

## Research Article

# An Asset-based Community Development (ABCD) Approach to Integrating Natural Capital as Touristic Assets

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## About Article

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## ABSTRACT

Touristic assets, whether natural, cultural, human, social, built, or political are the backbone of tourism development. They attract visitors and make the destination a unique one. Now, more than ever, the community is considered an exceptional touristic asset. They are the capital of community-based tourism (CBT), an alternative route to mass tourism development. Anchored with the path of a resource-focused approach called the Asset-based Community Development (ABCD) framework, this ethnographic study discovered the natural capital of select indigenous sitio in Panaytayan, Mansalay, Oriental Mindoro, Philippines. Connecting the dots between touristic assets, CBT, and ABCD, this study strengthens the significance of the bottom-up approach in tourism development- a growth perspective from the inside out. Mapping and observation were done to explore the unexplored beauty of the community through team fieldwork. The study reveals that the community has a wide array of flora and nature-based destinations that served as the community's means of survival and shaped their livelihood.

This study supports the importance of gauging the community's assets to help them become self-sufficient. The result of this mapping urged the researchers to propose an eco-drive capability training program to protect their natural capital not solely for tourism but more for environmental sustainability, especially for younger generations. It is also recommended to strengthen the role of ABCD through inclusive community participation and asset mobilization. Forthcoming researchers may go beyond the natural capital by showcasing intangible assets like traditional crafts, storytelling, indigenous practices, and local cuisine to deliver experiential memories as potential tourism draws.

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## 1. INTRODUCTION

The community is a vulnerable part of the tourism industry (Campo, 2024). They are susceptible to advances and negative effects of tourism activities. Sometimes, the community is used as a resource for tourism progress and therefore part of the attractiveness of a destination. These resources are called touristic assets which are the backbone of tourism development. These assets can be natural, such as beaches, mountains, and forests, or man-made, such as historical sites, museums, and theme parks. They draw visitors to a destination and generate revenue for the local economy. Touristic assets are the capital of community-based tourism (CBT), an alternative approach to mass tourism development. CBT starts with an initiative made by and for the holistic benefit of the community. The development in the community can be top-down or bottom-up. There are numerous debates on the effectiveness of the two. A top-down approach is used when external stakeholders relay community development plans and the community will follow and implement them. The bottom-up approach to tourism development is beneficial since it emphasizes the urge to be included in the development of the host community and initially expresses its involvement and willingness. This paper aimed to determine the natural capital of the adopted sitios of the AWATI Ti-Kape Community Development Program Tourism group, a research-based community development program spearheaded by Mindoro State University and the Municipality of Mansalay. The Bachelor of Science in Tourism Management remained steadfast and relentless in achieving its objectives. In addition to nurturing globally competitive graduates, this program is not only mandated but committed to delivering its high-quality education through a multifaceted approach that encompasses rigorous instruction, cutting-edge research, innovative production methods, and impactful community outreach, all of which are seamlessly integrated into the objectives of this paper. The Faculty of Tourism Management embarked on a profound community immersion experience, which provided invaluable insights into the current circumstances of the local communities in these regions. Despite the promising tourism prospects in these areas, it became evident that the indigenous communities lacked the necessary knowledge and skills to effectively manage their natural tourism sites. This lack of management know-how represents a significant obstacle to their overall development, which could otherwise substantially enhance their quality of life, all while preserving their cherished culture and traditions. This compelling realization served as the driving force behind the proponents' decision to propose conducting this paper. AWATI-Ti Kape Team is a research program organized by the faculty members of Mindoro State University (MinSU)-Bongabong Campus in collaboration with the local government unit (LGU) of Mansalay. It was joined by faculty members from the College of Business and Management, College of Teacher Education, and College of Arts of MinSU. The LGU counterparts were the Community Development Office (CDO), Tourism Office, and Public Information Office. It became a collaborative work in which its main goal is to be an instrument for community development through the principles of Asset-based community development (ABCD), an inherent bottom-up approach.

This research findings will be a basis for crafting an eco-drive capability training program and will be meticulously executed within the carefully chosen locales of Panaytayan Mansalay, specifically in Sitio Calibang, Ether, Tanawan, and Sinugbahan. These sites boast a rich tapestry of stunning natural wonders and picturesque landscapes, making them prime candidates for harnessing their immense tourism potential. Furthermore, this initiative not only promises to drive economic growth but also prioritizes the sustainable development of the community, ensuring that the intrinsic beauty and cultural heritage of the indigenous locals remain untouched and celebrated. The proposed training aligns with the United Nations' Sustainable Development Goals (SDGs), specifically contributing to the achievement of several key objectives. It is poised to make a positive impact by addressing:

**SDG 11: Sustainable Cities and Communities.** This study aimed to create Panaytayan as a sustainable and self-sufficient community by harnessing its rich natural assets.

**SDG 12: Responsible Consumption and Production:** The research, by promoting participatory mapping and understanding local consumption patterns, can inform sustainable resource use practices.

