budget appropriation from the LGU for its implementation.
- Continuously lobby for the appropriation and utilization of the environmental tax for watershed protection and management. This project will also help the five (5) BLGUs covered in preparing project designs on watershed project based on the approved Environmental Tax Utilization Guidelines.
- Finalize the Watershed Characterization of the Panigan-Tamugan Watershed by conducting the needed primary data and upon finalization, the Watershed Characterization Result will be presented to various stakeholders including the DCWD and Apo Agua Infraestructura. Comments and recommendations will be integrated in the final review and packaging of the Watershed Characterization Study.
- Promote the Panigan-Tamugan Watershed area as a living laboratory for educational tours of students with alternative ecotourism activities but will only be limited to bird watching and river trekking with integration of tree planting and water monitoring. This will ensure that students will learn from the rich biodiversity in the area as well as help the local communities earn from the seedlings that will be bought and planted also in the area. It will also provide them the experience of actual water monitoring and other related educational activities.
- IDIS also feels the need to maintain its presence in the area, especially now that the construction of the Bulk Water Supply Project will commence this year. While Apo Agua Infraestructura assured that they will only have minimal intervention in the Tamugan River, IDIS will ensure that reforestation efforts and all other projects established in the area will not be affected. IDIS will also continue to lobby for the payment for environmental services and the development of the Panigan-Tamugan Watershed Management Plan.

Goals and Objectives

The goal is to continuously contribute to the government's program of increasing forest cover in the country with specific focus on riparian / riverbank reforestation.

For one year, the project will check the areas already covered by the past project if there is a need to replant and will cover additional five (5) kilometers of riverbank to plant native tree species and bamboos. The native tree species planted in the outermost layer of the riverbank will serve as erosion and landslide mitigation while the bamboos in the inner layer or zone will strengthen the riverbank and will provide alternative source of construction materials for housing needs of the local communities. In addition, bamboos can also be developed into furniture and other products that will eventually help augment their income.

The reforested riverbanks will continue to provide home for the wildlife and will help maintain the water quality. The project proponent also plans to consult the local stakeholders for the development of the area into a nature park or living laboratory where educational tours can be facilitated such as bird watching, river trekking, and water monitoring. The educational tours will cater students to expose them in the living laboratory which will be provided by the Panigan-Tamugan rich biodiversity. Hence, this plan should be properly coordinated with the BLGU, IP communities, local Tourism Office, Watershed Management Council and other concerned agencies.

A reforested riverbank can also help minimize flooding of the surrounding areas and improve recharging of aquifers as these areas were identified in the Watershed Code as high groundwater recharge zone. Hence, later it can be proposed to DENR to declare these riparian forest as protected area.

The project aims to sustainably continue and to mainstream the previous milestones/gains and enhance environment advocacy. Specifically, it has the following specific project objectives and corresponding expected outputs and results

1. Increase forest cover by at least five (5) hectares in one year and replant the previous areas covered that need enhancement of vegetation, with variety of native tree species and bamboos. The project will still cover the riverbanks of Panigan- Tamugan Rivers within Barangays Tambobong, Tamugan, Gumalang, Wines and Tawantawan.

Expected Outputs/Results:

- a. Improved riparian forest biodiversity by planting diverse indigenous plant/forest species;
 - b. planted bamboos provide alternative source of construction materials for housing need and income for residents;
 - c. Improved water quality of rivers down to Davao Gulf by filtering soil, fertilizers and pesticides carried by surface runoff coming from agricultural areas. Minimize siltation / non-point source pollution from entering Tamugan River (long-term); and
 - d. Formation of wildlife habitat corridor from ridge to reef (long-term);
2. Enhance participation of watershed stakeholders in forest restoration and watershed management.

Expected Outputs/Results:

- a. Trained Bantay Bukid volunteers actively conducting monitoring activities and provided with capacity building enhancement activities and incentives;
 - b. Improved watershed stakeholders' (schools and other adopters) participation in forest restoration through direct involvement in planting and nurturing of trees and by contributing resources to this project through Adopt a Riparian Forest strategy;
 - c. Improved level of commitment by stakeholders from planting only to planting, maintenance, and resource mobilization; and
 - d. Increased number of trained Bantayo Aweg volunteers conducting water monitoring activities and with participation from schools.
3. Contribute in the improvement of watershed management policy implementation.

Expected Outputs/Results:

- a. Collected environmental tax will be utilized for watershed management projects;
- b. WMC Strategic Framework and Management Plans finalized and with budget allocation;
- c. Violators of Watershed Code provisions are reported and penalized;
- d. Resumption of ground delineation of ECAs;
- e. Watershed Characterization Study approved by the WMC and used as basis in developing Watershed Management Plan of Panigan-Tamugan Watershed; and
- f. Integrated Watershed Management Plan of Panigan-Tamugan watershed is formulated

Major Strategies or Components

To be effective in continuing riparian forest restoration efforts, this project will employ the following strategies:

Continuing the Riparian Reforestation /Adopt a Riverbank Program

This project will assess the areas already planted in the previous project if there is a need for replanting and will cover another five (5) hectares for reforestation. As practiced, native species of trees will be planted in the protection zone or outer layer while bamboos will be planted in the production or inner zone of the riverbank. Adopt-a-Riverbank Program will also be promoted to encourage more stakeholders to adopt other riverbanks for tree growing and in partnership with the BLGUs and local communities.

Information, Education and Communication (IEC) Campaigns

The project proponent plans to conduct for a to present the outputs of the riparian reforestation in the area to various stakeholders. Two (2) Watershed Stakeholders Summits are targeted to be co-organized with the Watershed Management Council members in 2017 and in 2018. Project accomplishments will be presented to the public and to continue the promotion of Adopt-a-Riverbank Program.

IEC activities will also be conducted in partnership with schools such as exhibit, showing of project video documentation and for a. These activities will help enhance the awareness of the students on the importance of biodiversity protection and conservation. Also, schools will be invited to visit, witness and learn from the living laboratory in which Panigan-Tamugan Watershed offers.

Executive/Legislative Lobby

The proponent will continue its active membership with the Watershed Management Council in ensuring that the draft WMC Strategic Framework Plan will be finalized and budget will be allotted for its implementation. Part of this strategy is to make sure that the environmental tax collected will be transferred to Trust Fund of the City for the sole purpose of utilizing it for watershed programs and projects. IDIS will also continue to lobby for the development of Integrated Watershed Management Plan.

Watershed Stakeholder Organizing

This project will continue to work with the riverbank occupants who have been the project beneficiaries since 2014 and will try to convince more riverbank occupants to participate. The project beneficiaries signified their interest to continue their support in the project implementation which will benefit them and the watershed where they live.

In addition, the proponent plans to organize more youth volunteers (in or out of school youth) to participate in the regular water monitoring as well as in the IEC activities. Trainings will be provided in partnership with schools such as Ateneo de Davao University, UP Mindanao, University of Mindanao and other interested schools.

Research and Regular Monitoring and Assessment.

The initial Watershed Characterization will be finalized in this project term. There are still primary data that will be gathered in the area to complete the outline of the Study. The maps will be finalized also. Once the needed data are gathered and the final draft is prepared by the researcher, the proponent will present the study to the Watershed Management Council and other stakeholders for comments and suggestions before it will be finalized and packaged. The Study will then be submitted to the Watershed Management Council and DENR for reference in the formulation of the Integrated Watershed Management Plan.

Regular Water Monitoring will be continued and results will be presented to the BLGUs and the public. Bantay Bukid volunteers will be provided with refresher course or follow-up trainings and the proponent will also continue to lobby for additional support for them. Monitoring activities in the project site and in the upland areas will also be continued in coordination with the DENR XI and City Environment and Natural Resources Office.

