



2022 TOP 100 GOOD PRACTICE STORY

Title of the Story: “REVIVING THE MAJESTIC DIVERSITY OF BAGO WATERSHED”

Destination Name: *(include any state, province or region)*

Bago City, Negros Occidental, Western Visayas

Country: **Philippines**

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Position: **City Mayor**

Submission category: *(Please check one of the boxes that indicates the focus of your story)*

Please find detailed information for the categories below in the Top 100 training module ‘Good Practice Story’.

- Governance, Reset & Recovery
- Nature & Scenery
- Environment & Climate
- Culture & Tradition
- Thriving Communities
- Business & Marketing

Find detailed instructions for submitting good practices in the Top 100 training module “Good Practice Story”.

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Address each aspect of your good practice story in the different sections being specific including relevant quantitative and qualitative information.

Issues faced

Bago City, the "Home of Historical and Natural Treasures" in the Philippines. The Rice Granary of Negros Occidental. Nestled at the foothills of Mount Kanlaon, with abundant pristine springs, cascading waterfalls, bountiful freshwater attractions and rich biodiversity. Part of the Philippines 7th Ramsar Site and home to the rarest and endangered Irrawaddy Dolphins. In the heart of them all is the Majestic Diversity of Bago Watershed.

Bago Watershed plays a vital role in steering the wheel of the economy of the City in particular and the entire province of Negros Occidental. It provides water for about 19,000 hectares of agricultural areas (irrigated rice lands and sugarcane plantation) and other agricultural farms in Bago and serves as the recharge area of underground aquifers which is also tapped to support more than 10,000 households for domestic and industrial water usage.

However, Bago Watershed faces a lot of issues that gravely threatens its equilibrium. Amongst them are;

- **Degrading Forest Cover** - The forest in the Conservation Area consists of lowland Dipterocarp forest in the lower part and the montane forest towards the peak. The forest shows signs of creeping degradation moving upward from the valley base of the mountain on the eastward direction particularly in Barangay(Village) Ilijan of Bago City. Various unsustainable practices such as charcoal making, and use of land for agriculture fragmented the previously close canopy forest.
- **Increasing Demand of Water and Depleting Water Supply** –The dwindling water supply for irrigation and domestic use is attributed to drought and prolonged dry spells caused by forest denudation due to illegal occupation, cultivation and extractive activities in timberland. Population growth also contributes to the increase in demand for water.
- **Flooding** – Another serious issue is flooding in low -lying areas and riverbanks during rainfall events. This is believed to be caused by forest degradation, poor drainage system, siltation of water ways and increasing urbanization.
- **Conflicting & Inappropriate Land Use** – Some glaring observations are the proliferation of game fowl farms and upland cultivation , notably “Kaingin” (Slash and Burn) farming in the forested areas.
- **Water Pollution** – Improperly disposed domestic, agricultural and industrial waste are the culprit behind the deterioration of surface and groundwater quality in the Bago Watershed. Potential sources are household and market generated waste, agri- chemicals and industrial effluents.
- **Public Apathy for Environmental Conservation** – the perception of the public that environmental conservation is a responsibility of the government alone, results to low support and involvement from residents and stakeholders.
- **Limited Livelihood Opportunities** – Local communities of Bago City are dependent on the traditional forms of livelihood which are mostly extractive and not sustainable.





Methods, steps and tools applied

To protect, conserve and rehabilitate the watershed, the City Government of Bago mobilized its resources and strengthened community involvement through **Integrated Ecosystem Management Approach (Ridge to Reef Environmental Management)** that involves:

- **Agroforestry in the Alienable and Disposable Lands** – increasing the forest cover of the watershed at the same time providing sustainable sources of income, livelihood, subsistence needs and support services to forest occupants. This initiative started in 2015 and is still ongoing. Forest protection and rehabilitation helped in improving biodiversity, microclimate and water quality and quantity. It alleviated downstream flooding, improved soil stability and arrested further soil erosion.
- **Assisted Natural Regeneration in Mount Kanlaon Natural Park** – started in 2012 (and still ongoing), this community based forest management was initiated by the members of the Kanlaon Green Brigade- the forest wardens of the Mount Kanlaon Natural Park. This increased the density of the forest.
- **Forest Law Enforcement and Protection Activities – Patrolling Activities, LAWIN (Landscape and Wildlife Indicator System) Patrolling & Forest Monitoring System, Deputation of Local Volunteers as Environment and Natural Resources Enforcement Teams (Kanlaon Green Brigade & Bantay Katunggan/Mangrove Wardens)** – These protection efforts involve 3 things, 1. Deputizing additional forest protection officers, 2. Intensifying surveillance, patrol and monitoring of illegal activities and 3. Apprehension of violators. This is an ongoing collaboration of the Local Government Unit, the Department of Environment and Natural Resources and USAid that started in 2016.
- **Regulation of Quarry and Mining Activities** – The establishment of local regulation in 2007 through Provincial Tax Ordinance 2001-01 and later was included in the enacted City Environment Code particularly regulating quarry and mining activities, necessitating conduct of inspection prior to issuance of indorsements, permits and licenses.
- **Waste Management and Pollution Control** – Since 2006, the City implemented the KABA HIN KA Program reinforcing Republic Act 9003 or the Solid Waste Management Act of 2000, Republic Act 8749 or the Clean Air Act and Republic Act 9275 or the Clean Water Act through local ordinances like institutionalizing the Regulation on Single Use Plastic pursuant to City Ordinance 20-12. This is a city-wide intervention encompassing constituents in its 24 Barangays (Villages).
- **Awareness Campaign on Environmental Protection**- institutionalized incentives and awards system such as Inter- Barangay (Village) Clean and Green Contest, Inter-School Clean and Green Contest and Inter- Office Clean and Contest that started in 2006 and is still ongoing. The City holds an annual awarding ceremony for the program.
- **Capacity Development for Stakeholders** – The Trainings, Environmental Summits and Workshops that had been existent way back since the inception of the Local Government and was institutionalized and strengthened in 2006 with the assignment of an





Key success factors

- **Sustainability of the Program**
 - **Good Governance and Political Administration – The Local Government Unit executed ordinances pursuant to National Laws as follows;**

Title of Local Ordinance	National Law
City Environment Code as Amended in 2021	Clean Air Act, Clean Water Act, Solid Waste Management Act, Mining Act, Forestry Code, National Integrated Protected Area System Act, Mount Kanlaon Natural Park Law, Hazardous Waste Management Act
City Solid Waste Management Ordinance	Solid Waste Management Act of 2000
An Ordinance Regulating the Single-Use Plastic	Solid Waste Management Act of 2000
Local Tourism Code	Tourism Act of 2009, Local Government Code of 1991
Marine Protected Area for Diwal (Angel Wings) and Irrawaddy Dolphins/Fishery Reserve Ordinance	Fisheries Code of 1998
Comprehensive Land Use and Zoning Ordinance	Local Government Code of 1991

- **Effective Capacity Development Programs**

Trainings	Participants
Smart LAWIN Biodiversity Patrolling/Monitoring	Kanlaon Green Brigade, Upland Barangays Officials
Community Based Environmental Law Enforcement Training	Deputized Environment Officers
Project Presentation and Orientation for Multi-Partite Ecologically Balanced Sustainable Agro-Forestry Project (MEBSAP) Beneficiaries	Upland Barangay Officials and Farmer- Beneficiaries
Community-Based Information and Education Campaign on Environment, Agriculture, Tourism and Trade	Local Residents
Highland Farmers Field School	Highland Farmers Associations
Agricultural Extension Programs Training	Farmers and Farmers Associations
Climate Resilient Agriculture Trainings	Farmers and Farmers Associations





○ **Community Involvement and Stakeholders Support**

Programs	Stakeholders
Multi-Partite Ecologically Balanced Sustainable Agro-Forestry Project (MEBSAP)	Upland farmer-beneficiaries/Local Government Unit/Civil Society Organizations
P4WatEr or the Partnership for Water and Economic Resilience and USAID Safe Water Project	Coca Cola Foundation Philippines through its Agos Program in partnership with USAID Safe Water Project and implemented by Multi-Sectoral Alliance for Development Negros
Mangrove Reforestation Activities	Local Government Unit, National Government Agencies, Civil Society Organizations, Academe, Religious Groups, Business Groups
The Sustainability of Marine Protected Areas for Irrawaddy Dolphins in the Coastal Areas of Bago City and Pulupandan	Center for Research and Engagement-University of St. La Salle, Local Government Unit, Bago City College, Local Fisherfolks of Bago City and Pulupandan
Bago River Water Quality Monitoring	Environment Management Bureau, Local Government Unit, Non-Government Organizations, Business Sectors
Agricultural Extension Programs	Farmers Associations, Barangay Officials, Local Government Unit, Agricultural Extension Workers
Agritourism Program	Farmers, Farmers Associations, Barangay Officials, Local Government Unit

