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Digitizing Web-Based Village Profiles as a Means of Historical Preservation and Promoting Local Potential in Matobe Village, Mentawai

Arda Decs'ta Heri Putri[1], May Sandra Putri[2], Intan SepriYelmi[3], Muhammad Gians Abdul Ghani[4], Fajar Anugrah[5], Zulhendra[6]
[1]Department of Mining Engineering, Padang State University
[2]Department of Geography, Padang State University
[3]Department of Electronic Engineering, Padang State University
[4]Department of Geography, Padang State University
[5]Department of Mechanical Engineering, Padang State University
[6]Department of Physics, Faculty of Mathematics and Natural Sciences, Padang State University

Corresponding Author e-mail: ardadecsta@gmail.com

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Abstract:
The development of village digitalization policies in Indonesia has not been fully followed by the availability of official information media at the village level, including in Matobe Village, which has a rich history, MSMEs, tourism potential, and tsunami vulnerability. This research/community service aims to develop a Matobe Village profile website as a means of preserving local history, promoting economic and tourism potential, and disaster education. The study uses a descriptive qualitative approach in the form of community-based research development. The population includes village government, community leaders, MSME actors, tourism managers, and residents in coastal areas; the sample was selected purposively, focusing on key informants who understand history, MSMEs, tourism, and disaster risk. The main instruments were researchers and a team of students, supported by interview guidelines, observation sheets, visual documentation, and GPS. Data were collected through observation, in-depth interviews, documentation, and participatory mapping; analysis was conducted thematically with triangulation of sources and methods. The results of the study show the realization of the desamatobe.site website that contains documented local history, a MSME directory, tourism information on the Nipah Forest and Mabola Waterfall, as well as a digital map of tsunami-prone areas and zones. In conclusion, the village profile website plays a strategic role as a medium for historical preservation, promoting local potential,

increasing information transparency, and strengthening the digital literacy capacity and disaster preparedness of village communities.

Introduction

The development of digital technology has brought significant changes to information governance at various levels of government, including in rural areas. Villages are no longer positioned merely as objects of development, but as active subjects in designing, managing, and promoting their potential through the use of information technology. The Indonesian government is encouraging this transformation through the Electronic-Based Government System (SPBE) policy, stipulated in Presidential Regulation Number 95 of 2018, which emphasizes the implementation of digital-based public services down to the lowest levels of government (Ministry of Communication and Informatics of the Republic of Indonesia, 2018; Syahputra, 2020). Accordingly, the development of village websites is seen as a strategic instrument to strengthen information transparency, public services, and the promotion of local potential in the digital government era (Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023; Lestari, Handayani, & Subekti, 2022).

However, in many regions, particularly coastal villages and underdeveloped areas, digital media utilization has not been optimal. Various studies show that many villages possess rich history, tourism potential, and MSME-based economic activities, but these have not been systematically documented on digital platforms, making them difficult for wider stakeholders to access (Syahputra, 2020; Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023). This situation results in low village visibility in the national information network, limited promotion of local potential, and the lack of an adequate database for evidence-based development planning. In this context, the development of web-based village profile websites becomes relevant, not only as information showcases but also as tools for documentation, education, and empowerment of village communities in the digital era (Lestari et al., 2022; Syahputra, 2020).

Matobe Village in South Sipora District, Mentawai Islands Regency, is a coastal village with a rich history and significant local potential, but it has not been comprehensively documented in official digital media until mid-2025. This village has a unique historical narrative of the formation and origins of its name, the dynamics of coastline changes due to abrasion, and local traditions that live within the community. In addition, Matobe Village also has economic potential based on MSMEs, such as processed banana chips and fish floss, as well as natural tourism potential, including Matobe Beach, Nipah Forest, and Mabola Waterfall. Unfortunately, this potential has been largely stored in the collective memory and daily practices of residents, without a digital platform capable of presenting the village's identity in a complete and structured manner (Direct Interview, July 28–August 15, 2025; Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023).