**SDG 13: Climate Action:** By incorporating local knowledge on climate change impacts and traditional adaptation strategies, the research can contribute to climate-resilient resource management.

**SDG 14 & 15:** While the research focuses on terrestrial resources, its emphasis on community participation and sustainable management resonates with both SDG 14 (Life Below Water) and SDG 15 (Life on Land). By understanding the interconnectedness of ecosystems, the research can indirectly contribute to the conservation and sustainable use of marine resources and terrestrial ecosystems.

Overall, this research, by empowering the indigenous community, offers a promising approach to achieving several SDGs, ultimately promoting sustainable resource management in Panaytayan. This alignment with these SDGs underscores its comprehensive approach to social and economic development while prioritizing sustainability and inclusivity, this will facilitate holistic community development and sustainable growth in the selected locales of Panaytayan Mansalay, with a focus on harnessing the region's tourism potential, reducing inequalities, and fostering economic prosperity while preserving the natural beauty and cultural heritage of the communities.

The results and findings of this study may be helpful to other researchers who might focus on specific natural assets that will be used for other fields of research that focus on livelihood, agriculture, and the like. The identification of natural assets is useful for crafting eco-drive capability programs, especially for younger generations not just for economic viability brought by tourism but also for environmental sustainability.

## 2. LITERATURE REVIEW

### 2.1. Community-based Tourism (CBT)

Community-based tourism lets locals lead, creating authentic experiences for travelers. It empowers communities, generating income, diversifying the economy, and preserving culture and nature, all while fostering education and understanding. CBT



aims to share economic growth from the large scale to the most central part of society. CBT benefits local communities by generating income through tourism activities, preserving cultural heritage and traditions, promoting environmental sustainability, and fostering community development and empowerment. Community-based tourism (CBT) presents both opportunities and challenges for holistic community development. CBT projects can be initiated through various approaches involving the private, public, and non-governmental sectors, with a top-down or bottom-up approach. Community-based tourism (CBT) presents a range of opportunities for holistic community development, including economic, social, and cultural benefits (Mtapuri, 2016; Johnson, 2010). The potential for CBT to be implemented through social-economy enterprises in rural areas has been explored, with these enterprises playing a supportive and product delivery role (Johnson, 2010). CBT has potential as a poverty alleviation mechanism and a way to access improvements in quality of life (QoL). CBT can also be challenging at times since it features various environmental constraints, scarcity of local resources, limited access to education, capacity building, and markets connected with poor transportation networks. From various literature, it is revealed that CBT could not sustain itself due to a lack of consistent access to the market as well as poor governance. Additionally, CBT faces problems when its initial funding dries up.

Community-based tourism (CBT) is poised for a surge, with Asia Pacific emerging as a leading force. This market, projected to reach \$2.1 trillion by 2032, presents exciting opportunities for economic growth, cultural preservation, and sustainable development. Why Asia Pacific? This region enjoys both the largest and fastest-growing CBT market, fueled by a burgeoning millennial population with rising disposable incomes and improved infrastructure. Additionally, Asia's rich cultural tapestry and stunning travel destinations act as irresistible magnets for tourists. However, challenges persist. Tourists may be unaware of CBT options, highlighting the need for improved awareness campaigns. Remote communities often face infrastructure constraints, hindering accessibility. Additionally, locals require training in hospitality, marketing, and business management to optimize their role in this sector. Fortunately, collaboration holds the key. Governments, communities, and tourism stakeholders can join forces to address these challenges. By raising awareness, investing in infrastructure, and providing capacity-building programs for locals, we can unlock the full potential of CBT.

This collaborative approach can pave the way for a thriving CBT industry, generating economic benefits for local communities while preserving their unique cultures and safeguarding their environment. With its immense potential, CBT can become a powerful force for positive change in the years to come.

## 2.2. The Traditional Needs Analysis

Customarily, needs analysis approaches are used to assess the deficiencies and problems of a community towards solving mediocre situations of the community. It typically starts by identifying what a destination lacks in terms of tourist attractions. It then seeks external solutions, like building new

theme parks or resorts, often overlooking existing assets. In needs analysis, the community is perceived as problematic and negatively connoted to be dependent on external help. Needs analysis uses a needs map- a guide that represents the difficulties of the community. It then helps to devise deficiency-oriented programs and policies specifically targeting the lack of the community. Literature provides that a needs-based strategy can guarantee only survival and can never lead to serious change or community development (Kretzmann & McKnight, 1993). Naturally, whenever an external entity or planners for community development start, they will automatically look for the needs and there's nothing wrong with that. However, to look beyond the community's needs is better to hone them into self-sufficient individuals. It is also important to note that the traditional needs analysis has unlocked so much potential when it comes to supplying what the community desires.

In the Philippines, universities often participate in community development through extension programs. These programs typically employ needs assessments, identifying communities' perceived shortcomings. Universities then utilize their resources and expertise to address these needs, aiming to improve the community's overall well-being. While this approach offers tangible benefits, it can create a dynamic where the community becomes reliant on external support. Critics argue that this dependency hinders local initiative and hinders long-term, sustainable development. Therefore, while needs assessments remain crucial, it's equally important to consider a community's existing strengths and local knowledge when crafting development strategies. This shift empowers communities to build on their resources and foster self-sufficiency in the long run.

