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The Establishment of The Sea Turtle Conservation and Marine Pearl Educational Tourism Website in Sumbreng Aims to Promote Ecosystem Balance

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ABSTRACT The beach is an area that has potential tourist attractions, including turtle conservation which is relied on as an economic support. Sea turtles are one of the protected animals, because they are feared to be extinct. Turtle Conservation "Mutia Laut Masaran" located on Sumbreng Beach, East Java, is one of the turtle conservation areas developed by the Trenggalek Lentera Community. Activities carried out include relocating turtle eggs, caring for turtle eggs, combing eggs, and releasing hatchlings. There are 5 species of turtles that are protected on Sumbreng beach, some of which are green turtles and hawksbill turtles that fall into the Appendix I category, which are prohibited from being traded internationally, one of the tours that can attract tourists to visit is to see the process of turtle breeding, conservation and small Jeep facilities used to get around the beach and release hatchlings in certain months. However, due to this lack of information, fewer tourists come, especially during certain months, where they can see hatchlings released onto the beach. The use of information technology developed through social networks can be very fast to be able to reach the dissemination of tourist information to all corners of the world, one of which is through the website. The purpose of this service is to present innovations in the form of website facilities that are useful for updating all activities that take place in the "Pearl of the Masaran Sea" Turtle Conservation. The method of making a website design together with several representatives of the "Pearl of the Masaran Sea" Turtle Conservation, starting from designing the home page, then the content of the website itself, to the way the website is fast and easily accessible to everyone, It is hoped that the implementation of this website will allow turtle conservation and also the potential for educational tourism in this area to be further developed, so that it can support the economy of the surrounding community and can also be used as a source turtle conservation management income itself.

INDEX TERMS Educational Tourism, Turtle Conservation, Websites, Tourists

I. INTRODUCTION

Currently, the tourism sector is a hope for economic development in many regions. Coastal areas are widely used as a tourism sector by local communities, one of which is turtle conservation. Turtles are animals that are included in the list of animals protected by national and international law because it is feared that they will become extinct due to their decreasing numbers. Government Regulation Number 7 of 1999 concerning Conservation of Plant and Animal Species which protects all types of turtles. In Law of the Republic of Indonesia Number 5 of 1990 concerning Conservation of Biological Natural Resources and Their Ecosystems [1]. Turtles are also very beneficial for marine ecosystems, namely to maintain the balance of marine ecosystems, from maintaining productive coral reef ecosystems to transferring nutrients from the sea to the coast. [2]. Increasingly, turtles are also often hunted by humans to make medicine, as turtle eggs are believed to be used as medicine to cure nervous system diseases and immune system disorders [3]. So, turtle conservation has become a very important tourism sector for turtle conservation. One of the turtle conservation areas currently being developed is the "Mutiar Laut Masaran" Turtle Conservation which is managed by the Lentera Trenggalek Community (Fisheries Monitoring Community Group) on Sumbreng Beach, Kajang Hamlet, Masaran Village, District. Munjungan, Trenggalek Regency, East Java. There are 7 types of turtles in the world and 6 of them are found in Indonesia [4]. Of the 7 types of turtles on Sumbreng beach, there are five types of turtles, including green turtles, hawksbill turtles, flatback turtles, olive ridley turtles and loggerhead turtles. Hawksbill and green turtles are included in the Appendix I category, which means they are species that are prohibited in all forms of international trade. Turtle breeding activities carried out at the Sumbreng sea pearl turtle conservation site range from egg combing, turtle egg relocation, and turtle egg maintenance. Apart from visiting tourists who can see the breeding process, this conservation also provides economic tourism such as small Jeep facilities for traveling around the beach and also releasing hatchlings in certain months which tourists can enjoy. The potential for tourists who come to see the turtle breeding can be maximized to support the economy of the surrounding community and provide additional income for the preservation of the Sumbreng pearl turtle itself. However, the dissemination of information related to conservation tourism is still a problem in the conservation of Sumbreng pearl turtles. The lack of media to disseminate information about the existence of this turtle conservation tourist attraction causes the number of tourists who come to be small, and it is also quite difficult for tourists themselves to know the right time to come to this turtle conservation tourist attraction, they can see the hatchlings being released. This attraction is the first step in developing the tourism and educational potential that exists in this conservation area. Apart from developing conservation potential, the

community is also aware of the importance of protecting the ecosystem.