Development and Promotion of Panigan-Tamugan as a Living Laboratory for Students and other watershed stakeholders

This project will also explore on partnering with various schools for learning visits in the Panigan-Tamugan Watershed. The Students will be encouraged to visit the area, witness its rich biodiversity, participate in bird watching, actual tree planting and monitoring as well as in water monitoring. These activities will help the students learn aside from enjoying the landscape and pristine water of the rivers, they will also enhance their awareness on the importance of protecting and sustainably managing the watersheds.

| COMPONENTS | SPECIFIC USE OF GRANTS (ACTIVITIES) |
|--------------------------------------|---|
| 1. Riparian Reforestation | <ul style="list-style-type: none">• Site Preparation• Nursery Expansion• Planting Activities• Validation |
| 2. IEC & Knowledge Management | <ul style="list-style-type: none">• Communication• Instructional/Training Materials• For a (Schools & Communities)• Watershed Characterization• Watershed Stakeholders Summit |
| 3. Coalition & Capacity Building | <ul style="list-style-type: none">• Training & Education/Learning Activities• Bantay Bukid Volunteers' Equipment |
| 4. Project Monitoring & Evaluation | <ul style="list-style-type: none">• Field Visits/Area Monitoring• Project End Assessment & Evaluation |
| 5. Project Administration/Management | <ul style="list-style-type: none">• Project Management Fee• Utilities |

IV. ACCOMPLISHMENTS PER OBJECTIVE

Objective # 1: Increase forest cover by at least five (5) hectares in one year and replant the previous areas covered that need enhancement of vegetation, with variety of native tree species and bamboos. The project will still cover the riverbanks of Panigan-Tamugan Rivers within Barangays Tambobong, Tamugan, Gumalang, Wines and Tawantawan.



Reforestation site with newly planted malibago in Panigan riverbank Brgy. Tawantawan, Baguio District

An estimated 18 hectares of the Panigan-Tamugan riverbanks in Brgys. Tawantawan, Tambobong, Wines, Gumalang, and Tamugan were planted with 11,395 seedlings of three native species including malibago (*Hibiscus tiliaceus* L.), tricanthera (*Tricanthera gigantea*) and kawayan. Of these, 6,306 species survived (55%) as of one-time validation in April 2018 given the extreme heat (up to three weeks with no rain) and flooding (intense downpour) which damaged the seedlings, among other factors. In response, the Bantay Bukid volunteers replaced seedling mortality during regular patrols and activities per cluster every month. Other species planted include narra, pasirit, bakan, abihid, lawaan, pagulingon, dao, matamata, balite, and tugas.

| CRITICAL ACTIVITY | OUTPUT |
|--|---|
| 1.1 Meeting with BLGUs and presentation of project continuation to WMC members | BLGUs and WMC committed and actively participating in the project implementation activities |
| <p>ACCOMPLISHMENTS: The WMC and BLGUs declared commitment and showed active support to majority of project activities:</p> <ul style="list-style-type: none"> • 5 BLGUs and the WMC have been oriented and informed on the riparian project. The project was formally presented during the barangay sessions in Brgys. Tawantawan, Gumalang and Wines while for the two others, project staff conducted meetings with the respective BLGU officials. The project was also presented to the Bantay Bukid, with 52 members. • 10 BLGUs covered within the Panigan-Tamugan watershed were oriented on the Bantay Bukid Guidelines for the BLGU officials and functionaries to be re-oriented on the roles and functions of Bantay Bukid. • BLGUs showed their support to project activities through their participation, provision of venue, logistical and manpower assistance: Brgy. Tambobong – 4 activities, Brgy. Tawantawan – 10 activities, Brgy. Gumalang – 3 activities, Brgy. Wines – 2 activities. • In Barangay Tawantawan, where majority of Bantay Bukid volunteers are residing, the BLGU issued an ordinance in recognition of the role of Bantay Bukid in watershed protection and commitment to support them. • BLGUs and WMC members also attended and actively participated in the 6th Watershed Summit. • Seven (7) WMC meetings actively participated in to lobby for Bantay Bukid and other policies to protect Panigan-Tamugan watershed. • 82 barangays in the 3rd District were given orientation on the salient features of the Watershed Code during the four orientation meetings conducted by the Barangay Cultural Communities and Affairs Division (BCCAD) this 2018. IDIS provided resource person in the said meetings. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • Delayed in target deliverables due to postponement of WMC meetings. • Bantay Bukid volunteers in Brgy. Wines encountered problems with their BLGU officials during apprehensions. • Bantay Bukid rated their influence in their respective BLGUs as low. | <p>ACTIONS TAKEN / NEXT STEPS:</p> <ul style="list-style-type: none"> • Ensured that target deliverables were included in the next WMC meetings. • Case in Brgy. Wines was resolved. • IDIS continued to lobby to WMC to remind BLGUs to ensure their BWMCs and Committee on Environment become more proactive and involved in Bantay Bukid activities. |
| 1.2 Improvement of local nursery / site preparation | Output: Additional seedlings/wildlings |
| <p>ACCOMPLISHMENTS: Bantay Bukid nurseries have established and maintained 4 nurseries which have supplied over 7,000 seedlings and cuttings for their tree growing activities in both Panigan and Tamugan riverbanks and those procured by visiting stakeholders who conduct tree planting in Panigan river.</p> <ul style="list-style-type: none"> • Two new nurseries established and two existing nurseries maintained (Purok Pangpang, Brgy. Wines; Purok Overflow in Brgy. Tambobong, Sitio Bagong Lipunan/Panigan, Brgy. Tawantawan; Purok Pagasa and Sitio Nanap/Purok Pag-asa in Brgy. Tawantawan) • 7,406 seedlings were bagged and prepared in various nurseries for planting and 2,028 seedlings from the Bantay Bukid central nursery in Panigan, Brgy. Tawantawan • Nurseries house native species of bamboo, fruit trees such as guyabano, bamboo and cacao. <p>Bantay Bukid volunteers assisted in identifying sites for tree planting of visiting stakeholders and conduct the necessary clearing for site preparation, particularly for indigenous peoples under the program of Department of Social Welfare and Development.</p> | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • Bignay seeds added to the nursery in Purok Pag-asa, Brgy. Tawan-tawan were not successful. | <p>ACTIONS TAKEN:</p> <ul style="list-style-type: none"> • These were replaced by malibago seedlings. |
| 1.3 Actual Planting | Outputs: Five (5) hectares of riverbank is reforested with native species, two lines of bamboos are planted in the inner zone of 10 kilometer riverbank stretch (5 kms both sides) |