## 2.3. Asset-based Community Development (touristic assets)

In contrast with the traditional needs analysis, ABCD is an alternative path from total reliance to the needs assessment of the community. It leads to the development of policies and activities based on the capacities, skills, and assets of the community. ABCD is also termed as development from the inside out. It signifies that community development occurs only when local community people are committed to investing themselves and their resources in the effort (Kretzmann & McKnight, 1993). Instead of focusing on what the community lacks, the asset-based approach builds on its strengths. It's like tending a garden, growing what's already there instead of throwing random seeds on empty ground. This empowers communities to thrive from within, benefiting everyone. Touristic assets focus on seeking the existence of capital or resources in and within the community's capacity (Jusoh, & Ahmad, 2018). Touristic assets support the Asset-based Community Development (ABCD) Theory of Kretzmann & McKnight (1993).

This study mainly focuses on assessing the natural capital of the locale as part of harnessing the touristic assets of the community. The primary goal is to identify those existing assets and recognize their role in community development. In that way, these assets will be transformed into sustainable strengths of the community. The researchers, upon identifying



those strengths, may craft interventions that would facilitate community capacity building. This can be through training and workshops, research expertise, building trust, knowledge sharing, and maintaining respectful collaboration.

#### 2.4. Bottom-up Approach

To connect the dots between ABCD, CBT, and touristic assets, the common denominator is the so-called bottom-up approach. ABCD is inherently bottom-up. It empowers communities to identify their tourism strengths and develop initiatives based on existing assets and local participation. This fosters a sense of ownership and ensures projects are tailored to the community's context and aspirations. According to Zapata *et al.*, (2011), bottom-up CBT is characterized by strong ownership. Its projects presented higher rates of employment and economic benefits, as well as a relevant indirect impact on the communities by connecting with the local supply chains in the informal economy, where the poorer sectors of the population worked. The bottom-up approach to tourism development is beneficial since it emphasizes the urge to be included in the development of the host community and initially expresses its involvement and willingness. This is different from the traditional approach of top-down which suggests that community development should be introduced and initiated by the government such as policymakers, planners, and implementers before the community. Panaytayan's indigenous community flourishes with the bottom-up approach. Educators' lack of formal mapping training, budget constraints, and remote location could have hindered the research. However, participatory interviews and the active involvement of sitio leaders, especially, bridged these gaps. Their deep understanding of the land and cultural context, alongside researchers' adaptability, ensured the study remained grounded in community perspectives. This collaborative approach, acknowledging limitations, ultimately yielded a richer, culturally sensitive understanding of Panaytayan's natural resources. By empowering the community, the bottom-up approach proved its effectiveness in this context.

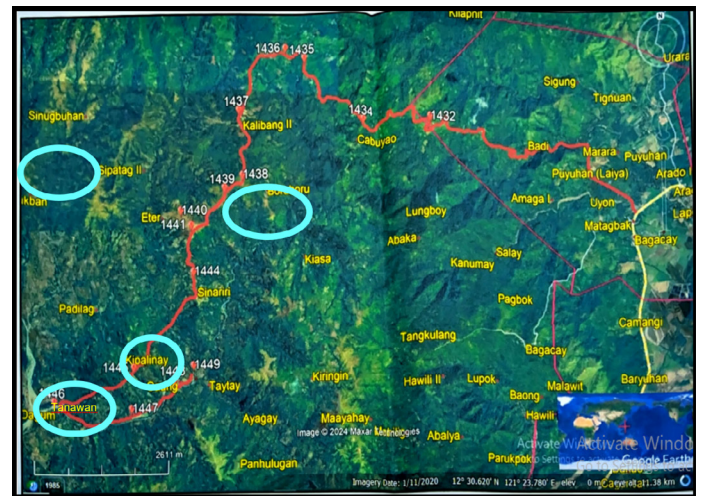
#### 2.5. Natural Capital

Tourism is closely linked with the environment (Goh, 2015). The capacity of the community is often derived from the richness of natural resources. Their ways of living as well as their coping mechanism to any adversities have been consequent from their natural environment. One of the touristic assets of the community is the natural capital. The natural asset is considered a resource, and it will become an asset once the community utilizes it economically and socially (Jusoh & Ahmad, 2018). It includes land, minerals, fossil fuels, solar energy, water, living organisms, and the services provided by the interactions of all these elements in ecological systems (A UNEP, 2012). Community capital was introduced by Flora (2020) and is used in various studies that tried to explore the assets and resources of the community as capital for holistic tourism development. Natural capital is one of the community capitals. Among all the seven community capitals which include built, human, political, social, financial, and cultural, the natural capital is considered immovable and tangible resources. The natural capital which serves as a significant touristic asset in the community plays

the role of being a substantial element known for its tourist attraction. While there are numerous opportunities vested by the natural asset of a community, challenges may always be present. Lack of infrastructure is one but the dearth of new ideas and initiatives for development is more.

