



DAF NEWSLETTER 2022

One decade of conservation in Mindoro with the Community – Tamaraw Driven Landscape Program

INSIDE THIS ISSUE:

1. The Community - Tamaraw Driven Landscape Program at a glance	2
2. Research work on species and habitat	3
• Tamaraw population monitoring at Mts Iglit-Baco Natural Park	3
• Aruyan-Malati: a tamaraw population on the decline	4
• Mt. Calavite Wildlife Sanctuary: still no signs of Tamaraw	5
• Effect of the covid pandemic – stressing to resume protection efforts	5
3. Bio-cultural landscape approach with local indigenous communities	6
• Creating a sustainable landscape for the Taobuid and the tamaraw in MIBNP	6
4. Meetings, workshops and events	11
5. Partners and collaboration	
6. How we work and Who we are	12



DAF MESSAGE OF FOUNDER AND PRESIDENT

It was 10 years ago that Emmanuel Schütz, “Manu”, knocked on the door of my office, in Manila, to talk about the conservation issue the tamaraw was facing in Mindoro and the help the rangers and the DENR needed to protect the species.

At that time, I was managing an energy company in the Philippines, and just completed what will remain the project I am the proudest of in my professional career. The PRES project, for the Philippines Rural Electrification System and financed by the French government, despite tremendous challenges, provided basic electrical power needs to 132 Barangays and 18,000 households in the Island of Masbate, one of the poorest provinces of the country.

Of course, the pitch of Manu rang a bell, as it totally matches the goal and interest of the Foundation I created a decade earlier for that purpose. Coincidentally, I had just been rewarded by the Vice Governor of Mindoro Oriental with the “Gawad Tamaraw” recognition for various actions DAF launched in Mindoro.

I committed to support his endeavour, first by providing a legal structure for the program that was still a draft at that time. Since then Manu and I are working to preserve and enhance the cultural and natural heritage of the Island of Mindoro.

To my great satisfaction, the program has gained in confidence, size and impact with numerous national and international partners joining us in our journey. I am proud of these 10 years of work together and for all the results we have been achieving.

To all our partners and loved ones, we wish for 2023 to be a blessed year, full of hopes, fulfilments and good health!



H. d'Abville
Hubert d'Abville

THE COMMUNITY - TAMARAW DRIVEN LANDSCAPE PROGRAM AT A GLANCE

by Emmanuel Schütz, Program director

Originally built towards the conservation of the critically endangered tamaraw, the program has expanded its scope and vision to embrace a holistic approach at the landscape level.

Goal of the Program:
 To create, preserve, restore the socio-environmental conditions in order to:

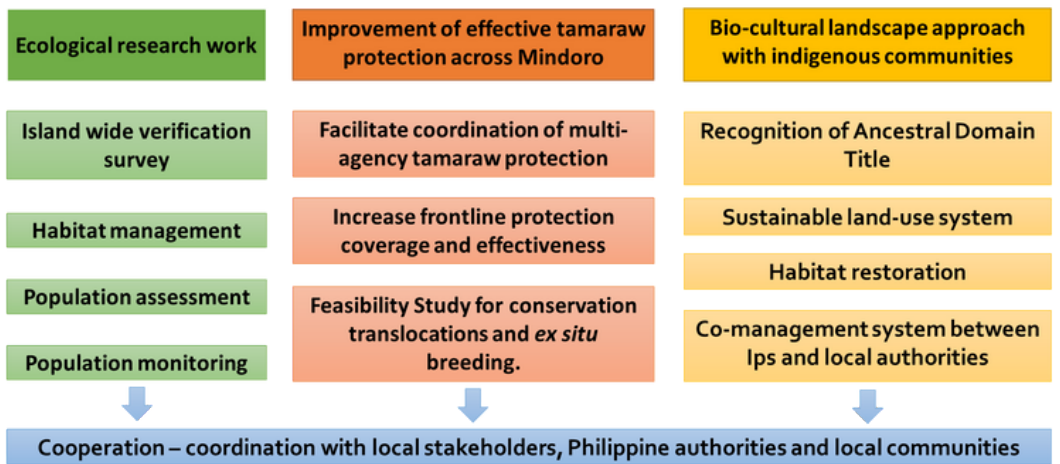
- (1) Expand Tamaraw populations across Mindoro and ensure long term conservation of the species and the habitats it can be found
- (2) Enhance the well-being, food independence and self determination of the indigenous communities sharing their living space with the tamaraw