Trenggalek Regency is located in the southern part of East Java Province which is dominated by mountainous and hilly areas in the coastal areas of Java Island which directly borders the Indonesian sea. Geographically, the coastal area of Trenggalek Regency has quite large potential for development starting from the fisheries, marine and tourism sectors. This is stated in the Medium-Term Infrastructure Program Plan (RPIJM) in the copyright sector for 2016-2020.

The aim of a conservation area is to protect, preserve and utilize the function of the ecosystem as a habitat for aquatic biota now and in the future. Apart from that, conservation areas also protect certain characteristics of coastal areas and small islands. Conservation areas can support sustainable area management. In 2017, the total area of marine conservation areas in Indonesia was around 19 million hectares. The locations of marine conservation areas are spread from the western, central to eastern regions and cover most of Indonesia's marine areas, including coral reefs. However, coral reefs may be subject to degradation caused by global climate change, rising temperatures, acidification, earthquakes, and tsunamis [5].

Mutiara Beach is one of the turtle conservation areas in Trenggalek as an area that supports the preservation of the marine ecosystem. A common problem in coastal areas is the weak optimization of turtle conservation and educational tourism. This community empowerment activity contributes to the preservation of the marine environment through the creation of a website for turtle conservation.

The aim of this activity is to create a website to empower turtle conservation for the survival of turtles in the future as well as educational tourism for the general public. This website creation training is also assisted by alumni who have experience in the website field. In this activity, don't forget to also involve relevant lecturers who are experts in their fields, whose suggestions from these lecturers are also very necessary to facilitate the achievement of the objectives of this activity.

II. METHOD

A. SERVICE PLAN FOR PARTNERS

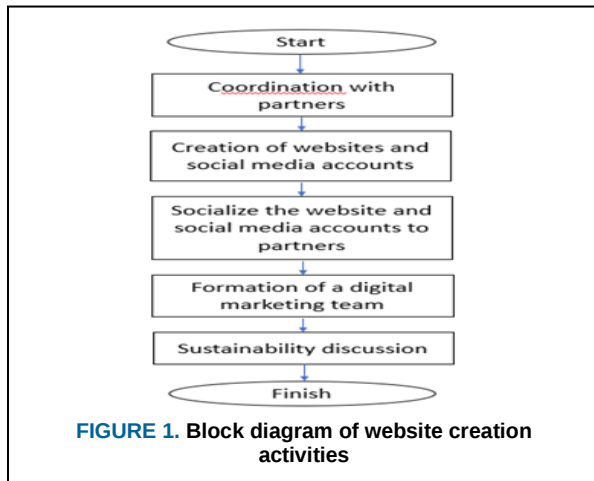
The plan for implementing this service can be seen in the picture below. This service aims to help the Turtle Conservation "Pearl of the Masaran Sea" in promoting the place as a tourist and educational place. Websites and social media accounts are tools for marketing.

B. COORDINATION WITH PARTNERS

Before implementing the service to create a website and social media accounts, coordination with partners is required. This coordination aims to collect information that will be distributed on the website.

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distributed on the website.