The indigenous community in the select sitio of Panaytayan considered their forest sacred. When the researchers were in the course of mapping the area, it was observed that they were cleaning every piece of plastic garbage that they saw. It signifies that are very much aware of their measures to protect the environment. They are mostly aged from 30-50 years old. Natural capital is linked with other community capital so it's imperative to take into consideration that other stakeholders should be involved in its conservation efforts.

#### 2.6. The potential CBT in Barangay Panaytayan, Mansalay, Oriental Mindoro



**Figure 1.** Barangay Panaytayan, Mansalay, Oriental Mindoro

Source: LGU Mansalay (from: Google Earth)


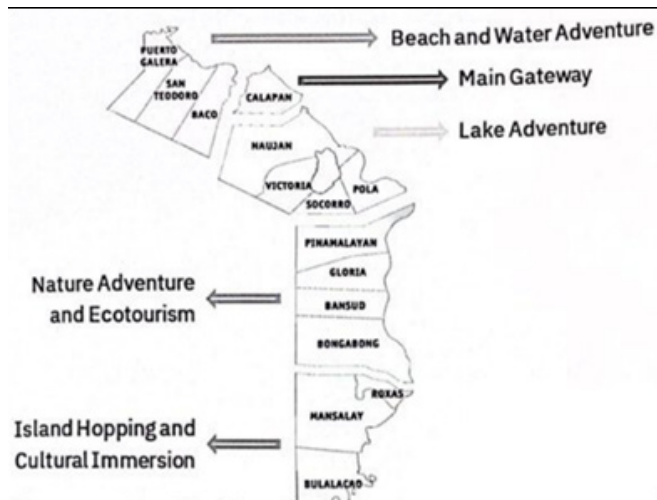
 The four adopted sitios

Figure 1 pinpoints the four “adopted sitios” within Barangay Panaytayan, carefully chosen by the research team in collaboration with the local government. This signifies a partnership approach for the study's second fieldwork. By this stage, the researchers had established a clear roadmap, drafted instruments, and formed groups for the assessment. This suggests a well-planned and organized research process, ready to delve into the intricacies of the chosen communities and their natural resources.

According to the Provincial Tourism Development Plan (2022-2027), the municipality of Mansalay is centered on the richness of its unique selling proposition (USP) which is island hopping and cultural immersion as shown in Figure 2. The municipality has a wide array of beaches, glamping sites, mountain resorts, and other nature-based tourist destinations. Mansalay envisioned, by 2028, to be committed to be the eco-cultural tourism destination as the center of Mangyan cultural heritage in Oriental Mindoro, with vibrant agricultural production supported by efficient infrastructure benefiting empowered citizens who are proud to be Mansaleños (people of Mansalay), striving for safe and clean environment responding





**Figure 2.** Oriental Mindoro Tourism Clusters

Source: Excerpt from the *Provincial Tourism Development Master Plan* p. 27 (2022-2027)

appropriately to global climate change and dedicated to becoming an industrialized town. That is why there is a continuous effort to realize this vision.

This study is anchored with the ABCD approach which focused on mapping the natural capital of the four (4) adopted sitios (division) of Panaytayan, Mansalay, Oriental Mindoro namely: Calibang, Ether, Sinugbahan, and Tanawan. Mansalay is one of the fifteen municipalities in the province of Oriental Mindoro. According to the secondary data provided by the Community Development Office (CDO) of the local government unit (LGU) of Mansalay, a total of 159 households encompasses the adopted sitios namely: Calibang (78), Ether (25), Sinugbahan (41), and Tanawan (15). The mapping served as a documentation of the existing resources of the community that played a distinct contribution to the lives of the community members especially in their livelihood, way of living, survival, and potential tourism. With the proper accounts of their remarkable natural capital, further interventions might be crafted in support to enrich their community development. The result of this mapping urged the researcher to propose an eco-drive and tour-guiding capability training for the indigenous community to protect their natural assets. The eco-drive and tour guiding capability training are part of the Extension Program entitled Fostering Unity and Nature through Sustainable Tourism Engagement Programs (FUN STEPS) by the BS Tourism Management program.

### 3. METHODOLOGY

#### 3.1. Research Design

This ethnographic study dived deep into the four sitios of Panaytayan, Oriental Mindoro, using ethnography to map their natural riches. Researchers immersed themselves in the communities, observing and documenting the diverse flora and fauna. Beyond just species identification, they charted the “destinations” of these resources - how they were used, valued, and interacted with by the communities. This approach paints a holistic picture of the natural capital, revealing not just the resources themselves but also their cultural and social significance. By understanding how these communities live

with their environment, the study can inform sustainable development strategies that protect nature while respecting local ways of life.