Vision

- (1) The Tamaraw is not anymore considered as Critically Endangered
- (2) Sustainable landscape enable communities and wildlife to thrive

Strategic approach of intervention



Main milestones in the past years:

- Tamaraw Population and Habitat Viability Assessment workshop 2018
- Tamaraw Conservation Management and Action Plan (2021-2030)
- Protected Area Management Plan for Mts Iglit-Baco Natural Park (2021-2025)

RESEARCH WORK ON SPECIES AND HABITATS

Tamaraw population monitoring at Mts Iglits-Baco Natural Park

Completing the fourth operation using distance sampling of dung transect

A lot of efforts were used in the past two years to test and develop alternative methods to monitor the tamaraw population restricted within 2500ha in the area of the Park sharing boundaries with the Taobuid ancestral domain. This population is the largest of Mindoro with 400 animals according to the last annual tamaraw population counts, a census operation conducted by the local authorities every April. This operation requires the prior burning of the grassland in order to facilitate spotting animals in new grass shoots. This intrusive practice was criticized during the PHVA, leading to plan its phasing-out, and therefore making the current census method to become obsolete.

On that matter we tested a non-intrusive method based on indirect signs of presence: tamaraw dungs. Last April, we conducted the fourth replication of distance sampling using dung transects. This operation happened just after the annual count to enable establishing comparison between the estimated abundance of animals and the density of dungs. Once again, the method was combined with the dependent double observer estimator, a technic that measures the probability of detection of dungs and therefore corrects the related density. Our results indicate that dung transect could become a relevant alternative method to monitor tamaraw at MIBNP as it can be applied at any season and in any type of habitat; a crucial factor as animals would become less detectable while the natural vegetation takes over the grassland in absence of fire regime.

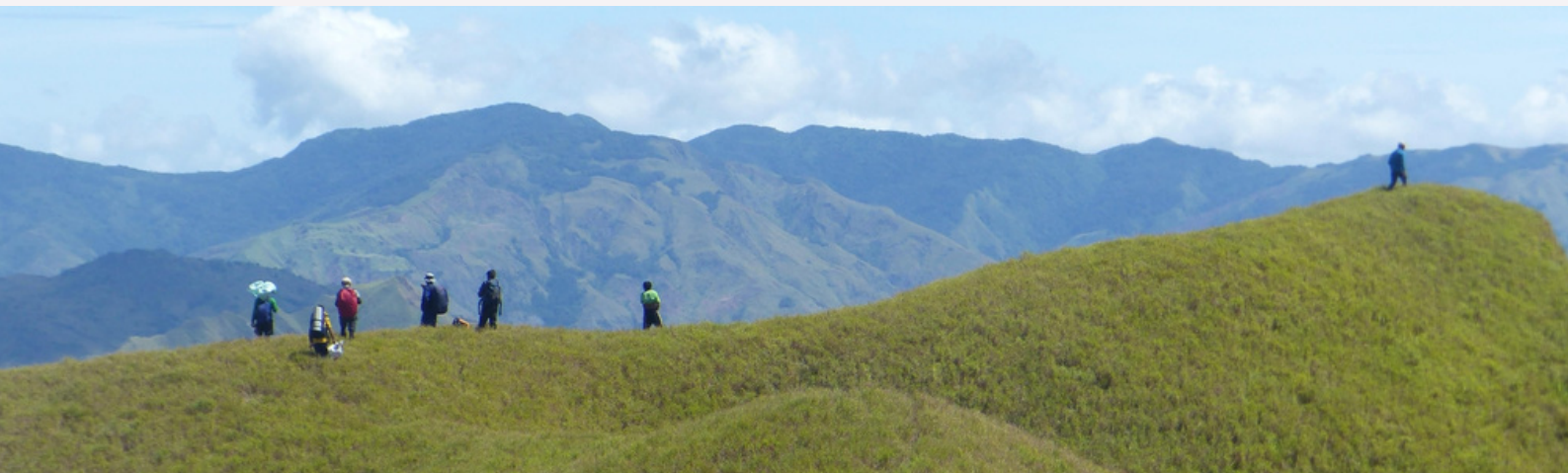
New Tamaraw estimate at Mts Iglit-Baco Natural Park – a population much smaller than thought