D. CREATION OF WEBSITE AND SOCIAL MEDIA ACCOUNTS

After getting information from partners, a website and social media accounts will be created. Before the manager accesses the website, the manager must first enter the website as FIGURE 2 below:

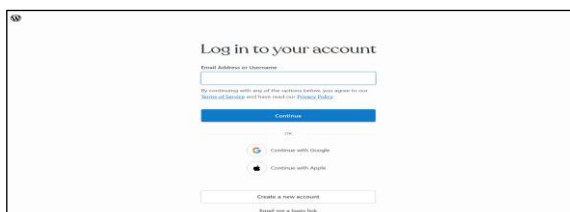


FIGURE 2. Home page for account login

1. Go to the following page

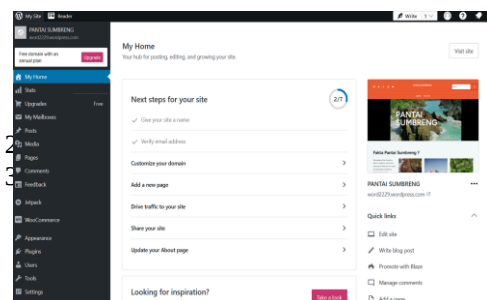


FIGURE 3. WordPress home page display after account login

4. Manufacturing steps

press "Add New Post" menu to create a new website page as desired as FIGURE 4 below.

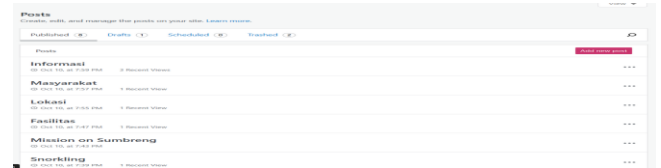


FIGURE 4. Menu display to control and create a new post

Write the content title and contents, when finished, click publish as FIGURE 5 below.



FIGURE 5. Menu display to provide commands and also fill in the website that will be created

E. SOCIALIZATION OF WEBSITE AND SOCIAL MEDIA ACCOUNTS TO PARTNERS

The outreach was aimed at the Turtle Conservation "Pearl of the Masaran Sea". This socialization aims to educate and provide partners with insight into the social media websites that have been created. It is hoped that from this outreach activity, partners can understand marketing opportunities through websites and social media. The outreach will be held at the Turtle Conservation "Mutiara Laut Masiran".

F. FORMATION OF A DIGITAL MARKETING

Team A digital marketing team was created to operate and empower the website and social media of the Turtle Conservation "Pearl of the Masaran Sea". This team consists of human resources from the Turtle Conservation "Pearl of the Masaran Sea". During the first two months, the team will be given guidance in operating and empowering the website and social media.

G. SUSTAINABILITY DISCUSSION

This service involves conservation managers, volunteers who work in conservation, local communities and regional students who are experts in the field of power generation. This discussion was held to discuss the follow-up after the Website can be run with the aim of maintaining the Website, with the intention that students and local managers can carry out maintenance independently. So it can reduce the potential for errors on the website and also improve the performance of the menus on it. Then, this conservation can be developed further to become an educational tourist attraction that can attract tourists to visit. This will increase income from maintenance costs for turtle conservation and can also improve the economy of the surrounding community.

III. RESULT

There are no mathematical calculations in this paper, because this paper focuses on creating a website aimed at solving existing problems for related partners.

The type of method used here is a literature study or library review which explores potential regarding methods of collecting library data, reading and taking notes, and managing research materials (Zed, 2008:3).

The location of this research was carried out in the Regency Trenggalek. The research area was determined purposively, which means the research location determined by the researchers themselves, namely: Sumbreng Pearl Beach, Masaran Sea.