Data were gathered through fieldwork done by the researchers last January 10-12, 2024. Researchers were part of the AWATI-Ti Kape Team, a research program organized by the faculty members of Mindoro State University (MinSU)-Bongabong Campus in collaboration with the local government unit (LGU) of Mansalay. It was joined by faculty members from the College of Business and Management, College of Teacher Education, and College of Arts of MinSU. The LGU counterpart was the Community Development Office (CDO), Tourism Office, and Public Information Office. It became a collaborative work in which its main goal is to be an instrument for community development.

The researchers conducted a community immersion and surveys in selected study areas where they conducted direct observation, identification, and mapping of natural resources in the area with partner agencies from the local government unit. During the visit, data was collected by taking photos, recording audio, obtaining descriptions from the Tourism Office, and observing the area. The data from the audio recordings was organized according to themes, taking into consideration the confidentiality of the respondents and data providers.

#### 3.1.1. Ethical Considerations

Indigenous communities hold the rightful authority to manage their resources, as emphasized by the National Cultural Heritage Act (Republic Act No. 10066). This act, specifically Article V, Section 21, mandates the government to support indigenous people in preserving their cultural and historical properties, recognizing their inherent stewardship over their resources. This study acknowledges and adheres to this legal framework, ensuring respect for the community’s right to self-determination in resource management. One important legal foundation of this study is the Indigenous Peoples’ Rights Act (IPRA) of 1997 which emphasizes the right of the ICC/IPs to maintain ecological balance. The concept of maintaining ecological balance is deeply intertwined with both the well-being of indigenous communities and the potential for sustainable tourism within their ancestral domains. Pristine nature and diverse wildlife are major attractions for nature-loving tourists, drawing them to ancestral domains. Therefore, it is important in tourism development especially if it involves the indigenous community. Tourism can be a valuable source of income and economic development for ICC/IPs. However, uncontrolled, or insensitive tourism can threaten their cultural integrity, exploit resources, and disrupt traditional ways of life. That is why this study focuses on the approach that involves Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) actively participating in the planning, development, and operation of tourism activities on their lands which is CBT or community-based tourism. This ensures they benefit from tourism and have control over its impact. One more important key consideration in involving ICC/IPs in tourism development involves recognizing customary laws governing property rights which is crucial for ensuring fair and equitable agreements with ICC/IPs regarding tourism development.



This includes respecting sacred sites and traditional resource management practices. Furthermore, when it comes to cultural sensitivity, tourism activities should be designed and conducted in a way that respects ICC/IP culture and traditions. This includes avoiding cultural appropriation and ensuring visitors understand local customs and etiquette.

The researchers have secured prior and informed consent with the Phadag (Pinagkausahan sa Hanunuo Dagag Ginurang (PHADAG), a people's organization for Hanunuo Mangyans. The permit with the National Commission on Indigenous People (NCIP) is currently in the works. The team, before conducting the mapping, was provided with a permit provided by the Armed Forces of the Philippines (AFP) to protect the security of all who will be involved. All community members involved in the mapping were informed of the objectives of the activity and participated voluntarily. It was also significant to consider the Indigenous community has the right to determine and decide priorities for development as mentioned under Republic Act No. 8371 also known as The Indigenous People's Rights Act of 1997, Chapter IV, Section 17. Specifically, they are given the right to decide on development and programs that may affect their lives, beliefs, institutions, spiritual well-being, and the lands they own, occupy, or use. Furthermore, they shall participate in the formulation, implementation, and evaluation of policies, plans, and programs for national, regional, and local development which may directly affect them. It inherently supports the bottom-up approach of community development. These rights of the community are respected by the researchers. This study is framed as a partnership between the researchers and the community, rather than a one-way knowledge extraction process. This collaboration between the researchers and the indigenous community was formalized through a Memorandum of Agreement (MOA) between the municipality and the researchers' educational institution, demonstrating a commitment to ethical and collaborative research practices. This MOA (Memorandum of Agreement) strengthens the collaboration of the two groups for the betterment of the areas involved. All terms and conditions stated in the MOA underwent careful study, presentation, and agreement. It is also stated in the MOA that any disagreement may render the said document invalid, especially if it affects the people residing in the study area. Through this, there is a clear understanding and assurance that there will be no harm or damage to either property, humans, animals, or natural resources in the area. This is affirmed by the signatures of the parties involved and participating in this matter.

### 3.1.2. Limitations of the Study

Despite the best intentions, this research encountered several limitations while working with the indigenous community. Firstly, educators couldn't receive formal mapping training due to budgetary and logistical constraints. This hurdle was overcome by employing alternative data collection methods like participatory interviews with community members, allowing them to contribute their knowledge and perspectives on local resources. Secondly, the research timeframe might not have been sufficient to gather comprehensive data on all natural resources, particularly their scope and quantity. This limitation

might have left some aspects unexplored. Additionally, the remote location posed challenges in accessing the research site regularly for further data collection after the initial fieldwork. However, the research team found a valuable solution in the local community itself. Sitio leaders, especially, actively participated throughout the research process, filling the gaps left by limitations. Their deep understanding of the land and cultural context provided invaluable insights and ensured the research remained grounded in community perspectives. Despite these challenges, it's commendable that the research team adapted their methods and embraced the community's participation. This collaborative approach, while acknowledging limitations, ultimately allowed for a more nuanced and culturally sensitive understanding of the natural resources in question.