The absence of official digital media in Matobe Village raises several strategic issues. First, information about the village's history, MSMEs, and tourism potential is still distributed through oral stories and personal documentation, making it vulnerable to loss and difficult to access for educational, research, and tourism promotion purposes. Second, the lack of a web-based public information channel hinders efforts to ensure transparency and openness of village data, which should be a pillar of accountable village governance (Syahputra, 2020; Ministry of Communication and Informatics of the Republic of Indonesia, 2018). Third, in the context of disaster mitigation, Matobe Village, located in a tsunami-prone coastal area, does not yet have a digital map visualization that displays hazard zones, evacuation routes, and assembly points, thus preventing optimal dissemination of disaster information to the community (Lestari et al., 2022; Ministry of Villages, Development of Disadvantaged Regions,

and Transmigration, 2023).

These issues highlight the gap between village potential and the availability of adequate digital information infrastructure. While national policies and village digitalization guidelines provide a normative and technical framework, implementation at the village level is often hampered by limited human resources, technology, and ongoing support. Matobe Village serves as a concrete example of how the rich history and local potential have not been integrated into a single, easily accessible, standardized information system that can be independently managed by the village government and community. Without intervention in the form of developing a digital platform tailored to local characteristics and participatory principles, villages risk continuing to lag behind in digital transformation, both in terms of promoting potential, preserving culture, and mitigating disaster risks (Lestari et al., 2022; Syahputra, 2020).

Based on these phenomena and problems, this research/community service aims to develop a web-based profile website for Matobe Village that integrates local history, a directory of MSMEs, information on tourism potential, and visualization of maps of tsunami-prone areas and zones. Scientifically, this research has the urgency to bridge the gap between village digitalization policies and field practices through a participatory, collaborative implementation model oriented toward strengthening information management capacity at the village level (Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023; Lestari et al., 2022). The novelty of this research lies in the integration of three main dimensions into one platform: the preservation of local history based on digitized oral narratives, the promotion of the MSME economy and local tourism through an online directory, and the creation of a participatory map of tsunami-prone zones displayed interactively on the village website. This integration is expected to not only produce a digital product in the form of the desamatobe.site website, but also serve as a reference model for developing web-based village profiles that are relevant for other coastal villages with similar characteristics.

Research Methods

Types and methods of research

This research is a descriptive qualitative research in the form of community service-based development research that focuses on digitizing village profiles through the development of the Matobe Village profile website. The qualitative approach was chosen because the main objective of the research is to understand the social context, local history, economic potential, and village tourism in depth through direct interaction with the community, then formulate it into a web-based information system (Syahputra, 2020; Lestari, Handayani, & Subekti, 2022). This model is in line with the characteristics of development research that emphasizes the process of identifying needs, product design, limited trials, and continuous improvement to produce applicable outputs in the field (Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023; Ministry of Communication and Informatics of the Republic of Indonesia, 2018). Methodologically, the research steps follow the logic of applied research in the development of village information systems that combine user needs analysis, content design, and the implementation of web-based technology according to the local context of Matobe Village.

This research approach was also designed within a community-based research framework, involving the community and village government as active partners throughout the entire process, from problem identification to content validation and website management. This participatory approach aligns with the principles of village community empowerment as stipulated in Law Number 6 of 2014 and the practice of participatory disaster risk mapping in coastal areas (Lestari et al., 2022). Thus, the research not only produced the desamatobe.site website but also facilitated the transfer of knowledge to

village officials and residents regarding digital information management and its use for historical preservation, MSME promotion, local tourism, and disaster mitigation.