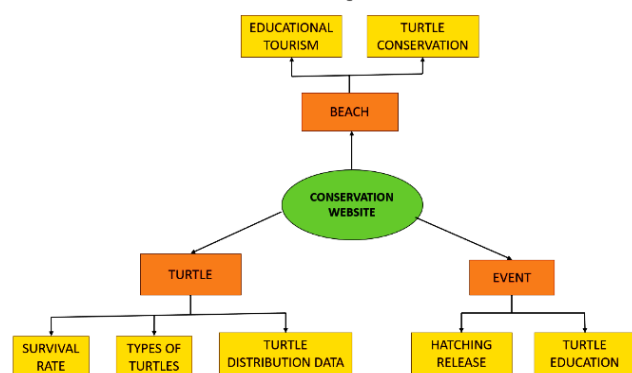


FIGURE 6. Website formation scheme

In this service, the innovation presented was the creation of a website for turtle conservation on Sumbreng beach. The website created will later contain information related to the Sumbreng beach area and also the turtles themselves, starting from the types of turtles that are conserved to other data related to turtles. This website also contains events in turtle conservation. The purpose of this website was created to provide information to tourists regarding turtle conservation educational tours on Sumbreng beach. And when many tourists come to visit this conservation site, it is hoped that it can support the economy of the turtle conservation itself and also the surrounding community.

The website section will provide information about several things, including: turtles, events and beaches.

1. Turtles

There are 7 types of turtles in the world and 6 of them are found in Indonesia. Of the 7 types of turtles on Sumbreng beach, there are five types of turtles, including green turtles, hawksbill turtles, flatback turtles, olive ridley turtles and loggerhead turtles. Hawksbill and green turtles are included in the Appendix I category, which means they are species that are prohibited in all forms of international trade. Turtle breeding activities carried out at the Sumbreng sea pearl turtle conservation site range from egg combing, turtle egg relocation, and turtle egg maintenance. These activities will later be included on the website to introduce what activities are involved in the conservation of the Masaran Sea Pearl. In this section, turtle survival rates, turtle types, and turtle distribution data will be discussed. The explanation of the

types of turtles displayed on the website is useful for broadening readers' knowledge as well as introducing the types of turtles found in the Masaran Sea Pearl conservation area.

2. Event

There are many events held at the Masaran Sea Pearl conservation. However, due to lack of information, there is a lack of information regarding events held for the conservation of Masaran Sea Pearls. By holding this website, it is hoped that all activities, especially events, will be known to many people. Events at the Conservation include hatchling releases and turtle education.

3. Beach

This part of the beach will show the beauty of Sumbreng Beach. Apart from the beauty of Sumbreng Beach, this section will also explain what tours you can do at Sumbreng Beach. The turtles on this beach are very beneficial for the coastal ecosystem. One type of turtle that plays a big role in maintaining the health of the underwater ecosystem is the green turtle. Green turtles have an important role in controlling the growth of aquatic seagrass plants which have the potential to hinder ocean currents, as well as blocking sunlight from entering underwater life. If the seagrass plant population grows uncontrolled, this has the potential to damage other growing ecosystems because it makes it difficult for sunlight to enter the sea. Damage to marine ecosystems and the death of seagrass plants will later become a place for parasites such as fungi to grow. Even though they are in the sea, various underwater animals and plants still need sunlight, both for photosynthesis and development. Apart from green turtles, hawksbill turtles also have an important role in protecting marine ecosystems from damage. Hawksbill turtles play a role in controlling sponge populations that threaten the sustainability of coral reefs because they aggressively compete for space on coral reefs. This hawksbill turtle, which has a mouth like a bird's beak, plays a major role in preying on sponges in the sea, so that the population of sponges released onto coral reefs is more controlled. It should also be noted that apart from hawksbill turtles, no other marine species can eat sponges. That's because the chemicals that provide sponges with physical defenses can only be overcome by hawksbill turtles.

It is hoped that this website can help with all problems and introduce conservation activities. Dissemination of information through this website is considered very effective as branding in the conservation of the Masaran Sea Pearl. If this conservation is known to many people, it is hoped that it will become a special attraction for tourists and will later increase income from the conservation of the Sumbreng Sea Pearl. This income adds to the costs of caring for the turtles.

IV. DISCUSSION

A. SURVEY OF EXISTING CONDITIONS

Based on the survey that has been carried out, it is known that the management of the Turtle Conservation at Mutiara

Beach is still less than optimal, especially in the dissemination of information related to this conservation which causes it to be less explored by the public. So that the sustainability of conservation and also the surrounding economy cannot develop.