In parallel to completing our experiment for dung transects, we conducted a thorough evaluation of the current method used during the annual tamaraw population count in the past 20 years. The conclusion is that the tamaraw population has been overestimated inside the count area for the past decade or more, mainly due to bias related to the simultaneous multi-vantage point count method; most errors occur during the consolidation process that teases apart possible multiple counts. Subsequently, we also carried out a tamaraw population count using the independent double observer estimator in order to correct the bias of such population count based on direct observation. **Our finding suggests that the number of animals roaming inside the count zone might be closer to 200 animals and not 400 as the annual count is returning.** This finding is quite critical as it drastically lowers the total population size of the species in Mindoro and calls for a re-evaluation of the population models used during the PHVA. More importantly, this finding doesn't contradict the conclusion of a previous study claiming that this tamaraw population has reached carrying capacity, with a growth rate already declining. These results are emphasized in the scientific paper that we published with our partners in *Animal Conservation: Cast away on Mindoro island: lack of space limits population growth of the endangered tamaraw*, (Bonenfant & al. 2023).

These findings substantiate the absolute need to increase the range of the species in order to enable the population to grow again. This is the aim of the third pillar of the program, working hand in hand with the residing Taobuid communities and Park authorities, exploring ways to create a larger "tamaraw safe zone" based on customary laws.

12°41'9"N, 121°4'56"E
accuracy: 3m





Aruyan-Malati: a tamaraw population on the decline:

Last May 2022, we completed the two years occupancy survey design, using camera trap technology in the Aruyan-Malati region. This region is sheltering one of the other tamaraw populations located outside Mts Iglit-Baco Natural Park. Fifteen camera traps were first deployed for five months in 2020, covering 80 locations and 700ha inside the Aruyan-Malati region in the Municipality of Sablayan. It was followed by another deployment of 20 devices for another five months in 2021 in order to complete our sampling area. A total of 1000ha were assessed that way. The Aruyan-Malati region was known to shelter a substantial tamaraw population in the 1980s. This is indeed where around 20 animals were captured in order to establish the tamaraw gene pool farm, an initiative that originally aimed at creating a safeguard population, but proved inadequate to reproduce animals in captivity. Kalibasib, one of the only tamaraw that was born in captivity died in 2021 of old age. By 2016, the population at Aruyan-Malati was estimated to be no more than 15 animals, calling for urgent actions as stated in the TCMAP; the first being to build a proper baseline data on this small population.

The findings of our research sustain the above concerns. Our results show that this population is indeed reduced to a very little number of animals, but more alarming is the very restricted range where the animals can be found. The occupancy polygon, meaning the core area of presence of the species is indeed not larger than 300ha. One can imagine that this population is not viable and doomed to disappear in the close future if nothing is done urgently. The positive point is the confirmation of active reproduction, thanks to the picture of a juvenile tamaraw, bringing some hope for possible successful intervention.

Other relevant and poorly studied species were found in the area, including the Black-hooded coucal (*Centropus steerii*) and the Mindoro warty pig (*Sus oliveri*).