Population and sample

The population in this study comprised all stakeholders involved in information management and the development of Matobe Village's potential, including the village government, community leaders, MSMEs, local tourism destination managers, and residents living in coastal and tsunami-prone areas. Because this study was qualitative and focused on in-depth information, the sampling was conducted purposively, selecting informants deemed most knowledgeable about the village's history, MSME development, tourism potential, and disaster risk based on recommendations from the village government and the researcher's initial observations (Syahputra, 2020; Lestari et al., 2022). This approach is relevant for obtaining rich and contextual data, particularly related to oral history narratives and local knowledge that has not been documented in writing.

The primary research sample consisted of key figures, including Mr. Landonia as a local tourism informant, Ms. Rina Herlina, Mr. Adol Seltius, and Ms. Juwarti as informants on MSMEs and local history, as well as village officials who play a role in managing administrative data. In addition, several other residents involved in local economic activities and living around disaster-prone areas were also selectively involved to enrich information regarding the potential and risk map in Matobe Village (Direct Interview, July 28–August 15, 2025; Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023). This sample composition allows researchers to comprehensively map historical, social, economic, tourism, and disaster aspects, which are then represented in the structure and content of the village profile website.

Data collection instruments and techniques

The primary instruments in this qualitative research were the researchers and the KKN student team, who acted as planners, implementers, data collectors, and interpretive analysts of the data obtained in the field. To support the data collection process, several supporting instruments were used, including semi-structured interview guidelines, observation sheets, visual documentation tools (photo and video cameras), and a global positioning system (GPS) device to determine the coordinates of important locations such as village centers, tourist areas, and tsunami-prone zones (Lestari et al., 2022; In-Person Interview, July 28–August 15, 2025). The interview guidelines were designed to elicit information about village history, MSME profiles, tourism potential, and local knowledge related to disasters, while still allowing the interviewees to speak freely and narratively.

Data collection techniques included field observation, in-depth interviews, documentation, and participatory mapping. Observations were conducted to identify the physical conditions of the area, socio-economic activities, and strategic locations to be featured on the website. In-depth interviews with community leaders, MSMEs, and village officials were used to obtain historical narratives, MSME production processes, and information about local tourist destinations. Photo and video documentation was taken to support the visualization of web content, while participatory mapping was conducted by involving residents in marking boundaries, public facilities, and tsunami-prone zones, which were then processed into digital maps (Lestari et al., 2022; Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023). All collected data was then compiled into narrative text, tabular data, and multimedia content ready to be integrated into the village website system.

Data analysis techniques

Data analysis in this study was conducted thematically, following a cyclical flow of collection, reduction, presentation, and conclusion drawing throughout the community service process. Interview data was first transcribed verbatim and then coded to identify key themes such as the history of village

formation, the origin of the name Matobe, the development of MSMEs, tourism potential, and disaster vulnerability. This process enabled the researchers to develop categories and subcategories, which were then translated into the website's content structure, including a village history page, MSME directory, tourist destinations, and maps of tsunami-prone areas and zones (Syahputra, 2020; Lestari et al., 2022). Visual data and participatory mapping results were analyzed descriptively to ensure consistency between residents' narratives, field conditions, and the spatial representation displayed on the website.

To maintain data credibility, source and method triangulation was conducted by comparing information from various sources, direct observations, and official village documents. Discussions with village officials and community leaders were conducted periodically to validate the narrative content and map accuracy before publication. The analysis results were then formulated into article manuscripts and web content that were communicative, easy to understand, and relevant to both internal and external village users. In this way, data analysis not only produced academic descriptions but also culminated in a tangible product, a functional village profile website that serves as a medium for historical preservation, promotion of local potential, and disaster education (Ministry of Communication and Information of the Republic of Indonesia, 2018; Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023).

Research procedures

The research procedure was carried out in several structured stages. The first stage was preparation, which included coordination with the Matobe Village government, initial mapping of information needs, and the development of a work plan for the KKN student team in developing a village profile website. This stage also included document studies of national policies related to SPBE and village digitalization guidelines as the basis for designing an information system aligned with regulations (Ministry of Communication and Informatics of the Republic of Indonesia, 2018; Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, 2023). The second stage was field data collection through observation, in-depth interviews, visual documentation, and participatory mapping, which was carried out intensively throughout the KKN period. All data obtained was then organized and verified with village officials and community leaders.