- Sound planning, implementation, monitoring and control of the programs
- Regulation and Enforcement – Environment Task Forces (Kanlaon Green Brigade & Bantay Katunggan/Mangrove Wardens) patrol, monitor compliance and apprehend violators. The fines and penalties collected form part of the City Treasury.
- Recognition and rewards system –
 - Annual Clean and Green Evaluation
 - Nomination of Awardees to Provincial Environmental Awards
 - Incentives and Awards System for Farmers, Tourism Stakeholders, Academe, Business Sector and Barangays





Lessons learned

In reviving the rich biodiversity of Bago Watershed, these are the lessons learned by the Local Government;

- Conservation and protection of natural resources are the key drivers of the economy. Thus, its regulation and enforcement should be consistently implemented to instill the desired culture. The Integrated Ecosystem Management Approach involves a city-wide program. Its implementation from the level of the basic government units (Barangays/Villages) rippled its coverage down to the communities and deeper into the households. The process has been painstaking in each aspect of this approach but is truly rewarding as we witness each tree or mangrove that was planted years ago is now naturally growing and abundantly regenerating, as each “extractor” is being converted to a “protector” thru the Multi-Partite Ecologically Balanced Sustainable Agro-Forestry Project (MEBSAP) and as every consciousness of our communities are redirected towards sustainability through their hands-on involvement in various programs and projects designed in the direction of protecting the rich biodiversity of the Bago Watershed. Collaboration is also a big factor that enriches the Integrated Ecosystem Management Approach and brings it to every level of the society.
- Stakeholder commitment is a major factor in the implementation of the program and the degree of empowerment and resiliency differs from person to person. Thus, to encourage involvement and empowerment, the Local Government Unit introduced various Customized Capacity Development Programs and well thought of Community Based Activities that are designed to develop the community’s “pride of place”.

Results, achievements and recognitions

- Based on 2003-2010 National Mapping and Resource Information Authority (NAMRIA) Land Cover Map, mean forest degradation or the conversion of close canopy forest to open canopy forest is about 163 hectares per annum. Minimal forest gain was also noted in the area which account to a total of 184 hectares in the same period. Larger forest gain was noted in the adjacent alienable and disposable (A & D) lands.
- Increased in the yield of rice production from 114,121 metric tons in CY 2017 to 119,528.36 metric tons in CY 2018 and 123,048.01 metric tons production in 2019 which earned the City the recognition as the Rice Granary of Western Visayas in the Rice Achiever’s Award from the Department of Agriculture.
- About 300 farmer - beneficiaries and their families availed of the Multi-Partite Ecologically Balanced Sustainable Agro-Forestry Project (MEBSAP) which provided upland communities an environmentally- sustainable livelihood and better income and converted them from “extractors” to “protectors”, saving the remaining forest of Mount Kanlaon.





- 179 Hectares of upland farms were converted into sustainable agro-forestry areas, increasing the City's forest cover.
- Bago City was included in the Negros Occidental Coastal Wetlands Conservation Area, in which Bago City is an active member, was recently declared as the 7th Ramsar Site (Wetland of International Importance) in the Philippines.
- Negros Occidental Coastal Wetlands Conservation Area (NOCWCA), in which Bago City is an active member, received the Top 10 Galing Pook Awards in 2021.
- International partnerships in environmental conservation creating the following linkages with : USAID,
- Bago City was declared as part of the East Asian-Australasian Flyway for Migratory Birds in January 2017.
- Irrawaddy Conservations efforts between the Local Government Unit and
- Bago City earned the following environmental awards;
- 1,022 Apprehensions from 2013 – 2020 which corresponds to an amount of P 155,200.00 as collection.

Additional references

These are some public videos on Youtube that is relative to this Best Practice Story. An official video and the photos required for this best practice story is sent through email for your reference.

Link on DENR FASPS Official Youtube page Ang Pagbabagong Kapaligiran ng Bago River Watershed

<https://youtu.be/iYj60hvQzGU>

Link on Kabuhi Sa Bago Youtube page on Kabalo Bala Kamo – Bago River.

<https://youtu.be/lYMn48ZXOpY>

Link on Kabuhi Sa Bago Youtube page on Kabalo Bala Kamo – Best of Environmental Governance

<https://youtu.be/cYVceeRRZbw>

Link on Kabuhi Sa Bago Youtube page on Kabalo Bala Kamo – Best of Bago Tourism

<https://youtu.be/6nrJTCh93kw>

Link on Kabuhi Sa Bago Youtube page on Bago River Virtual Tour

<https://youtu.be/8WeQ4KP79aM>

Link on Kabuhi Sa Bago Youtube page on Bago Agritourism

<https://youtu.be/mhKjpKZqaHY>