| CRITICAL ACTIVITY | OUTPUT |
|---|--|
| <p>ACCOMPLISHMENTS: In 15 months, our Bantay Bukid volunteers, along with contributions from visiting stakeholders during tree planting activities, were able to plant 11,395 seedlings in the following riverbanks:</p> <ul style="list-style-type: none"> • Panigan riverbank in Brgy. Tawantawan (Sitio Gading, Sitio Nanap, Sitio Panigan) - 4,205 seedlings • Panigan riverbank in Brgy. Tambobong – 4,000 seedlings • Tamugan riverbank in Brgy. Gumalang (Purok 7, 8, 1-D, 1-A, and 10) – 590 seedlings • Tamugan riverbank in Brgy. Tamugan – 540 seedlings • Tamugan riverbank in Brgy. Wines (Purok Spring, Purok Pangpang, – 2060 seedlings) <p>Majority of the efforts in tree planting for this project focused on reforesting the Zone 1 or Undisturbed Zone, the area closest to the river. With availability of seedlings, cuttings and ease in planting, majority of the species planted were malibago. As for bamboo, an estimated 700 hills were planted in Panigan riverbank although there are existing bamboo species of different varieties along Panigan and Tamugan river, which communities harvest for household use and livelihood. A small percentage were tricantera and fruit trees which consist the Zone 2 or Managed Forest Zone, where species can be harvested to augment livelihood needs of the Bantay Bukid volunteers.</p> | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • Climate change impacts such as extreme heat experienced in the higher elevations of Panigan – Tamugan watershed (Panigan river) up to three weeks and intense heavy rain resulting to flooding led to mortality of seedlings planted in riverbanks (Tamugan river). • Other factors identified by the Bantay Bukid volunteers that led to seedling mortality in some areas include soil characteristics of some sites (sandy/rocky), plantation companies spraying of pesticides reached some seedlings planted, some unregulated grazing animals, and wasted seedlings planted by students (who did not remove seedling bags) • Plan to put up two lines of bamboos in the inner zone of the 10 kilometer riverbank stretch did not push through due to specific physical conditions of the areas. Most of the soil in riverbanks are not appropriate for bamboo planting (rocky/stones). | <p>ACTIONS TAKEN/ NEXT STEPS:</p> <ul style="list-style-type: none"> • Bantay Bukid volunteers conducted regular monitoring of reforestation areas to provide replacement to seedling mortalities. • Bantay Bukid volunteers talked to community members whose grazing animals damaged seedlings planted and they also agreed as a group to improve orientations conducted to visitors/students prior to tree planting to avoid similar incidence of wasted seedlings in the future. • Set up nurseries in close proximity of riverbanks with no existing nurseries to minimize stress in transfer/travel of seedlings from nursery to planting areas. • Bantay Bukid volunteers focused on planting malibago seedlings/cuttings which they have seen to have high chance of growing in riverbanks as evidenced by mature malibago trees in the area planted in 2012. |
| <p>1.4 Maintenance / monitoring of the areas planted</p> | <p>Output: Improved biodiversity in the area</p> |
| <p>ACCOMPLISHMENTS: Bantay Bukid partners observed improved wildlife presence in the area where they conduct regular clearing and brushing of grasses to ensure growth of seedlings planted.</p> <ul style="list-style-type: none"> • In April 2018, external evaluation conducted revealed 55% average seedling survival in over 11,000 seedlings planted due to natural causes particularly climate-change related factors such as extreme heat and flooding. Bantay Bukid’s monthly monitoring and maintenance ensured that seedling mortalities are replaced. • Clearing of grasses up to an estimated length of 2,850 meters in Brgy. Wines, Tambobong, Tamugan and Gumalang were conducted to maintain newly planted seedlings. Round weeding of grasses around planted malibago, anitap and other endemic trees in Brgy. Tambobong and Gumalang were also conducted. • Planted trees during Phase 1 of the Riparian Forest Corridor Project were also monitored. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • Due to low temperature given the higher elevation, weeds grow particularly fast in reforestation site in Panigan riverbanks (“bagnutan tungod sa kabugnaw / dali motubo ang sagbot”) • Planted trees during the Phase 1 of Riparian Forest Corridor Project in Barangays Tambobong, Wines, Gumalang, and Tamugan were monitored. It was found out that some planted trees and seedlings were damaged because of the flooding last February 26, 2018, where the river swelled and | <p>ACTIONS TAKEN:</p> <ul style="list-style-type: none"> • Bantay Bukid Panigan Cluster conduct clearing activities every other Friday (twice a month). • All seedling mortalities were replaced by Bantay Bukid and Bantayo Aweg with a total of 99 hills of malibago seedlings and 68 hills of bamboo planted. |

| CRITICAL ACTIVITY | OUTPUT |
|---|---|
| <p>flood waters swept a few of the planted seedlings and trees along the riverbanks. Aside from the flood, a few planted seedlings did not survive because some community members let their livestock (i.e. goat and carabao) graze in the area where the seedlings were planted.</p> | |
| <p>1.5 Conduct community-based water monitoring and river clean-up drive</p> | <p>Output: Data results presented to BLGU and WMC; IEC to public schools for support</p> |
| <p>ACCOMPLISHMENTS: Community-based water monitoring was conducted monthly (usually every last Friday/Saturday of the month) to monitor the basic chemical and biological indicators of the Panigan-Tamugan river while regular clean-up drives are held to ensure the river remains protected from solid waste:</p> <ul style="list-style-type: none"> • Results of 12 community-based monitoring reveal that the water from the Panigan-Tamugan watershed can be classified as Class AA based on the Fresh Surface Waters Classification (DENR AO 34 Series of 1992). This is Public Water Supply Class I, which is intended primarily for waters having watersheds which are protected and require only approved disinfection in order to meet the National Standards for Drinking Water (NSDW) of the Philippines. • Results of community-based monitoring were presented by Bantayo Aweg and IDIS staff to the following stakeholders: <ul style="list-style-type: none"> - BLGUs of Wines and Gumalang - 170 watershed stakeholders during the 2018 Watershed Summit - Davao River Basin Management Alliance (DRBMA) with actual water monitoring demonstration - 30 Sangguniang Kabataan from Brgys. Tambobong, Carmen, Cadalian, Baguio Proper and Tawantawan • Three (3) clean up drives in Panigan and Tamugan rivers were conducted amounting to 10 sacks of garbage collected, mostly discarded parts of bananas and pineapples and plastics used in packing them from nearby plantations along with shampoo sachets and junkfood wrappers. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • There are no existing materials recovery facility (MRF) in barangays within Panigan-Tamugan watershed so garbage collected in clean-up drives are temporarily disposed by burying them underground. • CBWM and laboratory tests of water quality showed that in most of the parameters, the water in these rivers passed Class AA standards except for color, mercury, fecal coliform and E. coli. | <p>ACTIONS TAKEN:</p> <ul style="list-style-type: none"> • Lobbied to the BLGU and other concerned agencies for the strict implementation and monitoring of RA 9003, particularly the provision of MRF. • Bantayo Aweg recommended the following in response to the CBWM results: (1) DENR-WQMA to establish water monitoring station in the upland areas in Panigan-Tamugan river; (2) Strict monitoring of poultry and livestock within Davao watersheds; (3) strict implementation of environmental ordinances and laws; and (4) households to be required proper sanitation and waste disposal and (5) continuous tree growing activities. |

Objective # 2: Enhance participation of watershed stakeholders in forest restoration and watershed management.



Davao City and Bukidnon Province signed MOU to protect Davao River Basin. Witnesses during the signing are the DENR XI regional director, DENR 10 representative and MinDA Secretary Datu Abul Khayr Alonto.

