



**THE GEOGRAPHIC LANDSCAPE OF BARANGAY SANTA ANA, TAGOLOAN
MISAMIS ORIENTAL, NORTHERN MINDANAO, PHILIPPINES: IT'S
CHALLENGES AND IMPLICATIONS**

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Abstract

Barangay Santa Ana in Tagoloan, Misamis Oriental, Northern Mindanao, Philippines was revisited and studied. The largest barangay in the Municipality in terms of land area and population. It has geographically diverse landscape composed of lowland plains, riverbanks, and upland slopes. This topographic peculiarity resulted mixed land usage. Industrial, commercial, agricultural and residential spaces are seen in the verdant plain. As the population continues to grow and urbanization accelerates, the pressure on land, infrastructure, and natural resources intensifies. The geographic landscape invites human activity in agriculture, infrastructure, and overall quality of life. However, at the latest development of the area, when Fantasyland incorporated from the south of Mindanao in Dapitan City brought the “Hogwarts dens” in Santa Ana Tagoloan made the socio-cultural challenged and politically reinvented the area. Come and visit Santa Ana for the promotion on the culture of the south.

Keywords: Geographic landscape_ Sta Ana

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Introduction

The study on geographic landscapes of Barangay Sta Ana, Tagoloan, Misamis Oriental, Northern Mindanao, Philippines has evolved beyond traditional mapping and topographic landscape. Visual mapping such as photo documentation, ethnographic observation, and spatial visualization navigated the human and physical interaction. It recognizes the geographic set of coordinates livable reality which shapes inhabitants think, behave, act and the way they interact in the environmental condition.

Barangay Sta Ana in the Municipality of Tagoloan with mixed terrains such as lowlands and elevated uplands demonstrated distinct land-use patterns that reflect both ecological suitability and socio-economic pressures which supports also the findings made by Taer (2024). In particular, upland areas tend to support settlements and agroforestry while lowlands are designated for rice and corn farming due to their

fertile soil. This uneven distribution of land capability often results in unequal access to services and economic opportunities.

To support this view by emphasizing landscapes are inherently heterogeneous, where natural and cultural processes intersect. This unified concept of landscape integrates physical space with the symbolic and functional practices of its inhabitants. In this light, analyzing geographic landscapes through photography and qualitative methods allows researchers to capture the tangible and intangible dimensions of place, including identity, adaptation, and inequality (Freitas, 2024).

Adjacent to the industrial estates like PhiVIDeC in Northern Mindanao were found to experience zoning conflicts, pollution, and unregulated land conversion (Manalad, 2025). These spatial tensions often displace traditional agricultural practices and contribute to the degradation of both natural and social ecosystems. Furthermore, weak infrastructure in peripheral barangays exacerbates vulnerability to disasters and limits access to essential services. One of the alleged tensions is the load and material fatigue.

Visual ethnography allows immersive and participatory documentation of geographic issues (TATE, 2024). Photographs not only capture physical structures but also convey emotional and cultural narratives embedded in space. In the context of Santa Ana, visual evidence of erosion, flooded fields, or makeshift footpaths becomes a powerful form of data that complements the *quali* and *quanti* information. It further argues that coastal and riverine communities like those in Tagoloan are particularly vulnerable to climate-related hazards. As this study highlights how geographic conditions influence migration patterns, settlement planning, and community resilience strategies. For instance, how residents of low-lying areas develop coping mechanisms such as elevated homes, localized drainage systems, or cooperative land management strategies visible in visual documentation (Hernandez, 2024).

Meanwhile, emphasizes the need for sustainable development practices in land-use planning. Findings of this research may be able to help on integrating community-based land zoning regulations, greening infrastructure, and participatory planning to balance growth with environmental protection. Barangay-level planning, especially in transition zones like Santa Ana, it considers the cumulative impacts of industrialization, urban migration, and environmental stressors.

Finally, the study introduces also the concept of spatial justice, which focuses on the equitable distribution of land, resources, and services. This framework is particularly relevant to Barangay Santa Ana, where the access to farm to roads markets and safe housing is unequally distributed across zones due to geographic barriers. This may be the eye-opener on the local socio-legislator for the construction and formulation of the social legislation needed for the purpose.

Methods

This study used a qualitative research design, grounded in phenomenological, visual ethnography and anecdotal recording. Data were gathered through FGD, photographic documentation, video and filming, conversation, dialogue and interviews, zoning map analysis, and field observation (Gomez et al, 2025a; 2025b). Three main techniques in visual ethnography utilized such as: (1) the use of cameras to record elements of the social or material world; (2) the study of images produced as part of culture; and (3) the production of images to communicate the research findings.