## 4. RESULTS AND DISCUSSION

The Tangible And Immovable Assets Of The Select (4) Sitio In Panaytayan

### 4.1. FLORA



**Figure 3.** Kaong

For the process, according to the community, harvesting of kaong is two to three times a year. Community members sell it for Pho 230.00 per tub. The indication that it's ready to be harvested is through trial and testing (boiling of a few kaong fruit). "From planting, it takes 7-8 years before it bears fruit. After that, it continuously bears fruit in succession. After the harvest, it will eventually die." (Pseudonym: Ed, a community member). Boiled kaong is transported for an hour through a habal-habal (a local term for motorcycle) to the market. Boiled kaong is smooth and has its sourness). It was filtered for extra liquids. Kaong leaves are used as irok (walis). Hair (buhok) of irok is being sewn as a cleaning material and is used for sale or personal purposes. An informal study was conducted by one of the residents regarding the usefulness of the peeled kong fruit.



Said study concluded that it is an effective fertilizer and booster in growing mushrooms for human consumption.

#### 4.2. UWAY



Figure 4. Uway

Locals process it to make a cradle (duyan). Uway is commonly used in the area as a tie for their houses, fences, and other purposes. It is a sturdy material compared to straw that is available in the market. It can be found in the dispersed location in Panaytayan.

#### 4.3. TAMBO (Local Name: anyamok)



Figure 5. Tambo

The Tambo is a plant found in the study area. It is known for its sturdy branches with leaves that have sharp edges. It is used in making brooms that are sold in the market. It can also be used as a decorative element in homes. The residents of the area sell brooms made from tambo in the market. Community members sell it three times a year. It can be found all over Panaytayan.

#### 4.4. ABACA



Figure 6. Abaca

Abaca is commonly used for textiles. Abaca is found in areas typically with a tropical climate. In the study area, it grows along riverbanks where the climate is cool. Abaca is known for its soft and durable fibers used in making textile products such as mats, carpets, slippers, and other items. It is also used in making paper, abaca fiber, and other industrial products in our country. However, in the study area, abaca is only sold as raw fiber in the market because people in the area lack machinery and knowledge about processing abaca. In Panaytayan, there is a sitio called Abakahan where the majority of abaca plants grow there.

#### 4.5. LINGA (Local name: Lunga; English term: sesame seeds)



Figure 7. Linga

Sesame, also known as linga in Filipino, is a type of plant found in many parts of the world, including the Philippines. It is a tall, bushy plant with small white flowers and seeds that contain oils rich in protein and other essential nutrients. Sesame seeds can be pressed to extract oil used in cooking and in the production of health and beauty products. Besides being a food source, sesame is also known for its potential health benefits, such as body cleansing, lowering blood pressure, and boosting the immune system. In the study area, it is used as protection for their crops against various insects that can harm their plants. It is planted around their rice fields. Picture was taken in one of the rice fields in Sitio Tanawan.

#### 4.6. KADIOS (English term: Pigeon pea)



Figure 8. Kadios

The kadios, also known as pigeon pea in English, is a low-growing and bushy plant commonly found in the Philippines and other tropical areas. It is a type of tree with small flowers that are typically yellow or purple. Its fruits are shaped like a lens and contain small seeds that can be off-white, green, or black depending on the variety. Kadios is known for its seeds that are rich in protein and other essential nutrients. It is commonly used in cooking dishes such as kare-kare and other dishes. Aside from being a food source, kadios also has agricultural benefits, such as being a good organic fertilizer for soil and a primary source of protein for areas lacking animal protein sources. In the study area, kadios are cooked as a dish with rice. They cook it either plain or with other ingredients as a common local dish. Sometimes, its seeds are dried and used as toys by children or sewn and used as beads by children and women. They also sold it for additional income. Picture was taken in Sitio Tanawan.

#### 4.7. KASOY (English term: Cashew)



Figure 9. Kasoy

Cashew is a type of tree native to tropical regions like the Philippines. It is known for its fruit, which contains a seed inside a hard shell. The seed of the cashew is called a “cashew nut,” and it is the main product of the tree. Cashew nuts are typically white and have a small hole at one end where they are attached to the fruit’s shell. It is rich in protein, vitamins, and minerals such as magnesium, phosphorus, and zinc. They are usually eaten raw or cooked before consumption. The cashew fruit’s shell can also be used in making chemical and industrial products. Aside from being a food source, cashew nuts are also used in various ways. They can be made into cashew butter, sweetened or salted, and used in various dishes. The cashew tree is also known for providing shade and for its beautiful flowers. Its fruit is used only as food in the study area. Picture was taken in Sitio Calibang.