Key watershed stakeholders particularly the youth from major universities in Davao, especially those located near the upland water source, have been engaged and linked to the Bantay Bukid for collaboration towards watershed protection. Even after the conduct of the annual watershed summit where we have witnessed increasing attendance through the years, watershed stakeholders demonstrated improved participation and translated their commitment to direct interventions and on site visit to the area. They procured seedlings from Bantay Bukid volunteers for their tree planting in the area as well as donated personal protective equipment for Bantay Bukid and educational materials for the children. Government agencies and non-government organizations were also tapped to provide capacity building and potential livelihood opportunities for our Bantay Bukid.

| CRITICAL ACTIVITY | OUTPUT |
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| 2.1 Fora in schools and promotional activities on Adopt-a-Riverbank Program | Output: Commitment to partner with IDIS in tree growing and learning visits to the project area |
| ACCOMPLISHMENTS: Bantay Bukid and Bantayo Aweg volunteers actively participated in promotional activities facilitated by IDIS to encourage more stakeholders to conduct environmental activities for Panigan-Tamugan watershed: <ul style="list-style-type: none"> • Six (6) schools linked up for learning visit and tree growing activities: Ateneo de Davao University theology students (Sept 2017), Brgy. Wines High School (Sept 2017), Calinan National High School (Sept 2017 and February 2018), University of Mindanao law students (October 2017), University of the Philippines anthropology students (March 2018), University of Southeastern Philippines Mintal Campus (April 2018), Holy Cross of Davao College. • A three-day Eco Camp at Ma. Cristina Belcar Agricultural School in Barangay Tawantawan was conducted last February 2 to 4, 2018. IDIS staff, Bantay Bukid and Bantayo Aweg gave inputs on Watershed Protection, Water Monitoring with actual demonstration of data gathering through community-based water monitoring, and Disaster Risk Reduction and Management to 28 Senior High School students who participated in the said Eco Camp. A call to volunteer was also made during the event. • Bantayo Aweg representatives also shared their on-going initiative and experiences in IDIS participated and/or organized events outside Davao City such as (1) Orientation on Watershed Management and Environmental Laws in Mati City; (1) CWBM Training in Compostela Valley and (1) Seminar on Watershed Management and Environmental Laws also conducted in Compostela Valley. | |
| PROBLEMS ENCOUNTERED: Bantay Bukid volunteers identified the following problems they encountered with the stakeholders who visited the area to conduct tree planting: <ul style="list-style-type: none"> • Tree planting participants from schools do not arrive on the agreed time. Bantay Bukid volunteers wait up to 3 hours with no food allocation. • They come to the area on short notice. When they come on short notice, some Bantay Bukid members from other areas may not be informed and may not be available to accompany them on site. Bantay Bukid wants the number Bantay Bukid guides to be in proportion to the number of visitors so their safety and security are ensured. • They come only for compliance to school requirements, some appear to be not serious in tree planting, did not remove the cellophane/seedling bags, sat on rocks and took pictures but did not plant seedlings • Some did not follow the policy of the Bantay Bukid volunteers: (1) procure local seedlings from Bantay Bukid nursery as income-generating activity, instead they bring with them their own seedlings and (2) instructions on proper distance in planting. | ACTIONS TAKEN / NEXT STEPS: <ul style="list-style-type: none"> • Bantay Bukid monitored and replaced seedlings planted that did not survive because they were planted with bags on and those that did not follow proper distance/spacing. • Bantay Bukid volunteers agreed to ensure proper orientation with visitors and to be strict in their implementation to ensure useful outputs of their tree planting. • Bantay Bukid volunteers can charge additional fee per seedling for monitoring/maintenance until the seedling grows into maturity. IDIS can help in packaging/marketing this to help the Bantay Bukid volunteers as an income-generating activity for them. |
| 2.2 Production and promotion of IEC materials | Output: Posters and primers on Panigan-Tamugan biodiversity are produced and distributed to stakeholders |
| ACCOMPLISHMENTS: <ul style="list-style-type: none"> • 10 pieces of signages which enumerates the prohibited acts and activities on tillage and non-tillage areas were installed in: Purok 6, Brgy. Carmen; Purok Macatabo, Brgy. Carmen; Sitio Nanap, Brgy. Tawantawan; Sitio Panigan, Brgy. Tawantawan; Purok Pangpang, Brgy. Wines; Purok Spring, Brgy. Wines; Purok Overflow, Brgy. Tambobong; Purok 8, Brgy. Gumalang; Purok Lawis, Brgy. Gumalang, and Brgy. Tamugan. | |

| CRITICAL ACTIVITY | OUTPUT |
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| <ul style="list-style-type: none"> Bantay Bukid Guidelines, which contains their roles and responsibilities as well as the monitoring and coordinating mechanisms, has been translated to Bisaya. Main features of the guidelines were repackaged into a brochure for distribution. The Guidelines was drafted by IDIS and Philippine Eagle with inputs from Watershed Management Council and City Mayor's Office. Posters on Bantay Bukid roles in disaster preparedness and response (DPR) were also prepared and displayed as exhibit materials during the culmination event of the FEP funded projects last March 21-23 in Ortigas. Some Bantay Bukid are beneficiaries of this DPR capacity building project implemented by IDIS in partnership with MAGI, Mindanao Land Foundation, Ateneo Public Interest and Legal Advocacy Office, and Davao Medical School Foundation. | |
| PROBLEMS ENCOUNTERED: <ul style="list-style-type: none"> Delays in IEC materials production on watersheds and Bantay Bukid roles to be put up along with the 3D map displayed at People's Park. | ACTIONS TAKEN: <ul style="list-style-type: none"> Service providers were tapped to help the staff in producing the IEC materials. |
| 2.3 Community/school-based water monitoring (CBWM) in Tamugan River; Training of Bantayo Aweg members | Output: Increased number of trained Bantayo Aweg volunteers who are actively participating in the water monitoring activities and public presentation |
| ACCOMPLISHMENTS: <ul style="list-style-type: none"> Bantayo Aweg members participated in 8 trainings/public events: Trainings: (1) Refresher Course on CBWM; (2) Bantayo Aweg History and Coaching; (3) Operating a GPS and GIS Training Events: (1) Media promotions for World Water Day and International Day of Forests; (2) Community Watershed Forum in Macambol, Mati City and (3) SM Connect Press Conference; (4) Envi Laws and Watershed Management Training in Compostela; Demo and CBWM in Compostela The following stakeholders learned from Bantayo Aweg demonstrations and joined the CBWM: John Paul II College, USEP Mintal, Ma. Cristina Belcar Agricultural School Senior high school, Partner communities from Compostela Valley on the IDEALS project, SK from 5 BLGUs | |
| PROBLEMS ENCOUNTERED: <ul style="list-style-type: none"> Some Bantayo Aweg members are no longer active to pursue studies in Calinan/downtown area while some of them already have jobs. Apo Agua and Davao City Water District in their meeting with the Watershed Management Council committed to conduct pesticide monitoring affecting water quality once their Bulk Water Project will be approved. Last September 2017 the Bulk Water Project was approved by the City Council. They have results for pesticide monitoring in 2018 but IDIS is yet to secure copy of results. | ACTIONS TAKEN/NEXT STEPS: <ul style="list-style-type: none"> Ensure succession/continuous recruitment of volunteers. Bantayo Aweg members identified possible second liners to continue their efforts. Engaged other groups within Panigan-Tamugan river such as SKs. Followed up Apo Agua during the WMC meeting last Nov. 6, they presented to the WMC their project updates. WMC members and Apo Agua will have separate meeting to discuss the river water quality monitoring results. |
| 2.4 Annual presentation of water monitoring results to watershed stakeholders | Output: Water monitoring results presented to BLGUs and WMC |
| ACCOMPLISHMENTS: <ul style="list-style-type: none"> Bantayo Aweg members Frederick Paler and Jason Tura presented results of community-based water monitoring (CBWM) from June 2017 to June 2018 during the Watershed Summit in June 2018. Based on the Bantayo Aweg's experience, training them in conducting CBWM give them a greater sense of stakeholderhip in ensuring the protection of local rivers. Using this approach, EMB's monitoring capability would have a wider reach without being bogged down by budgetary restraints. The overall results of CBWM in Panigan-Tamugan river is Class A which means that the water is a public water supply class II, requiring complete treatment in order to meet the National Standards for Drinking Water (NSDW). For the laboratory tests from University of Immaculate Conception, results were considered Class AA except for mercury, and microbiological/bacteria. | |
| PROBLEMS ENCOUNTERED: | ACTIONS TAKEN: |