The researchers adopted also the method used by Gomez, et al (2025a; 2025b) modified from the Colaizzi's Seven-Step Method for analyzing the transcribed data, which included re-reading the transcripts, extracting significant statements, formulating meanings, repeating themes 1-3 interview again for maturation, then the researcher begin to create themes based of the formulated meanings, compiling an

exhaustive discussions of everything generated in steps 1-4, summarizing the exhaustive discussions according to its brevity so that there is an identification of the fundamental structure of the phenomenon and credibility of the data is ensured through discussions with experts and independent reviewers and clustering them into themes. Images were critically analyzed to validate verbal descriptions.

GPS tools were utilized for precise geolocation of zones. Recorded the coordinates to create a detailed map of the studied area. Additionally, it assisted in establishing and marking transects across the area for pictorial analysis, which was phenomenologically, ethnographically, and anecdotally recorded based on the roles of participants, main themes, sub-themes, and significant statements (Gomez, 2025). Validity was strengthened through triangulation, expert consultations, and review of official documents from the Barangay Sta. Ana Office while doing maturation of data within four semesters to validate and revalidate the collected and gathered data.

Results and Discussions

This study explored the geographic landscape of Barangay Santa Ana, Tagoloan, Misamis Oriental, Northern Mindanao, Philippines through picture analysis, field observations, and in-depth interviews. The findings are grouped into five major themes: (1) land use distribution, (2) access and mobility, (3) industrial encroachment, (4) agricultural sustainability, and (5) community resilience. These themes revealed how geography, infrastructure, and development interact to shape the experiences of the residents. Here are the identified and classified themes.

Land use distribution. Photographs taken throughout the barangay clearly illustrated the coexistence of agricultural fields, residential areas, and industrial complexes within the same zones. For example, in Zone 6, images of coconut plantations sit adjacent to crushing facilities like JJORS and RGJ. This overlapping spatial utilization creates environmental tension, with several farmers reporting land conversion and soil degradation due to truck movement and constructions.

Thus, during the FGD with barangay officials it was confirmed the lack of clear zoning enforcement, resulting a blurred line between residential, industrial, and agricultural zones.

And, this was confirmed by the Barangay Official stated to wit:

“The residential communities are now developing the previously agricultural lands. Some agricultural owners converted their agricultural land into residential as soon as their sons and daughter graduated from college and some have their own permanent work from the company and industry. And, other were forced to sell their agricultural land for big companies and industry especially when the price is high.”

And, the Barangay official added to say:

“in fact, other farm cultivator is not the owner of their farm cultivated it was owned by the PhiVIDeC real estate holdings. So, they are not allowed to cultivate and only permitted for their makeshift chanty houses for living until when PhiVIDeC used the land.”

So, with this experienced above the land was already classified as industrial yet the residential exist for reasons. So, no doubt that the subsistence farming exists in the area for that reason above.

Access and mobility. Visual documentation across Zones 1, 3, and 8 revealed poor road infrastructure, particularly in hilly, sloppy and upland areas. Unpaved roads, narrow footpaths, and temporary bridges are common features captured in the photos and when visited. In several

occasion observed and seen residents are crossing a bamboo bridge without railings underscoring the risks faced by vulnerable residents.

Thus, the phenomenological record revealed that:

“It was observed that some industry and company exist in the area yet there is some location in lowland zones does not serve the upland residents. Geographic factors such as sloppy (Steepy and gentle) and hilly terrain or topography may isolate one zone to the other. The presence of the river and delta areas may also hamper the normal and casual activities of the residents.”

So, the accessibility and mobility of the population may limit to the feasible and viable areas of the Barangay. When the local government reclaim the watery areas residents follow. So, the behavior tend to the accessibility and mobility becomes favorable in their daily activities. Interviews confirmed that residents often walk long distances on Steepy, slippery paths to reach healthcare centers, schools, and markets. During rainy seasons, travel becomes more dangerous due to landslides and flooding. These mobility issues contribute to economic hardship, as transport costs for goods increase, limiting business profitability.

Industrial Encroachment. Zones 4 and 6, home to San Miguel Brewery and multiple crushing facilities, illustrate the dual-edge impact of industrialization. While these companies offer employment and boost local revenue, photographic evidence revealed side effects such as dust pollution, noise, and landscape alteration. Cracked roads, displaced vegetation, and drainage blockages were commonly observed around industrial sites.

Thus, FDC (2026) opined that:

Industrial expansion in Barangay Santa Ana has led to the loss of agricultural lands and disrupted local ecosystems. This unchecked development increases flooding, pollution, and displacement of communities, putting the environment and public health at risk.

Residents FGDs in Zone 6 shared concerns about reduced air quality, higher truck traffic, and difficulty farming near these facilities. This reflects the conflict between short-term economic gains and long-term environmental sustainability. The study supports the need for stronger environmental safeguards and industrial regulation, especially in proximity to agricultural and residential zones (ASU, 2024).

Agriculture sustainability. Photos from Zone 3 revealed rice fields partially submerged in floodwater, while upland farms in Zone 6 suffered from erosion. These geographic realities make farming both risky and labor-intensive. Farmers explained that heavy rains often wash away seedlings and create silt buildup in irrigation channels.