The third stage was the design and development of the village profile website. At this stage, the team developed a menu structure and information architecture based on the data analysis results. Then, they built a PHP-based website and database designed for easy access and management by the village government. The compiled content was incorporated into dedicated pages, including history, MSMEs, tourism, and maps of the region and tsunami-prone zones. The fourth stage was testing and refinement, where the website was tested with village officials and community representatives to ensure ease of access, content clarity, and feature functionality. User feedback was incorporated into improvements to the appearance and information structure. The final stage was website management training and the official handover to the Matobe Village government, marked by basic technical assistance on how to update content, maintain site security, and utilize the website as a medium for public information services, promotion of local potential, and ongoing disaster education (Lestari et al., 2022; Face-to-Face Interview, July 28–August 15, 2025).

Result

Preserving Local History through Digital Documentation

One of the main outcomes of this activity was the digital documentation of the historical narrative of Matobe Village. Based on interviews with community leaders, the name "Matobe" comes from the Tobe tree, a type of broad-leafed tree that once grew abundantly along the coastline. According

to residents' oral accounts, the Matobe area was once a refuge for people fleeing a power struggle that led to massacres in the surrounding area. The survivors then settled in the area, which at that time was still filled with Tobe trees. The coordinates of Matobe Village are located at 577968.214E 9763284.797N 47M.

This unique history has never been formally written or published before. Information has only been passed down through oral stories within small communities. With the village website, this narrative has been successfully documented and made accessible to the wider community. The history was written while maintaining the authenticity of the residents' stories while also using a systematic narrative structure for ease of reading and understanding by outside readers.

In addition to the origin of the name, the website also includes information about the condition of the Matobe coastline, which has undergone significant changes due to erosion over decades. In the past, the coastline was located further inland and served as a place for local activities such as fishing and family gatherings. Unique traditions are also documented, such as the habit of women fishing using nets during the rainy season, as well as local beliefs about the origins of fish and shrimp, which are believed to originate from slime-like creatures.

Preserving history through digital media is a crucial step in maintaining village identity amidst modernization. Website-based documentation not only preserves local cultural heritage but also opens up new opportunities for education, cultural tourism, and future anthropological studies.

Besides its rich history, Matobe Village is also known for its natural beauty. Matobe Beach is one of its main attractions, with its stable waves and frequent activities such as surfing. This beach reflects the village's natural tourism potential.

Figure 1.Matobe Beach Tourism

Mapping and Publication of MSMEs in Matobe Village

Matobe Village boasts local economic potential driven by the presence of Micro, Small, and Medium Enterprises (MSMEs). Through community service (KKN) activities, the team identified several unique products produced by the community, which have the potential to be further developed through digital promotion.

One of her flagship products is banana chips, produced independently by Mrs. Rina Herlina, using locally sourced bananas. The production process is still carried out traditionally with simple tools, yet the quality and taste of the product are maintained. These products are typically sold directly from

home or through small stalls around the village.

There's also fish floss, a signature Mentawai souvenir made from fresh seafood. This floss is prepared by several locals, including Mrs. Juwarti's family, and boasts a distinctive flavor unlike that commonly found outside the islands. Matobe's fish floss is known for its delicious flavor and long shelf life, making it a perfect souvenir for tourists.

To support these MSMEs, the team compiled profiles of residents' businesses and published them in a directory on a dedicated page on the village website. Each MSME profile includes information about the business owner, product type, production method, and contact information or location. This aims to facilitate promotion and open up partnership opportunities with external parties, including consumers from outside the region, local investors, or government assistance programs.