| CRITICAL ACTIVITY | OUTPUT |
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| <ul style="list-style-type: none"> CBWM and laboratory tests of water quality showed that it did not pass color standards and revealed high presence of mercury, fecal coliform and E.coli. | <ul style="list-style-type: none"> Bantayo Aweg recommended the following in response to the CBWM results: (1) DENR-WQMA to establish water monitoring station in the upland areas in Panigan-Tamugan river; (2) Strict monitoring of poultry and livestock within Davao watersheds; (3) strict implementation of environmental ordinances and laws; and (4) households to be required proper sanitation and waste disposal and (5) continuous tree growing activities |
| <p>2.5 Bantay Bukid Training</p> | <p>Output: 50% of the Trained Bantay Bukid volunteers are actively conducting regular monitoring activities; provided with PPE</p> |
| <p>ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> Bantay Bukid volunteers participated in 10 events that hone their capacities: <ul style="list-style-type: none"> They undergone three two-day trainings: (1) GPS and GIS; (2) Paralegal Training; and (3) Basic Life Support-First Aid with at least 90% in attendance and patrolling/implementation have 95% attendance per cluster. Absence from group activities are excused for those who have family concerns/emergencies and fined with P150/absence deducted from their monthly incentives from the City Government. They also underwent learning visit at the (1) Public Safety and Security Command Center (PSSCC) as well as (2) riparian reforestation sites with IDIS in Polomolok, South Cotabato Served as resource persons in various fora/consultations: (1) Women's month celebration, (2) Orientation / Seminar on Watershed Management and Environmental Laws in Mati City (2017) and in Compostela Valley (2018) (2) committee hearings to lobby for Shrine Hills as public park, and (3) NGP validation/consultation in Congress. Bantay Bukid volunteers received the following personal protective equipment from FPE and other stakeholders: <ul style="list-style-type: none"> Megaphone, binoculars, digital camera, battery and charger of hand-held radio (FPE-IDIS) Vests, uniform T-shirts and ID slings (IDIS) Boots and polo shirt uniforms (City Government) Flashlights and grocery items (Ateneo de Davao University) School bags for children of Bantay Bukid (JCI) | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> Bantay Bukid expressed the needs for capacity building on proposal making and basic accounting or refresher course for officers. Bantay Bukid volunteers also reported that the current number of their personal protective equipment are insufficient, particularly flashlights and hand-held radio. | <p>ACTIONS TAKEN:</p> <ul style="list-style-type: none"> IDIS planned to provide them resource person on basic accounting IDIS has lobbied for assistance from both government and private stakeholders to augment the provision of PPE to the Bantay Bukid volunteers. |
| <p>2.6 Annual Watershed Stakeholders Summit</p> | <p>Output: Increased number of participating organizations and private sectors</p> |
| <p>ACCOMPLISHMENTS:</p> <p>Participants for the 2018 Watershed Summit increased compared to last year. Even after the 2017 Watershed Summit, government and private institutions concretized their commitment through the following contributions for watershed protection:</p> <ul style="list-style-type: none"> The Department of Agriculture provided solar drier in Panigan which the Bantay Bukid volunteers may utilize, since their main livelihood is cacao farming. Bantay Bukid President Dario Bolasito provided an area for the solar drier, which serves as Bantay Bukid's counterpart to the DA project. The area where the solar drier will be installed is beside the Bantay Bukid meeting shed and nursery. The City Government of Davao gave each Bantay Bukid a gift check worth Two Thousand Pesos (Php. 2,000.00) and one (1) bucket with groceries as Noche Buena for Christmas in December 2018. City Mayor's Office provided financial incentives worth P2,000/month for IDIS and PEF supported Bantay Bukid since September 2017. Apo Agua and DCWD P30,000 each for the 2018 Watershed Summit Apo Agua also provided accident insurance to 60 Bantay Bukid volunteers in PTW for 2018-2019 City Government of Davao, JCI and AdDU donated P147,000 worth of personal protective equipment. | |

| CRITICAL ACTIVITY | OUTPUT |
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| <ul style="list-style-type: none"> IDIS facilitated meetings of UNIFRUTTI with Barangay Gumalang for the Adopt-a-Riverbank Program. Unifrutti and Brgy. Gumalang will be signing a MOU for the Adopt-a-Riverbank Program on November 17 in riverbank areas identified by the BLGU and will be conducting tree growing activities for the next three years. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> Increased number of stakeholders visiting Panigan-Tamugan watershed necessitating Bantay Bukid assistance / guide. | <p>ACTIONS TAKEN/NEXT STEPS:</p> <ul style="list-style-type: none"> IDIS to ensure proper coordination and advance notice so that Bantay Bukid volunteers' main livelihood (farm duties) may not be altered and they can plan/assign as a group rotation of guides or those that will entertain the visitors. |
| <p>2.7 Livelihood Trainings (Bamboo furniture making, etc)</p> | <p>Output: One community livelihood Project is developed and implemented; Monitoring of livelihood assistance (goat/ducks/ poultry)</p> |
| <p>ACCOMPLISHMENTS</p> <p>Bantay Bukid volunteers expressed their interest to undergo livelihood trainings during consultation on Environmental Tax Guidelines as well as need for assistance in marketing and promotion of their seedling nurseries.</p> <ul style="list-style-type: none"> IDIS assisted Bantay Bukid in the processing of registering their organization with DOLE to help them secure funds from government and other non-government institutions to help them in their livelihood. Initiated the establishment of Solidarity Fund from the income gathered/turned-over by the project beneficiaries. Guidelines on the utilization of this solidarity fund is yet to be developed but the intent is really to have a common fund that can be accessed by partner communities in the critical watersheds, whenever they will be affected by disasters or calamities. The initial amount for this project is only four thousand five hundred pesos (P4,500.00). Nurseries are well-maintained for seedlings procured by visitors who are conducting tree planting. Video documentation of Bantay Bukid volunteers initiatives in Panigan-Tamugan watershed was produced and submitted to the Quest for Love which is aimed to provide livelihood opportunity. Conducted monitoring of riparian beneficiaries' livelihood dispersal with 13 goats available for dispersal. In Barangay Tamugan, five (5) heads of goat gave birth to nine (9) kids, where two (2) heads are at gestation period. In Barangay Wines, two (2) goats are at gestation period. In Barangay Tambobong, two (2) goats at gestation period and one (1) at growing stage. In Barangay Gumalang, three (3) goats gave birth to four (4) kids. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> Unreported goat deaths due to sickness Bamboo as potential livelihood source was rated high by the Bantay Bukid but minimal numbers were planted compared to malibago. Livestock was rated lowest among the livelihood support (compared with bamboo, seedlings in their nurseries, and LGU incentives). | <p>ACTIONS TAKEN/NEXT STEPS:</p> <ul style="list-style-type: none"> On-going communication with DTI Region 11 on the possible resource person on bamboo furniture and straw making. Improve future process of identification appropriate livelihood assistance for the group. |

Objective #3: Contribute in the improvement of watershed management policy implementation.



Bantay Bukid volunteers served as intervenors to the 2016 environmental tax protest filed by DOLE-Stanfilco against the City Government of Davao

IDIS remained vigilant in its watchdog function in the policy landscape for watershed protection in Davao City. It urgently responded to a proposed resolution by a City Councilor that threatens to limit the powers of the Watershed Management Council (WMC), which triggered the WMC to action. IDIS likewise continued to be proactive yet patient in pushing the WMC for the speedy finalization of WMC Strategic Plan, resumption of ground delineation, and utilization of Environmental Tax; although funds have already been secured for the ground delineation. On the ground, the Bantay Bukid's critical function in enforcing the Watershed Code has been effective with reported violations and apprehensions. IDIS helped in securing appropriate actions from concerned agencies regarding reported violations.

