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Raising Public Awareness Of The Ecological Benefits Of Screwpine Trees Through Online And Offline Campaigns (research conducted at SDN 03 Panggarangan Village, Bayah, Banten)

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Abstract: *This research aims to find out the impact of offline and online campaigns related to public awareness of the importance of protecting sea pandan ecosystems in coastal areas. The method used in this activity is participatory action research (PAR), with several stages. The SAPA SEA series of activities is carried out online via Instagram for donations and the dissemination of information about sea pandanus. Meanwhile, the offline campaign was carried out at SDN 03 Panggarangan. In this offline campaign involving 175 students from SDN 03 Panggarangan, the activities were divided into 3 sessions: an educational session, a sea pandan planting session, and handing over donations. As a result, a donation of IDR 7,077,000 was obtained from the online campaign, which planted 300 sea pandan tree seedlings and handed over donations to SDN 03 Panggarangan. Apart from involving students, the first activity at SDN 03 Panggarangan, Bayah, Banten also involved teachers at SDN 03 Panggarangan, UMN students, and volunteers from the South Lebak Mitigation Group (GMLS). This research shows that the impact of offline and online campaigns has proven optimal in their implementation. Online campaigns that utilize Instagram social media have proven optimal in the online campaign process. Apart from that, offline campaigns also increase the enthusiasm of elementary school students.*

Keywords: awareness, ecological, offline campaign, online campaign, sea pandanus.

Abstrak: Penelitian ini bertujuan untuk mengetahui bagaimana dampak kampanye offline dan online terkait kesadaran masyarakat atas pentingnya menjaga ekosistem pandan laut di daerah pantai. Metode yang digunakan dalam kegiatan ini yaitu *Participatory Action Research* (PAR) dengan beberapan tahapan. Rangkaian kegiatan Sapa Laut dilaksanakan secara daring melalui Instagram untuk donasi dan diseminasi informasi mengenai pandan laut. Sementara untuk kampanye luring dilakukan di SDN 03 Panggarangan. Dalam kampanye offline ini melibatkan 175 siswa SDN 03 Panggarangan, kegiatan terbagi menjadi 3 sesi, yakni sesi edukasi, sesi penanaman pandan laut dan penyerahan donasi. Hasilnya, diperoleh donasi sebesar Rp 7.077.000, dari kampanye daring, penanaman 300 bibit pohon pandan laut, serta penyerahan donasi untuk SDN 03 Panggarangan. Untuk kegiatan pertama yang dilakukan di SDN 03 Panggarangan, Bayah, Banten selain melibatkan siswa, juga melibatkan guru SDN 03 Panggarangan serta mahasiswa UMN, dan para relawan Gugus Mitigasi Lebak Selatan (GMLS). Hasil penelitian ini menunjukkan bahwa dampak kampanye offline dan online terbukti optimal dalam pelaksanaannya. Kampanye online yang memanfaatkan media sosial Instagram terbukti cukup optimal dalam proses kampanye online. Selain itu, kampanye offline juga meningkatkan antusiasme siswa sekolah dasar.

Kata Kunci: Ekologis, Kampanye Daring, Kampanye Luring, Kesadartauan, Pandan Laut.

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Introduction

Sea pandanus *(Pandanus Tectorius)* is a type of coastal plant that grows along coastlines in tropical and subtropical regions. Research conducted by ShivaShankar et al. (2020) describes marine pandanus as an indicator of biodiversity in mangrove ecosystems *(mangrove)*

(ShivaShankar et al., 2020). The study shows that sea pandanus can be an important indicator in evaluating the quality of mangrove ecosystems. Based on this research, sea pandanus has a significant role in maintaining biodiversity in coastal ecosystems

Based on field surveys and data analysis conducted by Tanaka et al. (2007), a combination of mangrove plants and sea pandanus plants proved very effective in protecting from tsunami damage due to the complex structure of aerial roots. Mangrove forests, also covered with sea pandanus plants, are very effective for shelter or self-rescue for people stranded by the tsunami or to save themselves when the tsunami waves hit. This information should be considered in future coastal landscape planning, rehabilitation, and management.

The findings of Kayum, Shitami, and Minagawa's study (Kayum et al., 2022) on the sea pandanus population on the island of Saint Martin in Bangladesh showed that there is a connection between the increase in the sea pandanus population and the size of the island. It is proven that the 3-fold increase in the population of sea pandanus in the period 2010–2021 on the island succeeded in dispelling high waves and preserving 75% of the area of Saint Martin Island (Kayum et al., 2022).

The geographical location of Banten province, which is near the Indian Ocean plate, makes several areas in the province prone to disasters. One of the areas in Banten province that is recorded as disaster-prone is the Bayah area, South Lebak Regency. Not only is there potential for major disasters such as earthquakes and tsunamis, but the southern coastal areas of Java Island are also prone to abrasion and erosion. As a measure to mitigate tsunamis, abrasion, and other disasters caused by ocean currents, the surrounding community has taken several steps. One of them is an activity carried out in January 2023, namely planting sea pandan seedlings in the coastal area of Cimangpang, Panggarangan village, South Lebak (Suryana & Setiawanto, 2023).