Thus, the photograph and video clips during the incidence revealed that:

The running and the increasing volume of water made their property and agricultural farm devastated. Geographic challenges like flooding in Zone 3 and erosion in Zone 6 make farming difficult and discourage long-term investment in agriculture. Combined with younger generations showing less interest due to low

income and high labor demands, these issues threaten the future sustainability of local food production.

Despite this, several farms like Egoy's Farm and coconut areas in Nasalaban continue to operate using climate-smart techniques such as terracing and water runoff control. These visual and narrative data highlight both the vulnerability and adaptability of local agriculture (Elgar, 2023). Importantly, FGDs revealed that younger generations are less inclined to pursue farming, citing difficulty and low profit. This trend raises long-term concerns about the continuity of local food systems.

Despite physical, economic, and ecological challenges, the Barangay Santa Ana demonstrates remarkable resilience. Picture analysis highlighted community-led initiatives such as home-based gardens, makeshift infrastructure, and neighborhood clean-ups. One notable example was a photo of a community-built footpath in Zone 1, reinforced with used tires to prevent soil erosion.

Thus, the video and photo shown before the researcher accounted that:

“Community initiatives like footpath construction, road repairs, and neighborhood clean-ups show how residents actively address local problems through collaboration. Cultural traditions and practices such as the “Cantago Festival” foster unity and a shared identity, reinforcing the social resilience that supports their collective response to adversity.”

Community resiliency. The theme addresses the adaptive behavior of the people in facing the different situation in the locality. Ethnographic notes confirmed during the FGDs that the main theme points out on the farm to market road and road repairs, bridges, flood control, and disaster response activities. During the Valley View Township construction, affected residents volunteered to help with site clearing in exchange for food packs or job referrals. Cultural traditions like the “Cantago Festival” also foster unity and shared identity, strengthening the social and moral fabric that underpins resilience. These non-material aspects—though not visible in maps or statistics are critical components of the Barangay's geographic and developmental narrative.

Thus, listening to the voice of the participants during the FGD they mentioned that:

“among nabatasang nga mag tinabangay gyud mi sa panahon kung adunay kalihukan sa simbahan susama sa pista; semana santa nga kalihukan sa pagka matay ug pagka buhi ni Kristo; mga kalag nga kasaulogan; kung adunay mga kalamidad ug bisan gani mga diyutay nga panginahanglanun kung gi kinahanlang tabangan tabangan gyud... pahina susama sa trabaho paghinlu sa dalan, canal ug pagpantigum sa basura sa insaktu nga butanganan sa dili pa kuhaun.”

[we've practiced traditionally that we must have help one another as “bayanihan” [collective endeavor] if we've the church celebrated activities like the fiest of the saints; the holy week activities; fiest of the all saint day and all soul day. If there are calamity and even on the little thing needed someone in the community we've to extend our hand for help ... we joined hand our cooperative endeavor like the cleaning of the road, waterways and garbage solid waste management effort].

Listening to their dissenting views that underscore the complex interplay between geography (human) into development, and community life in Barangay Santa Ana. While the physical landscape presents clear challenges such that on satellite road and poor road infrastructure, industrial encroachment, and environmental degradation residents demonstrate a strong sense of emergency and adaptability. The coexistence of agricultural, residential, and industrial spaces within overlapping zones reflects both the

barangay's potential for diversified development and its urgent need for improved zoning and spatial planning.

Moreover, the resilience of the community is evident not only in climate-smart farming and makeshift infrastructure but also in cultural practices like the “Cantago Festival,” which strengthen social bonds. This festivity showcases the cultural heritage and the richness of its God-given richness. These human-centered responses reveal that sustainable development in Santa Ana must go beyond infrastructure and include participatory planning, environmental regulation, and cultural preservation.

Challenges and Implications. These are the mode of action to be done by the local government of Barangay Sta Ana, Tagoloan base on the following phenomenological results: 1) immediate, 2) urgent and 3) emergency concern that are seen from the lens of the social studies researchers. It was a challenge that the local bureaucracy on governance and protocol to cascaded government services. The bulk required paper work to be submitted for approval needs to be revisited before it is too late.

EXHAUSTIVE DISCUSSIONS

The geographic landscape of Barangay Santa Ana creates a complex interplay between natural features and human activity. Diverse land use. Residential, agricultural, and industrial zones frequently overlap, resulting the inefficient on spatial organization and growing tension between development and environmental sustainability.

Conclusions

The community demonstrates remarkable resilience through grassroots efforts like constructing makeshift bridges, practicing terrace farming, and engaging in cooperative work. However, these efforts alone are not enough. There is an urgent need for integrated land-use planning, improved infrastructure, and strong zoning policies that balance industrial growth with environmental sustainability and social equity.

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