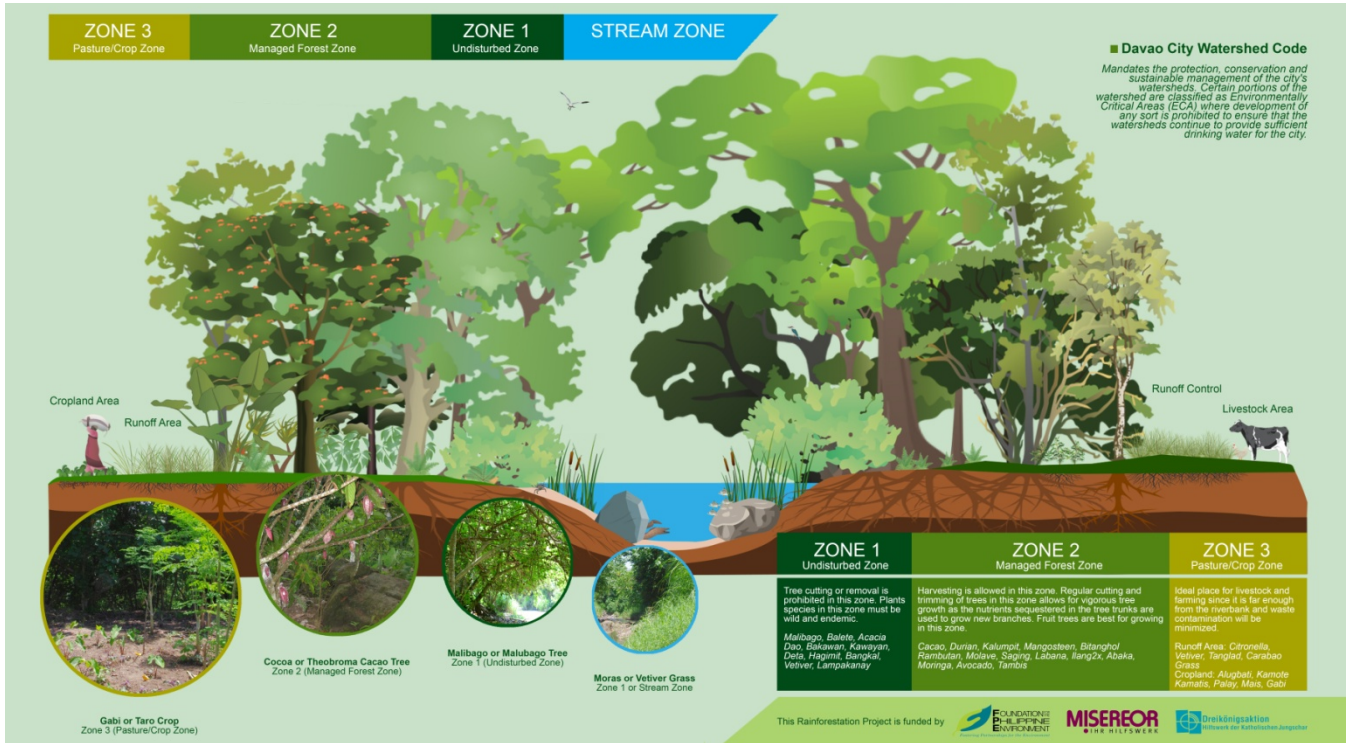
| CRITICAL ACTIVITY | OUTPUT |
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| 3.1 Lobby activities to WMC members | Critical Activity Output: Collected environmental tax utilized for watershed management project |
| <p>ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> Bantay Bukid and Brgy. Council of Tawantawan participated in the consultation on Environmental Tax Utilization Guidelines. They suggested some activities or programs for inclusion to the Guidelines to support watershed areas' protection and conservation. IDIS along with Bantay Bukid and Bantayo Aweg filed a motion for intervention on the environmental tax refund case that DOLE Philippines - Stanfilco Division filed against the City Government of Davao last Sept. 19, 2017. In preparation for the filing of the case, 3 writeshops with SALIGAN and 4 community consultations were conducted. The case was also supported by the Environmental Defense Program being implemented by the Alternative Law Group. Two (2) lobby meetings with Atty. Zuleika Lopez and 1 Technical Working Group (TWG) meeting has been conducted to discuss the following issues and concerns: finalization of WMC Strategic Plan, resumption of ground delineation, and utilization of Environmental Tax. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> Dole Stanfilco requested to file their comment 15 calendar days counted from the date of the order (September 29, 2017). IDIS, Bantayo Aweg and Bantay Bukid, on the other hand, requested for a 10-day period to reply to the comment counted from receipt of the same. | <p>ACTIONS TAKEN / NEXT STEPS:</p> <ul style="list-style-type: none"> IDIS, Bantay Bukid and Bantayo Aweg were able to file its comment on time. However, the Court denied the Motion to intervene. IDIS et al. filed a motion for reconsideration which the Court also denied. IDIS et al. filed a petition for certiorari before the Court of Appeals assigning as error grave abuse of discretion on the part of the Regional Trial Court Branch 17 when it denied the Motion for Intervention. RTC Branch 11 ruled that Dole Stanfilco is not entitled to a tax refund, that the Section 17 of the Watershed Code is valid with the environmental tax as a regulation fee and not tax per se. We hope that to ensure judicial stability among co-equal branches, the RTC Branch 17 may rule in favor of Davao City as Branch 11 did. |
| Critical Activity 3.2 Participate in the formulation of policies and plans | Output: WMC strategic plan finalized and appropriated with budget |
| <p>ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> The WMC Strategic plan was presented during the Watershed Summit and during the WMC meeting with Apo Agua (AAI) and Davao City Water District (DCWD) resulting in the following commitments: <ul style="list-style-type: none"> Insurance for Bantay Bukid Donation of P30, 000 each for Watershed Summit Integrated Watershed System Management planning consultations Water monitoring (particularly of pesticides among others) Support for the Bantay Bukid Watershed volunteers (insurance and other in kind support) | |
| <p>PROBLEMS ENCOUNTERED</p> <ul style="list-style-type: none"> Councilor Danilo "Danny" Dayanghirang proposed to the Sangguniang Panlungsod to amend the current functions of the Watershed Management Council. Coun. Dayanghirang's proposal to amend the current functions of WMC had one committee hearing by far which IDIS participated. The WMC had four (4) scheduled meetings this quarter which have been rescheduled or cancelled due to other pressing activities, such as Alveo's Iron Man and unavailability of decision makers. Agenda lined up include envi tax utilization to WMC strategic plan finalization and ground delineation. | <p>ACTIONS TAKEN/NEXT STEPS</p> <ul style="list-style-type: none"> IDIS drafted a position paper to counter Dayanghirang's proposal. IDIS, as member of WMC, reiterated that the City's Watershed Code, which stipulates the roles and functions of WMC, should be enforced. The position paper has been submitted to the City Legal Office, City Administrator's Office, and City Mayor's Office. The position paper submitted facilitated the City Legal Office to release its comment on the proposed amendment. The City Legal Office supported IDIS' position that the WMC's current functions should be retained. Also, the City Administrator herself, Atty. Zuleika Lopez, |