This MSME data collection and digitization aligns with the Ministry of Villages, Disadvantaged Regions, and Transmigration (MoVPD)'s 2023 directive to promote the digitalization of the local economy through village information platforms. By listing local products on the website, Matobe Village's MSMEs now have a platform to be recognized and recognized by a wider audience without having to rely on conventional promotions.

More than just publication, documenting MSMEs also reflects efforts to preserve local knowledge, particularly in traditional food processing methods passed down through generations. Village websites keep the stories of these home businesses alive and inspire young villagers to become self-sufficient economically.

Exploration and Promotion of Local Tourism Potential

Matobe Village holds unique and under-explored natural tourism potential. Through field research and documentation, the team identified two key destinations with potential for development: the Nipah Forest and Mabola Waterfall. This information was obtained through direct interviews with local sources, such as Mr. Landonia, who is well-versed in the village's history and natural landscape.

1. **Nipah Forest Tour**

   Nipah palm forests grow naturally along the banks of the Matobe River and have existed since ancient times. Unlike the mangroves common on the coast, nipah palms grow in brackish waters, creating a dense, green landscape. The river, surrounded by nipah palms, stretches for two kilometers and forms a natural boundary between land and sea. The nipah palm trail is located at 577425.615E 9762478.38N 47M.

   In the past, this area was known as Sosoroat, a place where small boats often docked. Locals describe the area as having very cool air, especially in the Usut Naik area, making it an ideal location for river cruises or community-based ecotourism. The beautiful landscape, natural sounds, and serene atmosphere create a natural attraction that can be developed without the need for major infrastructure intervention.

In developing the content, the team documented the nipah forest through photographs and narratives, then featured it on a website as part of an ecotourism promotion. The information included history, routes to the location, and unique environmental features not often found in other coastal areas.

Figure 2.Nipah Forest Tour

2. Mabola Waterfall

This waterfall is located about a 10-minute walk from the main road. The coordinates of Mabola Waterfall are 578788.564E 9764644.13N 47M. Although the water flow is not as strong as it used to be, this location remains a favorite spot for locals to relax. The name "Mabola" comes from the local term "ma-bolak," meaning "a place to enjoy bolak," the edible fruit of the nipah palm. The tradition of residents gathering with food and enjoying bolak fruit is part of the village's cultural heritage.

Through visual documentation and cultural narratives, the village website showcases Mabola Waterfall not only as a natural attraction but also as a symbol of local wisdom. This tourism potential can be further developed through conservation and community empowerment approaches, such as training local guides or providing environmental education-based tour packages.

This digital-based local tourism management aligns with the principles of participatory ecotourism, which emphasizes community involvement in preserving nature while simultaneously generating economic benefits. The village website now serves as a virtual showcase for Matobe's natural beauty and can stimulate collaboration between the village, local government, and the private sector.

Figure 3.Mabola Waterfall Tour

Visualization of Tsunami-Prone Areas and Zones Map

One important outcome of the village information digitization program was the creation of administrative area maps and tsunami-prone zones based on participatory information. These maps serve not only a documentary function but also educational and preventative purposes in the context of disasters.

Matobe Village is located in a coastal area, potentially exposed to the risk of tsunamis. However, until now, there has been no visual map marking evacuation routes, assembly points, and red zones within the village. Through field observations and discussions with residents and village officials, the Community Service Program (KKN) team successfully compiled a general map of the area, including hamlet boundaries, residential areas, public facilities, and points considered vulnerable.

This map is then processed digitally and displayed in interactive visual form on the page.desamatobe.siteInformation is displayed using simple symbols to make it easily understood by the general public, including those unfamiliar with topographic maps or GIS. Colors and icons are chosen to distinguish safe zones, alert zones, and alternative evacuation routes.

This tsunami-prone zone map is also a crucial part of supporting community-based disaster mitigation efforts. Knowledge of evacuation routes and safe points is crucial, especially in areas with limited access to early warning systems. Village websites can now serve as a disaster literacy campaign tool, easily accessible and updated as the situation evolves.