#### 4.8. LAYAG (English term: Fish Tail)

The fishtail palm, also known by its scientific name *Caryota*, is a type of tree commonly found in tropical regions like the Philippines. This plant is called “fishtail” because of the shape of its leaves, which resemble the tail of a fish. The fishtail palm is known for its leaves that have many segments resembling fins. Each segment of the leaf is V-shaped or shaped like a fish’s tail,



Figure 10. Layag

hence its name. This plant can grow tall and have a beautiful silhouette resembling a slender tree. Fishtail palms are usually planted in gardens as decorative or replacement trees. They are not typically eaten and are also not considered safe for animals, so they are usually used for ornamental purposes only. In the study area, its fruit becomes food for animals (musang). Its ubod is used for food consumption. It is a wild plant that grows naturally in the area. Picture was taken in Sitio Calibang.

#### 4.9. KAKAWATE (Other term: Madre de Cacao)



Figure 11. Kakawate

Madre de cacao, also known as *Gliricidia sepium*, is a medium-sized tree native to tropical regions like the Philippines. It is commonly used as a shade tree and as a source of fodder for livestock. The tree has compound leaves with multiple leaflets, and it produces small, fragrant flowers that are attractive to bees and butterflies. One of the notable features of the madre de cacao tree is its ability to fix nitrogen in the soil, which can improve soil fertility. This makes it a valuable plant in agroforestry systems, where it is often intercropped with other crops to enhance soil health. In addition to its agricultural benefits, madre de cacao is also used in traditional medicine. Various parts of the tree, including the leaves, bark, and seeds, are believed to have medicinal properties and are used to treat a variety of ailments. In the study area, madre de cacao is used as a medicinal plant, but more often it serves as a marker or division of territory in land ownership by those in the area. It





can be found all over Panaytayan.

#### 4.10. NAMI



**Figure 12.** Nami

The plant “Nami” resembles a taro plant. It is a root crop used as food in the area. Some studies suggest that it contains toxins if not processed and cooked properly. In the study area, it serves as their food, especially during times of famine. It is peeled, washed thoroughly, sun-dried, and then cooked as food. This picture was taken in Sitio Calibang.

#### 4.11. KANSILAY



**Figure 13.** Kansilay

Kansilay is used as a medicinal plant for skin diseases like an-an & buni (Its “dagta” or sap is used). It is known as “kinsalay” or “kinsay,” is a type of plant that is abundant in the study area. Aside from being a sturdy tree that makes a good material for house construction, it also serves as shade because of its abundant branches and leaves. For the people in the area, it is used as medicine for skin diseases like ringworm and fungal infections by using its sap. It can be found all over Panaytayan.

#### 4.12. GUGO

Gugo is used as traditional shampoo (hair cleaning agent). Gugo” is a type of flowering plant found in the study area. It is known for its leaves with clusters of white, hairy flowers. Gugo is known for its hair-strengthening and hair-fortifying properties. Its extract is commonly used for cleaning and styling



**Figure 14.** Gugo

hair, and it has traditional use in treating various hair and scalp problems. It is an important ingredient in some local health and beauty products. It can be found all over Panaytayan.

#### 4.13. BALKAWI



**Figure 15.** Balkawi

**Figure 16.** Kamere

In the Philippines, “balkawi” may refer to “balakauyan” or *Cassia alata*, a type of herb belonging to the Fabaceae family. Balakauyan is a low tree or tall shrub with leaves that are densely hairy and flowers that are yellow or yellow-green. It is commonly found in rainy areas with high humidity. In some traditional medicines, balakauyan is used as an herbal medicine because of its properties that strengthen the body and fight infections. It contains ingredients that can help fight bacteria, fungi, and other microbes. Additionally, balakauyan is known for its potential to boost the body’s resistance. However, caution should be exercised in using it as it may cause health effects when used excessively or not properly prepared. It is used as a medicinal plant for fever (lagnat) and measles (tigdas) in the research area. It can be found all over Panaytayan.

#### 4.14. KAMERE

The kamere is a tree that grows quickly and bears fruit. It is commonly found in areas with hot climates and many days of sunshine. The kamere tree can also be used in agriculture as protection for the soil from excessive heat or as a shade plant in the yard. It bears round fruits with tough skin. According to the residents of the area, the seed inside the fruit serves as food



and tastes like nuts. The fruit needs to be cracked open with a stone or a hard object to extract the seed, which is shaped like a large watermelon seed. Its taste is a mixture of bitter, a little bit unusual, and sweet. According to the locals, these are edible.

#### 4.15. DESTINATION

##### 4.15.1. Sipatag River



**Figure 17.** Sipatag River

It stretches from Sitio Calibang, Tanauan Sinugbahan, and other Panaytayan Sitio. It is 4 feet deep. This waterfall has clean water, surrounded by lush green plants and trees. It provides a relaxing ambiance to the area. This river served as a natural quencher for animals such as carabaos, cows, etc.