| CRITICAL ACTIVITY | OUTPUT |
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| <ul style="list-style-type: none"> Follow-up WMC position paper on the proposed amendment. WMC budget was cut from P500,000 to P150,000 for 2018. | <p>had a meeting with IDIS to discuss the matter.</p> <ul style="list-style-type: none"> Project design was prepared and during the budget hearing, IDIS and WMC secretariat lobbied for additional budget for WMC. Local Finance Committee to provide WMC with additional P350k from the City ENRO budget appropriation for 2019. |
| 3.3 Continuous Patrolling/ Monitoring of Bantay Bukid | Output: Violators of Watershed Code penalized; ground delineation resumed |
| ACCOMPLISHMENTS | |
| <ul style="list-style-type: none"> Finalized and presented the Bantay Bukid Guidelines on their roles and functions, such as: enforcement of Watershed Code, water monitoring, biodiversity monitoring, and disaster warning and early response during the 1st Bantay Bukid Assembly entitled “<i>Panagtagbo: Local Communities as Partners in the Protection and Sustainable Management of Davao’s Watershed</i>” held last November 21, 2017. The assembly was attended by members of WMC and PSSCC. Bantay Bukid pledged their oath of commitment to protect Davao City during the said event. <ul style="list-style-type: none"> Three (3) writeshops and consultations on Bantay Bukid guidelines and protocols with PEF and CMO. Finalized the guidelines and protocols for Bantay Bukid and submitted to CMO for approval Prepared, verified, and submitted final list of Bantay Bukid volunteers Secure final letter / partnership agreement from DCWD and AAI. Bantay Bukid volunteers monitored, apprehended and reported 17 environmental violations covering 5 barangays in Panigan-Tamugan watershed with violators ranging from individual community members to plantation companies. Lobbied to Barangay Watershed Management Council and Capt Voltaire. Engracia on the importance of issuance of Barangay Permit for the cutting of trees in Davao City. Also, asked assistance from PSSCC and CENRO to orient police stations, especially those stations in watershed areas, to help Bantay Bukid in monitoring and apprehend violators of illegal cutting of trees. Mayor Sara Duterte committed P17M of ground delineation during the 6th Watershed Summit in June 2018, given that some environmental tax remain to be unutilized because they are under protest. The WMC prepared a project design for the ground delineation with the budget committed by Mayor Sara Duterte which was only approved and finalized with a total amount of P19.6M last Nov.7 2018 WMC meeting. Thus, project implementation is set to start in January 2019 and will end on February 2020. | |
| PROBLEMS ENCOUNTERED: <ul style="list-style-type: none"> WMC meetings conducted but lacked the time to discuss ground delineation issue; postponed to October 2017. MOU with Davao City Water District for their support on ground delineation has expired. Forwarded MOU through WMC Secretariat on ground delineation and other necessary attachments to CMO thru chief-of-staff Atty. Raul Nadela, for review and gather suggestions and commitments from CLO and CMO. Followed up and lobbied with DENR regarding their support for ground delineation as committed during the last IDIS-initiated CSO interfacing with DENR. One of the relatives of the violators threatened some members of Bantay Bukid for confiscating the electrofishing equipment and for filing a case in the Barangay against his relative. Delay in finalization of project design for ground delineation due to technical requirements. | ACTIONS TAKEN/NEXT STEPS: <ul style="list-style-type: none"> WMC wrote a letter to DCWD for an extension of the MOU since the support from DCWD has not yet been fully utilized. DCWD issued a certificate of no objection to the extension. Follow-up BLGU’s action on the reported incident of violation. BLGU and Bantay Bukid will conduct IEC on the environmental protection, particularly on the prohibited activities within the watershed areas. IDIS will improve existing monitoring templates for the Bantay Bukid as supporting documents for submission of violation reports to concerned agencies (PSSCC, CMO, CENRO, DENR) Bantay Bukid volunteers filed an incident report and blotter the case at the Barangay. Both parties were invited by the Barangay Council to resolve the issue. Continuous follow-ups to the WMC secretariat and Local Finance Committee which resulted to the finalization of the project design covering all the watershed areas in Davao City. Hence, the final budget increased to P19.6M from Mayor Sara Duterte’s initial commitment of P17M. |

| CRITICAL ACTIVITY | OUTPUT |
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| Critical Activity 3.4 Media Advocacy (issuance of press releases & media guesting about PT) | Output: Promotion of Watershed Code |
| <p>ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • Members of Bantay Bukid and Bantayo Aweg attended two press conferences to promote World Water Day and International Day of Forests and relayed to the media examples or cases of watershed violations they monitored. Media advisories and invites were also issued to Watershed summits. • Media mileage on watershed protection includes 24 articles on print and 16 articles online with the following breakdown: Bantay Bukid – 12 stories, Watershed Summit – 14 stories, Intervention Case on Envi Tax – 7 stories, Watersheds in general – 7 stories • There were also two 5-minute TV features produced and shown on Byaheng DO30 which entailed actual visits to Panigan-Tamugan watershed and featured initiatives of Bantay Bukid. • The Save Davao Watersheds Facebook page which is intended for all direct community interventions for Panigan-Tamugan watershed has been consistently updated with 38 social media posts | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • Delay in arrival of media who covered PTW and video interviews/shooting took longer with Bantay Bukid volunteers ending up not having lunch. | <p>ACTIONS TAKEN/NEXT STEPS:</p> <ul style="list-style-type: none"> • Ensure proper coordination next time so Bantay Bukid volunteers are prepared for lengthy interviews/coverage. • Expose and involve more Bantay Bukid and Bantayo to media events/press conferences. |
| 3.5 Conduct actual data gathering; re-hiring of researcher, meetings and public presentation | Output: Watershed Characterization Study approved by WMC, PT Watershed Characterization finalized |
| <p>ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> • Initial results of Watershed Characterization report presented during the 6th Watershed Summit which covered a myriad of land use issues particularly that the upland/forest ecosystem lacks effective on-site management. It is not being managed effectively by concerned tenure holders such as the holders of CADT and CBFMA. All these tenure holders have no functional organizational as evidenced by the absence of approved management plan with budget for plan implementation and lack of policy on recognition of individual rights of occupancy. The overlapping tenure in forest lands creates confusion on who is really the responsible manager of the area. Concerned tenure holders particularly the CADT and CBFMA holders are not well aware about their responsibilities in managing the tenured forestlands. • The study then included the following recommendations: (1) Provide assistance to CBFMA and CADT holders in placing their areas under effective on-site management starting with the preparation of management plans and crafting of policies on the recognition of Individual rights of occupancy and (2) Preparation of forest land use plan that will contain the delineation of strict protection zone and production zone in upper watersheds. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • Delay in finding a researcher that will finalize the Watershed Characterization Report. But IDIS could not compromise its quality and comprehensiveness, thus waited for the availability of a recognized expert in watershed management. • Review of draft report and additional data gathering took so long. | <p>ACTIONS TAKEN/NEXT STEPS:</p> <ul style="list-style-type: none"> • Requested for no-cost project implementation extension and worked with the researcher/contractor to finalize the report • Continue lobbying with WMC to do watershed planning in 2019 and utilize the results of watershed characterization report |
| 3.6 Participate in the actual formulation | Output: Integrated Watershed Management Plan for Panigan-Tamugan Watershed formulated |
| <p>ACCOMPLISHMENT:</p> <ul style="list-style-type: none"> • Not accomplished since this output is dependent on the results of the watershed characterization, which will serve as the main and crucial basis of the integrated watershed management plan for Davao watersheds. | |
| <p>PROBLEMS ENCOUNTERED:</p> <ul style="list-style-type: none"> • Delay in the finalization of watershed characterization. • The WMC only has budget allocation for the | <p>ACTIONS TAKEN/NEXT STEPS:</p> <ul style="list-style-type: none"> • IDIS will ensure its participation in the formulation of the Integrated Watershed Management Plan. • IDIS lobbied for funds to support the conduct of the |

| CRITICAL ACTIVITY | OUTPUT |
|--|--|
| annual watershed summit and the implementation of this under the Strategic Plan has no allocation yet. | Integrated Watershed Management Plan for PTW and Apo Agua and Davao City Water District committed to support once scheduled. |

V. OVERALL PROJECT IMPACT



Project impact in terms of the physical environment in the Panigan-Tamugan Watershed is the assisted regeneration of riparian forests, particularly focused on building the Zone 1 (Undisturbed Zone) of five (5) riverbanks in Brgys. Tawantawan, Tambobong, Wines, Gumalang and Tamugan. These riparian forests will protect the quantity and quality of our water by recharging the aquifers, preventing soil erosion and minimizing flooding.