Our findings contribute to the documentation required for the proclamation of this area as “**critical habitat**”, a protection category under Philippine’s laws, lower than protected area but involving local government units and local communities.



Mt. Calavite Wildlife Sanctuary: still no signs of Tamaraw

In 2022, we continued providing technical expertise to the “Multidisciplinary Approaches for Tamaraw Protection Against Threats” or MATAPAT project. This project is implemented in collaboration with our partner from “IcoLabb” at the University Santo Tomas (UST). Despite a thorough occupancy survey design using camera trap technology, no images of tamaraw were captured yet, but relevant information was captured from other charismatic species, like the endangered and endemic **Mindoro warty pig**. Let’s hope that a positive encounter will be confirmed in the coming months while the team completes the study.



In parallel to the field research, the project MATAPAT aims to build suitability map models, using machine learning, to establish maps of the most suitable and probable areas for tamaraw presence across Mindoro. Two approaches are currently being tested; one focuses on the bioclimatic parameters and another one that integrates socio-ecological factors in determining the locations best suited for the tamaraw.



Effect of the covid pandemic – stressing to resume protection efforts

We are progressively evaluating the impact of the covid pandemic period on the species. Rangers were patrolling less during this period due to lock down as well as restrictions, to limit the propagation of the virus among local communities living near tamaraw areas. This has first reduced the amount of data available about illegal activities and the species and second, lowered the deterrence effect of ranger’s presence. While the impact of lesser ranger presence cannot be measured precisely, the general feeling is that poaching by outsiders from the lowlands has increased during this period, adding a toll on the species’ population.

DAF and its partners from ReWild and the Zoological Society of London (ZSL) are aiming to address this problem by increasing technical support to local stakeholders through a island-wide tamaraw protection work plan of action.

BIO-CULTURAL LANDSCAPE APPROACH WITH LOCAL INDIGENOUS COMMUNITIES

Creating a sustainable landscape for the Taobuid and the tamaraw in MIBNP



How to engage with indigenous communities that are neither eager to interact, nor share insights into their lifestyle and don't see a problem where you believe there is, while state-made policies will definitely impact them whatsoever. This is the challenge we are facing in working with upland Taobuid communities living where all the tamaraws can be found inside Mts Iglit-Baco Natural Park.

Many accomplishments were achieved in 2022 thanks to the activities supported by the **UK Fund of the DARWIN Initiative**, building slowly the foundation of a sustainable socio-ecological landscape.



One step closer to the Certificate of Ancestral Domain Title (CADT):

Thanks to the amazing job and never-ending perseverance of Nina, our Community Outreach Officer, we are getting closer to completing the ground delineation of the boundaries of ancestral domain of the Taobuid. She has been working closely with the Provincial staff of the National Commission for Indigenous People (NCIP), ensuring that this crucial step is not put below the basket of priorities of the local authorities in charge. The delineation, together with the ethnographic documentation that was provided earlier in 2022 by DAF, is part of the information that was missing to complete the process.

Once delineated and validated by the geodetic engineer in charge, the NCIP will be able to send the complete CADT application file for approval to national level. We are keeping our fingers crossed that this will be achieved in 2023.