UNESCO has recognized Panggarangan Village in Banten as one of the tsunami-aware villages (BantenNews.co.id, 2022). Based on UNESCO's verification results, the village has implemented comprehensive preparedness measures, including an early warning system, counseling, and evacuation training for its entire population. Through a participatory and collaborative approach, the residents of Panggarangan Village have recognized the importance of having a good understanding of the tsunami threat and effective emergency response efforts. With the support of the government and related institutions, the village managed to build a high level of awareness and create a strong communication network to reduce the risk of disaster impact and protect the lives and property of its people.

The maintenance of ecological systems in the environment, which can also help prevent or lessen the impact of tsunami disasters, is, however, not accompanied by awareness of the disaster. One example is the lack of public awareness of the importance of sea pandanus plants for the environment. Based on an initial interview conducted by the Sapa Laut PKM team with Anis Faisal Reza, head of the South Lebak Mitigation Group (GMLS), planting sea pandan seedlings in the Cimangpang coastal area should be a sustainable activity, considering that there are still many coastal areas that currently do not have a sea pandan "fortress.". In addition, the lack of public awareness of the benefits of sea pandanus is also one of the causes of damage to the marine pandanus ecosystem in the coastal area of Cimangpang. Anis said that the high economic value of sea pandanus makes many people cut down sea pandan trees to be used as raw materials for handicrafts with selling value. As a result, the population of sea pandanus is now rarely found in the Cimangpang area, Panggarangan village, and South Lebak.

Several studies have revealed the economic benefits of sea pandanus, which can be used as a source of food and handicraft materials (Favennec, n.d.), to become a roofing material in some traditional houses, in economic aspects, and at tourist attractions (Nadaf & Zanan, 2012). These studies discuss the use of sea pandanus in the lives of coastal communities in the local handicraft industry, such as woven sea pandan leaves used to make bags, mats, and traditional construction materials. In addition, sea pandan leaves are also used in traditional medicine as a medicinal and wound-healing ingredient.

Based on the results of observations and surveys in the field, most people in Bayah already know the economic value of sea pandanus and also use it for handicrafts and processed food products. Nevertheless, society appears to have discounted the ecological advantages of

these plants. The interview of the Sapa Laut team together with Anis Faisal Reza, who is also often called 'Abah Lala', revealed that currently, sea pandanus plants are rarely found on the coast in the Bayah area, especially in the Panggarangan village area. "In the past, along this coastline, the sea pandanus was lush, only often inhabited by residents and cut down to the roots. So now there are many areas that are dune," said Abah Lala. The lack of public awareness of the ecological benefits of sea pandanus can endanger marine ecosystems and land in the surrounding environment. The absence of a sea pandan "fortress" along the coast in the Panggarangan village area can accelerate abrasion and erosion, especially in areas with heavy and high sea currents.

According to research, mangroves and sea pandanus shield the coastline from abrasion by waves and ocean currents. The Sapa Laut campaign will be carried out online and offline. Online campaigns are carried out through Instagram social media. The offline campaign was conducted at SDN 03 Panggarangan Village, Lebak, Banten.

Online campaigns on social media have become an effective tool for educating the public about disaster relief efforts. Online campaigns utilize social media platforms (Facebook, Twitter, and Instagram) to disseminate information about disasters, mitigation measures, emergency preparation, and response actions (Fernando, 2021; Putri & Dwipriandi, 2021). Online campaigns on social media can increase community engagement through creative communication strategies, such as experiential stories, short videos, and infographics. Their study found that interesting and relevant content can encourage people to share information and get involved in disaster relief efforts. With a wide reach, online campaigns can reach a larger audience and raise public awareness of the importance of disaster preparedness.

It is also important to involve offline campaigns with activities to educate the public. Through seminars, workshops, training, and disaster exhibitions, communities can interact directly with disaster experts, disaster management officers, and other resources. Ikhsan and Musda (2023) mentioned that offline campaigns for the public are one of the adaptive actions recommended by the *United Nations Climate Change* (UNFCC) for coastal and marine areas related to local regional policies. This can help strengthen local community adaptation, through community knowledge and skills, in dealing with disasters and increase the protection of ecosystems and coastal and marine ecosystems. Public campaigns allow direct exchange of information (Octaviana & Susilo, 2021), emotional engagement, and closer relationships between experts and the community. Plus, young people prefer face-to-face campaigns with in-person interaction (Octaviana et al., 2021) in terms of efforts to increase their awareness of disasters.

According to earlier studies, people are unaware of natural calamities like landslides and floods. Furthermore, regional formal and non-formal institutions have not efficiently carried out outreach efforts to mitigate the effects of floods and landslides (Kurniawati, 2020). A specific entity or group implemented a disaster prevention model, such as smoke haze from forest and land fires (karhutla), based on an information system, from which the community and related stakeholders have benefited, and this model strengthens disaster policies. This has helped them understand the significance of reducing smoke disasters and the potential for forest and land fires (Syamsuadi et al., 2020). Based on the background described, this research aims to determine the impact of offline and online campaigns on public awareness of the importance of protecting sea pandan ecosystems in coastal areas.