As to the impact to our watershed stakeholders, with consistent capacity building efforts through the years, our Bantay Bukid volunteers have established their track record and reliability. Calls for increased involvement of private institutions and other watershed stakeholders have become easier with the Bantay Bukid volunteers as the face and direct beneficiaries of watershed protection in PTW. Majority of the Bantay Bukid volunteers expressed change in self ranging from improved capacity and confidence (in dealing with other people and "big personalities" like the BLGU and visitors from downtown) to change in attitude (citing becoming responsible or more positive) or specific change in behaviour (stopped hunting). A close number also expressed changes in dealing with fellow Bantay Bukid volunteers, including adjustments and learnings by being part of a group or an organization. This is noteworthy because bayanihan or collective spirit is crucial in environmental protection. The project provided a venue for the Bantay Bukid volunteers to continue practicing bayanihan and reinforced the value of cooperation, understanding and participation in environmental initiatives for conservation. Lastly, some Bantay Bukid volunteers also noted increased knowledge on and passion to care for the environment.

Lobbying for conducive policies for watershed protection essentially aims for a sustainable mechanism for Panigan Tamugan watershed, particularly the use of environmental tax for the environment. The goal

is that the Bantay Bukid volunteers are equipped to do their work in patrolling, monitoring and apprehension of environmental violations. While some taxes are still under protest, our Bantay Bukid volunteers have been recognized by the City Government and started receiving monthly financial incentives since September 2017. P17M has also been allocated for the ground delineation of conservation areas in the watershed. These are big milestones for the project even though taken from other budget sources of the City Government. Once the environmental tax can finally be accessed that will guarantee long-term continued support for watershed protection, they can be used to support our Bantay Bukid volunteers.

VI. LEARNINGS, INSIGHTS AND PROJECT LIMITATIONS

In terms of reforestation efforts, the effects of climate change particularly extreme heat and intense rainfall/flooding were observed and reported by our Bantay Bukid volunteers to have posed great challenges. Given these circumstances, the one-time validation conducted in April revealed that the average seedling survival rate is only 58%. Hence, a reliable community partner in the area is crucial for successful long-term reforestation and one willing to monitor and maintain seedlings until maturity even beyond the project term. Thankfully, for Panigan-Tamugan watershed, we have Bantay Bukid volunteers present in the area and they have demonstrated commitment in conducting maintenance and replacement of seedling mortality even without compensation.

As to the type of species planted in the core zone, our Bantay Bukid volunteers employed assisted natural regeneration to protect and nurture mother trees and their wildlings inherently present in the area. In Panigan riverbank, Bantay Bukid observed weeds grew in such a fast rate compared to other areas so these called for frequent clearing and weeding to help accelerate growth of wildlings and complemented with enrichment planting. Other riverbank areas in PTW have stones or rocky soil, so our Bantay Bukid volunteers had to compromise and chose to plant species that have the high chance of survival and easy to replace as well. For PTW, this was malibago. While it is indeed ideal to plant bamboo or at least three other species to promote biodiversity, for the strict protection zone, our Bantay Bukid saw it best to invest and focus in planting malibago. Other more diverse species including bamboo may be planted in Zone 2 or managed forest zone. This can be the focus of future projects once the core zone has been established, the managed forest zone can serve as source for additional livelihood of community partners.

After many years of building the knowledge base and skill set of Bantay Bukid on environmental laws and protection, we see that there is now a need to focus on organizational strengthening of our community partner organizations. The increasing attention, support (both financial and in-kind) pouring in to the organization and number of activities that Bantay Bukid have to be involved pose potential strain to their normal lives as farmers and as an organization. We must respond to their expressed needs for improved systems internally as a group and the prevailing sentiments of having to deal with other members' lack of or unequal work distribution in the group. After having developed a core group of active and dedicated set of officers and cluster leaders, creating second liners and exposing other members to other stakeholders must also be focused on both in the Bantay Bukid and Bantayo Aweg organizations. Future capacity building for our community partners must go beyond environmental laws to be responsive to livelihood needs as farmers.

As to watershed management policy implementation, we realized that the current Watershed Management Council (WMC) secretariat performs the WMC functions as add-on tasks and understandably could not focus/prioritize when there are other major events that the City undertakes. Hence, we have started lobbying for a staff to be assigned specifically to handle the WMC secretariat work. This will be fitting and responsive to numerous upcoming secretariat work for the Integrated Watershed Management Plan as well as the city's Forest Land Use Plan that we have initially pushed for. To improve enforcement of the Watershed Code, our Bantay Bukid identified the need for functional Barangay Watershed Management Councils and BLGU Committees on Environment. This meant

proactive effort from the WMC secretariat especially to follow up on members so meetings can be conducted more frequently to address the environmental violations reported by our Bantay Bukid volunteers on the frontlines.

Timeline of Sustained Interventions in Panigan-Tamugan Watershed

| | 2012-2013 | 2014-2016 | 2017-2018 |
|--|--|---|--|
| Reforestation Efforts | 60 has rainforestation area in the headwaters of Panigan and Tamugan Rivers which are now fully grown | 17.8 hectares planted with 12,678 seedlings were planted in the riverbanks of five barangays for year 1 and 19,000 seedlings were planted in both sides of the river for year 2 | 18.2 has planted with 11,395 seedlings in the riverbanks of five barangays in Panigan-Tamugan watershed |
| Trees planted | | Native trees planted include anitap, balite, barobo, vetiver grass, ulingon, mata- mata, guyabano, cacao, mangosteen, durian, lansones and malibago | Malibago, bamboo, tricantera narra, pasirit, bakan, abihid, lawaan, pagulingon, dao, matamata, balite, and tugas. |
| Bantay Bukid | 42 Bantay Bukid trained and 14 of them passed the DENR exam and continuously conducting regular meetings and monitoring activities | 61 Bantay Bukid active volunteers [19 additional functional community forest guards trained and recognized by the LGU] | 52 Bantay Bukid volunteers |
| Watershed Stakeholders Watershed Policies | Ground delineation of 20 kms environmentally critical areas (ECAs) identified in the terrain analysis study which became the basis of the City's Watershed Code. | | More schools and universities P19.6 M for resumption/completion of ground delineation P2,000/month for Bantay Bukid volunteers' for environmental laws enforcement |

VII. Annexes (Project outputs i.e. maps, plans, proceedings, training manuals, evaluation)

1. Community-based Water Monitoring Results
2. Watershed Characterization Report
3. UM Tree Evaluation Report
4. PYEA Report
5. Media Clippings
6. Bantay Bukid Consolidated Accomplishment Report on Enforcement of Watershed Code

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