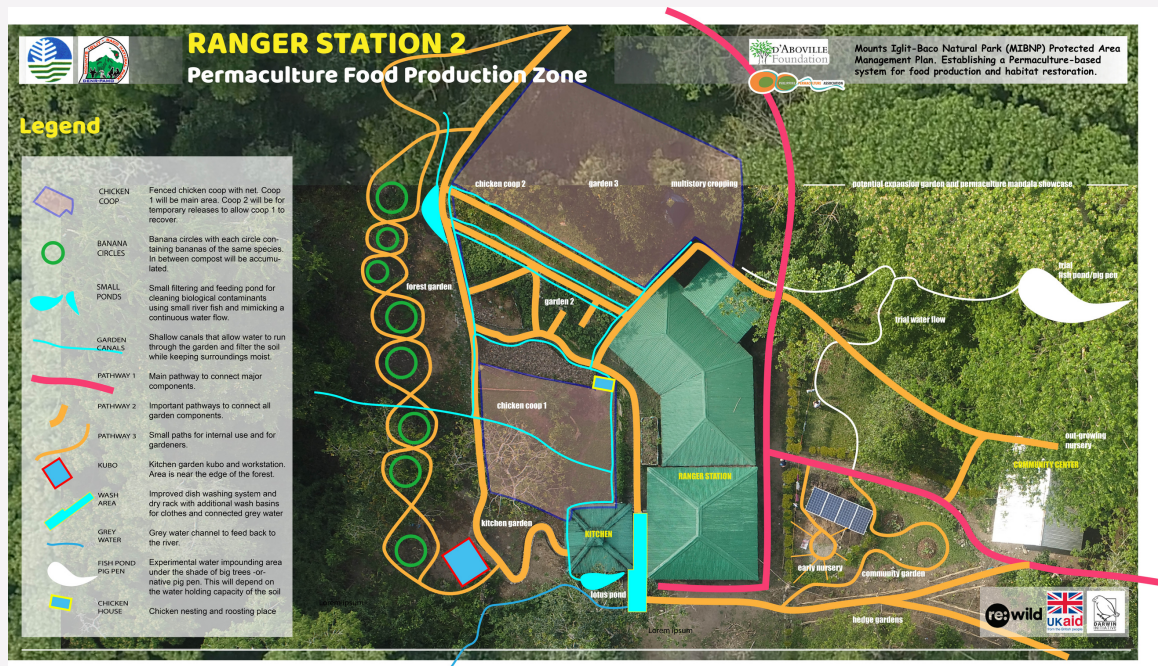
Our para social-sciences officers on the test:

Our team of para anthropologists, a mix of DAF staff, Taobuid, and Park staff have been keeping on their journey in social-sciences to learn how to better approach and understand the secretive lifestyle of the upland Taobuid communities. In 2022, we explored the theme of “kinship” and its socio-political implication thanks to a dedicated lecture and discussion session with Elisabeth Luquin, a French anthropologist, who accepted this volunteer task. Elisabeth conducted her PhD about the Hanunuo Mangyan of Mindoro three decades ago. Since then, the Mangyans and the Philippines have been a part of her life, making her fluent in the Hanunuo language and one of the sole Tagalog teachers in France.



After kinship, the team continued building its skills in the field of social-geography, learning to analyse aerial maps, geographical data and to use Google Earth and mapping software with Julia Tichit, a French social-geographer who conducted her PhD in the Philippines, studying urban agriculture in Metro-Manila, a few years ago. Julia is providing consultancy expertise to DAF, helping us to structure the consultation process with the communities and analyse their land-use system. Equipped with these new skills, Diego, our Field Technical Officer and member of the Taobuid community residing at the entrance of the park, ran the mountain to locate and delineate the kaingin plots and hunting territories of Taobuid living near tamaraws. He then encoded the GPS data on a geographic layer, enabling us to better understand how the upland communities structure their landscape.





Our permaculture journey at Station 2 base camp is taking shape:

The station 2 ranger’s base camp is located four hours hike from the Park’s entrance, at the foot hill of Mt Iglit and adjoins the 2016 “No Hunting Agreement Zone” where most tamaraws can be found today. It lies within the territories of Taobuid communities experiencing a progressive transition of their traditional lifestyle due to their proximity to rangers and visitors using the station. This makes it the best location to experiment new models and launch innovative initiatives of farming and habitat restoration.





Thanks to the coaching of Bert Peters, our consultant in permaculture, Cleo and Fransly, our two Permaculture Implementing Officers, are progressively reshaping the area surrounding the bunkhouse at the station towards a productive and blooming food garden. They are exploring the diversity of vegetables produced or exchanged with residing Taobuids to enhance the daily meals of everyone and inspire new recipes for cooking local products.