##### 4.15.2. 2. Panaytayan Mountain View



**Figure 18.** Panaytayan Mountain View

This mountain deck serves as an effective place to view the overall beauty of various sites surrounded by natural resources. The cool breeze and the different bird sounds add to the relaxing feel for anyone there. It can be a potential site for ecotourism destination of the community

#### 4.16. FAUNA

##### 4.16.1. Amamangan (Wild Spider)

Although researchers are not certain about the name of this spider, it is elongated and has black stripes on its body. This type of spider is commonly found on madre cacao trees in the area. Picture was taken in Sitio Tanawan.



**Figure 19.** Wild Spider

The summary of the natural capital present was validated by the local community and the local community mappers, most of whom are volunteers. The above capitals are the framework of Panaytayan. It helped them be empowered in their ways and learn from their ancestors. Indigenous people are observed to be very keen on maintaining the cleanliness of their environment. However, according to a published report by Rappler by Rodriguez (2015), indigenous community members are always told that they destroy nature as their methods of *kaingin* or the traditional shifting cultivation are always misunderstood and perceived to be involved with fires that potentially destroy the environment. Fallow periods (resting of land) are sustainable, according to the NGO Non-Timber Forest Products Exchange Programme (NTEP-EP) Philippines. The practice also helps in maintaining and increasing biodiversity (Rodriguez, 2015). These connotations regarding their lack of knowledge of farming practices and agriculture sounds unfair to them as it adds to the stigma that they less care about nature.

#### 5. CONCLUSION

Natural capital is the foundation of all capital in the community. It is not just an add-on for tourism; it's the lifeblood of the industry. Protecting and enhancing natural assets is crucial for attracting visitors, enriching their experiences, supporting local communities, and ensuring the long-term sustainability of tourism destinations. Asset-based community development (ABCD) is a powerful approach to community development that focuses on building upon the existing strengths and resources of a community rather than focusing on its deficits. It shifts the focus from outside intervention to internal solutions. ABCD, which is bottom-up, goes beyond just meeting basic needs like food and shelter. It helps communities tackle broader issues like education, healthcare, economic development, and most especially environmental sustainability. By building upon existing assets, ABCD creates solutions that are better adapted to the specific context and needs of the community, leading to more sustainable and lasting results. It is important to remember that community development begins inside out. When community development starts from within, it's driven by the needs, desires, and perspectives of its members. This fosters a sense of ownership and agency, leading to higher engagement and commitment to the community's goals. A



vibrant and self-organized community is more likely to attract external support from organizations, funders, and collaborators. This can provide additional resources and expertise to enhance development efforts. A successful internally driven community can inspire and serve as a model for other communities seeking to develop themselves. This creates a ripple effect of positive change and empowers others to take ownership of their development. While there are a lot of opportunities that may be imposed if natural as well as cultural assets are enriched, in the future, there will be a lot of challenges that can be faced as tourism expands such as the management of the carrying capacity within the community, controlling solid waste, and the destruction of the natural biodiversity.

### RECOMMENDATION

Panaytayan, deemed the largest community in the municipality of Mansalay, has a lot of potential when it comes to tourism. Tourism relies more on the richness of nature. That is why, it is important to note that its protection is carried out. Gurangons or the elderly of the Mangyan community are familiar with the different flora as well as fauna present in their community, however, there is a possibility that the young ones lack it. This study is aimed at promoting the overall protection of the natural assets in the community through an eco-drive capability training plan that will be catered to the young generation of the select sitio in Panaytayan. This is under the flagship extension program of the BS Tourism Management program of Mindoro State University-Bongabong Campus which is entitled Project FUN Step (De Guzman, 2024). Eco-drive capability training plan includes information dissemination and transfer to 'local champions' (tourism council/organization/focal persons of the community). It will revolve around forest safety skills and survival training, conservation through an environmental campaign, a homestay program that will involve tree planting activity, and those that can be seen applicable during the program conduct. In this way, their innate knowledge will be enriched, which may cause repeat visits when tourists are already welcome in the area. Most importantly, not only the appreciation of their natural assets as the resource of their income and livelihood will be built but also environmental responsibility will be sustained. The researcher highly appreciates the cooperation of the local community throughout this journey. The sacred natural resources of the community are also considered a high regard and will forever be valued. The conduct of extension programs tailored to community development is one of the fourfold functions of the academe alongside instruction, research, and production. It aims to implement programs that would benefit those marginalized groups of individuals or communities to develop and sustain their potential. Additionally, extension programs are tools for outsourcing expertise and assistance from other public and private groups and individuals. Furthermore, this mapping can be secondary data for other sectors like those who are aiming to enrich the agricultural and livelihood sector of the community. It is also recommended to strengthen the role of ABCD through inclusive community participation and asset mobilization. Future researchers may go beyond the natural capital by showcasing intangible assets like traditional crafts,

storytelling, indigenous practices, and local cuisine to deliver experiential memories as potential tourism draws. For further research, natural resource valuation may be conducted for future tourism activities in the area. This is for the protection of its current natural resources, the and the guidance of tourists, and the holistic welfare of the community for both their natural and cultural well-being.

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