The development of this map is based on participatory principles and does not rely solely on data from technical institutions. This aligns with the community-based disaster risk management (CBDRM) approach, which encourages active community involvement in identifying, mapping, and managing risks in their own areas (Lestari et al., 2022). With this digital map feature, the village website not only serves as a means of promoting local potential but also plays a role in increasing community resilience to natural disaster risks in the long term.

Discussion

Community Service Activities by Padang State University Students have been carried out according to the stages planned from the beginning of the creation of the WEBdesamatobe.siteThis activity was carried out in collaboration with the community, village officials, and students. The following is a description of the activities carried out during the process of creating the Matobe Village profile website by KKN students at Padang State University.

Figure 4.Counseling about the destination and history of Matobe village

Figure 5.Nipah forest tourist destination survey conducted with village officials

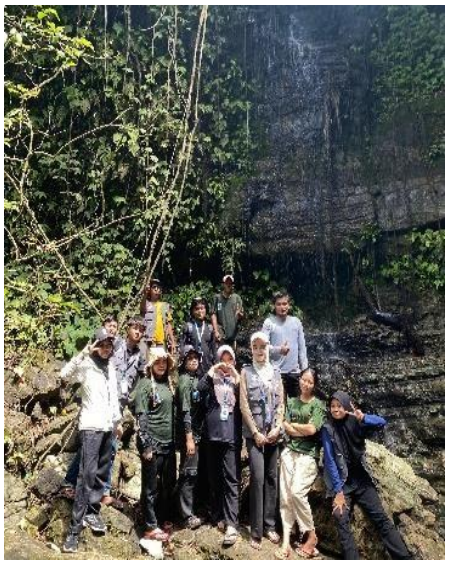

Figure 6. Mabolak Waterfall Tourist Destination Survey conducted with village officials

Figure 7. Witnessing the process of making taro, banana and breadfruit chips from MSMEs carried out together with the Matobe village community.

Figure 8. The process of making Mentawai accessories and Mentawai fish floss

Figure 9. Showing the Web Creation Process at the Matobe Village Office, attended by the Community, Village Officials and Students

Figure 10 Group Photo and Determination of Coordinate Points at Matobe Beach Park

Figure 11. Handover of the Matobe Village Website to the village coordinator

In the image above is the activity of making a WEB[desamatobe.site](desamatobe.site)with residents, village officials and students from the discussion stage on determining tourist destinations and the history of Matobe village to the submission of the results of the Matobe village WEB which can be accessed via

the website page. desamatobe.site.

Conclusion

The results of community service through the Community Service Program (KKN) in Matobe Village demonstrate that the development of a web-based village profile website can be a strategic tool for documenting local history, mapping and promoting MSMEs, showcasing tourism potential, and visualizing maps of tsunami-prone areas and zones in a single, integrated platform. This information digitization not only preserves oral history narratives and local knowledge previously scattered in collective memory, but also increases Matobe Village's visibility in the public sphere and strengthens the transparency of village information. The desamatobe.site website serves as a digital showcase that can be utilized by the community, village government, researchers, and tourists to access valid and structured information. Furthermore, the participatory development process also strengthens the capacity of the community and village officials to manage digital information and utilize technology to support village independence.

However, this study has several limitations. First, the relatively short implementation period within the KKN framework limited in-depth data collection and long-term sustainability testing of website management. Second, website content still relies on initial data collected during a single activity period, requiring regular updates to remain relevant. Future research could examine the effectiveness of village websites in changing public information access behavior, their impact on improving the economy of MSMEs, and their integration with broader village and disaster information systems. Practically, village governments are advised to utilize websites as the primary channel for public information services, promoting local potential, and providing disaster mitigation education, by involving the younger generation as content managers. Continued collaboration with universities, government agencies, and private partners is also crucial to ensure technical sustainability, feature enhancements, and strengthening the network for village profile website utilization.

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