In the 5ha of the so-called “Landing area”, plantation has been keeping on in the dedicated food forest component. Various varieties of fruit trees, perennials, and root crops have been planted to slowly out-compete the cogon grass (*Imperata cylindrica*). The aim of these two systems is to enable the rangers to feed from locally produced resources thus reducing food expense from their salary and amount of trashes at the station.



Another area of the landing is being devoted to a restoration component, where forty-two mounds have emerged by piling up decaying tree logs, organic material, and soil. Rings of trees were planted in these islands of biomass to progressively restore tree cover in this dry, denuded grassland plateau. Survival rate is being monitored on a regular basis to learn from practice what species, seedling size, weather conditions, and other factors are optimal. This experiment is combined with trees promoted through assisted natural regeneration (ANR) in between mounds. Both protocols will then be compared between each other and with the control area where no intervention is being done to enable natural regeneration of pioneer trees.

Finally, but not least, a 60m-long fire break has been created to demarcate the Landing restoration area from the Taobuid territory, so as to prevent fire set by communities on the slope of Mt. Iglit to reach the experiment. The stripe was complemented by a line of banana trees. The fire break will be put on test at the next dry season.

We hope that entire permaculture based system, if successful, could be a source of inspiration and a demonstration to residing Taobuid for testing new land-use techniques that could diversify the landscape, reduce the use of fire and help them recover food security, something that is being challenged lately since rice is becoming prominent in their diet.

Crafting a system of cooperation between the Park’s authorities and the Taobuids – the Community Conservation Plan (CCP)

One of the main concerns of the Taobuid elders is the progressive erosion of the traditions and culture among the young generation of their ethno-linguistic group. Despite their earlier reluctance to allow outsiders to document their lifestyle, they now see the need to have their cultural identity documented to preserve their cultural heritage. In addition, recurrent issues rise between Taobuid and the rangers due to discrepancies in different laws of the state related to IP rights and the need to conserve protected species.

These concerns will structure the **Community Conservation Plan or CCP**, which the DAF team is currently formulating, working hand in hand with the Park office and Punong Tribo Fausto Novelo, tribal leader of the Taobuid. Though this legal framework is called a plan, our approach is to build a document that is practical and makes sense with the world view of the Taobuid, while finding convergence between the state regulations and the customary laws of the Taobuid. It will contain three major components:

- The Taobuid **IKSP or Indigenous Knowledge System and Practices** will elaborate on the way Taobuid use and see their land in areas surrounding the Strict Protection Zone.
- The formulation of a consensual mechanism aiming at avoiding or solving conflicting situations between the Park office and Taobuid due to misunderstanding, miscommunication or lack of information on each-other activities/initiatives;
- The modality of use of a **“tamaraw reproduction Zone”** combining both customary laws and state regulation will be the cornerstone strategy to expand the safe area of presence of the species beyond the Strict Protection Zone and where the animals could safely disperse and reproduce. This would literally double the potential distribution of the species in areas where rangers could conduct patrols and monitoring. This shall enable us to address the problem of density dependence that the species is currently facing.



MEETINGS, WORKSHOPS AND EVENTS

Partner's visit

After two years of travel constraints, our international partners were finally able to visit the Philippines once again in 2022.

Mike Appleton, director of protected area management at Re:Wild opened the dance in May to catch up with the DARWIN Initiative activities he is supervising. The attempt to climb to the Park and find out what we are doing at Station 2 base camp was aborted due to the presence of the military in the area, reminding us that we were in a national election period.

His perseverance was awarded during the second visit in November, together with his colleague Andrew Tilker, Asian Species Officer at Re:Wild who were also rewarded for their effort by nice observation of the tamaraw.

The support and advice of Mike are crucial in our journey working with national authorities and local communities, while Andrew is of precious help to the various ecological research works we are conducting in Mindoro.