B. DETERMINING TOOLS FOR CREATING A WEBSITE

Involving students, technicians and lecturers in determining tools to help create their website. There are several choices of tools for creating websites ranging from free to paid, but for creating a website this time we chose tools that are easy to operate but have quite good results too. This activity is carried out jointly between students and supervised by lecturers who are experts in their fields. FIGURE 3 Shows the types of website creation tools used in this activity.

C. CONDUCT WEBSITE CREATION TRAINING

Conduct website creation training for partners who will manage the website.

This training includes several activities, which include:

1. Basic Understanding of HTML and CSS:

- Learn about HTML (HyperText Markup Language) as a basic markup language for creating web content structures.
- Understand CSS (Cascading Style Sheets) to enhance website layout and design.

2. JavaScript Skills Development:

- Understand the basics of JavaScript to add interactivity to websites.
- Using jQuery or other JavaScript frameworks to make development easier.

3. Server and Database Understanding:

- Understand server concepts and how to store and manage data using a database.
- Learn query languages such as SQL to interact with databases.

4. Using a Framework or CMS (Content Management System):

- Get to know various frameworks such as Django, Ruby on Rails, or Express.js.
- Understand how to use a CMS such as WordPress, Drupal, or Joomla to build websites quickly.

5. Responsive Optimization and User Experience:

- Learn to create responsive websites that can be accessed from various devices.
- Understand the principles of UX (User Experience) design to improve the quality of user experience.

6. Web Security:

- Know web security principles and how to protect sites from potential attacks.
- Understand best practices for securing web applications.

7. Testing and Debugging:

- Learn software testing techniques to ensure website quality.
- Learn how to detect and fix bugs (errors) in code.

8. Maintenance and Updates:

- Understand how to perform routine maintenance and website updates.
- Learn about hosting and server management concepts.

D. EVALUATION OF TRAINING RESULTS

The effectiveness of training provided to the turtle conservation community needs to be evaluated. This evaluation was carried out by taking samples from several members to see their potential as the main manager of the website in the future.

E. IMPLEMENTATION OF WEBSITE CREATION

After the evaluation is carried out and the results are obtained, the next activity is creating a website for turtle conservation. Making this website includes the initial design of the website, such as the main page, then the header, and also the footer. When it has been created, the next step is to create the contents of each menu that has been input into the website design. The contents of this menu include complete information about the location of this turtle conservation, then events that are usually held at turtle conservation, months of turtle conservation activities, to the activity that is often awaited by tourists, namely the release of hatchlings.

Other activities that are still around this conservation area are also included in the explanation of the menus on this website. The activities in question include educational tourism in turtle conservation, starting from knowledge about what the life cycle of turtles is like in the wild, then about the places turtles like to live, and other interesting facts related to the life of a turtle.

V. CONCLUSION

The innovation offered from existing problems is creating a Turtle Conservation website "Mutiara Laut Masaran". The website functions as a forum for information on the Turtle Conservation "Mutiara Laut Masaran" and education for the general public. The second innovation is creating social media for the Turtle Conservation "Mutiara Laut Masaran". Social media is the spearhead of marketing for the "Mutiara Laut Masaran" Turtle Conservation. Now social media has become the most powerful marketing tool for a business. Social media accounts that actively spread interesting information will have many followers. So, empowering social media is important to increase the number of people who know about the "Mutiara Laut Masaran" Turtle Conservation. The target output that will result from the solution offered is the availability of the Turtle Conservation website "Mutiara Laut Masaran" and the Turtle Conservation social media account "Mutiara Laut Masaran" with 300 followers. It is hoped that with an active website and social media accounts, the public can be educated and have knowledge about the "Mutiara Laut Masaran" Turtle Conservation. When the output target can be achieved, it is hoped that the money obtained from visitors can reduce operational costs for the "Mutiara Laut Masaran" Conservation.

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