Finally, James Burton, Chair of the IUCN-SSC Asian Wild Cattle Specialist Group made a quick jump to Manila from Indonesia to attend a meeting with the new DENR Regional Director for Mindoro. This was the opportunity to open discussion with our local partners and stakeholders on the plan of support and activities for 2023. James has been a partner and supporter of the program from his very beginning, helping it to reach the credential and scope it has now.



Partners meeting with DENR Regional Director for Mindoro



Presenting poster at the BCSP symposium

The Philippine Biodiversity Symposium is back on stage

Last December 2022, we were happy to, once again, physically attend the annual symposium organised by the Biodiversity Conservation Society of the Philippines after two years of online version. We contributed to the event with three oral presentations (New estimate of the tamaraw population at Mts Iglit-Baco Natural Park, Mindoro, using the double observer estimator- Consequence in terms of conservation; Merging National Legislation and Indigenous Customary Laws to Manage Landscape and Preserve Wildlife inside a Philippine ASEAN Heritage Park; and Assessment of small tamaraw sub-population in Mindoro using camera trap technology – the case of Aruyan-Malati) and two posters (Supporting the Application for Certificate of Ancestral Domain Title of the Taobuid Indigenous peoples sharing borders with an ASEAN Heritage Park and What camera trap survey teaches us about local biodiversity in Mindoro), thus covering a large spectrum of our program's updates.

The symposium is always a pleasant opportunity and friendly venue to meet conservation enthusiasts from various organisations and academics and to create new links.

Sharing our vision at the 5th Philippine Permaculture Convergence event

Program Director E. Schütz was invited to share his vision, work and results on how to build sustainable landscape at the Permaculture Convergence event organized by the Philippine Permaculture Association. The whole team made the trip to the Hiraya Farm and Resort in Oriental Mindoro where they met and exchanged with other permaculture enthusiasts.

Beyond the Philippines

Fernando, DAF Conservation Research Officer, attended the IUCN Pig Specialist Group's symposium in Barcelona where he presented some results and finding about the Mindoro Warty Pig from the two camera trap surveys.



DAF team at the Philippine Permaculture Convergence event

Partners and collaboration

DAF is grateful to welcome the **Zoological Society of London (ZSL)** as a new partner in our journey in Mindoro. ZSL is supporting the program both financially and by being a key partner to implement the work plan of activities for an island wide protection effort across Mindoro, which will start in 2023. In addition, we wish to thank the **ZGAP, AFdPZ and Berlin Tierpark** for their continuous support and trust in our work for so many years, as well as the **Mohamed Bin Zayed Conservation Fund** to support us once again this year.

In addition, we wish to highlight the noteworthy scientific contribution of **Dr. Christophe Bonenfant**, of the **French Centre for Science and Research (CNRS)** in analysing our ecological data and in formulating with us the technical reports and articles. Finally, we greatly thank **Mr. M Montesano** for his annual donation to the cause.

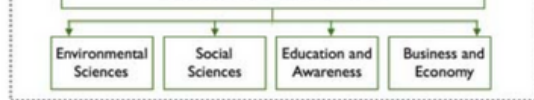


How we work

APPROACH AND STRATEGY OF ACTION



OUR FIELDS OF EXPERTISE



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WHO WE ARE

The D'Aboville Foundation and Demo Farm, Inc. is a French-Filipino non-profit, non-government organization established in 2004 to work with the indigenous Mangyans, environment, and eco-cultural tourism in the Island of Mindoro in the Philippines.

The Foundation has four principal platforms of action:

- alleviation of poverty and the preservation of the cultural heritage of the Mangyan indigenous people
- the protection of the environment and biodiversity;
- development of sustainable agriculture and organic farming practices;
- uplifting of the community through responsible tourism and eco-friendly development.

OUR VISION

The unique natural and cultural heritage of the Island of Mindoro is preserved for future generations and the well being of its people is enhanced.

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