Method

Participatory Action Research (PAR) is a research approach that prioritizes the value of knowledge based on experience to address problems caused by unequal and adverse social systems and imagine and apply alternatives. PAR involves the participation and leadership of people in distress who take action to bring about emancipatory social change through conducting systematic research to generate new knowledge (Cornish et al., 2023). Community service implementation activities following the chosen implementation method are carried out in several stages of work, namely:

- Preparation

In this preparation stage, the PKM team first focuses on *online* campaigns through Instagram social media and coordination preparations for offline campaigns. Details of preparatory activities can be seen in the following table:

Table 1. Online *Activities*

Date	**Information**	
	Feeds/Stories/Campaign Materials	***Link***
April 21, 2023	*Post a teaser* about Sapa Laut (coming *soon)*	1. https://www.instagram.com/p/CrTHN5tPG3M/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA== 2. https://www.instagram.com/p/CrTHMvpvyj_/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA== 3. https://www.instagram.com/p/CrTHLcLvFaG/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA==
22 April 2023	*Post* about Sapa Laut (content, logo, vision and mission; *meet the team*)	1. https://www.instagram.com/p/CrVNklPvGAG/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA== 2. https://www.instagram.com/p/CrVKyEhP9RL/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA==
23 April 2023	*The post* about SDGs points to how much they are implemented (14, 15, 17)	1. https://www.instagram.com/p/CrYrHIcPLwA/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA== 2. https://www.instagram.com/p/CrVKyEhP9RL/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA==
24 April 2023	*Post* about the implementation site and partners of Sapa Laut (Desa Panggarangan and GMLS)	1. https://www.instagram.com/p/CrbBTztP1V9/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA== 2. https://www.instagram.com/p/CrbBRsPPk5c/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA== 3. https://www.instagram.com/p/Cray9lkvDM5/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA==
27 April 2023	*Posts* about sea pandanus plants - *What is Panda Laut?* - *The Functions of Pandan Laut* - *The Advantages of Pandan Laut*	https://www.instagram.com/p/Cri9aIovPTV/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA==
1-2 May 2023	Socialization of Sapa Laut 2023 activities - Sapa Laut *online* campaign - Sapa Laut *offline* campaign:	Online campaign socialization (*upload* from personal Instagram of PKM implementing students)

	- Online campaign terms and conditions	
May 3-10, 2023	Registration and execution of *online campaigns*	Registration and implementation of *online campaigns* (*upload* from Instagram of each PKM and Sapa Laut implementing student)

Table 2. *Offline Activities*

Date	Information
May 21, 2023	Travel to Panggarangan Village, Lebak
	Meeting with the Head of Panggarangan Village, GMLS and Head of SDN 03
	Making gifts for students of SDN 03 Panggarangan
May 22, 2023	Educating elementary school students in grades 4, 5, and 6
	Planting sea pandanus on the coast together with students of SDN 03 Panggarangan
	Documenting together
	Giving gifts to students of SDN 03 Panggarangan
May 23, 2023	Saying goodbye to the residents of Panggarangan Village
	Return trip to Tangerang

- Implementation

Sapa Laut 2023 activities are divided into two series of events, namely the pre-event, which is entirely in the form of a series of online campaigns, and the main-event, which takes place at the location of SDN 03 Panggarangan Village, Lebak, Banten. For pre-events held online, followed by anyone who follows the @sapa.laut account. 158 third, fourth, and fifth-grade students, along with their accompanying teachers, attended the series of main events held at SDN 03 Panggarangan. The following is a detailed description of the pre-event and main-event implementations.

1. Pre-event: Online campaign and fundraising via Instagram (@sapa.laut)

The series of pre-event events is packaged in the form of online campaigns carried out through Instagram. Students of Multimedia Nusantara University who take part in the Sapa Laut campaign get +1 SKKM Community Service by complying with regulations determined by the organizing committee to require participants, as follows:

1. Follow Sapa Laut's Instagram account (@sapa.laut).
2. Post a twibbon with a predetermined caption and hashtag. Twibbon can be accessed via the link listed on Sapa Laut's Instagram bio, with the photo showing the face clearly.
3. Create infographics or posters with the theme of sea pandanus (example: functions, benefits, fun facts about sea pandan plants, and others).
4. Donate at least Rp20,006 (must enter unique code 006) through BCA account 6565297931 a/n Clarita Jusuf for one sea pandan seed.
5. Include all evidence (follow, twibbon, infographic/poster, and transaction) on the Google Form provided.

2. Main event: Education Session, Seed Planting, and Participant Evaluation

The main series of events were held offline in Lebak district, precisely in Panggarangan Village. The event was held in three sessions, namely an educational session involving offline teaching and campaigns for students and teachers of SDN 03 Panggarangan. This educational session was carried out in the classroom using presentation material tools and educational posters prepared by the PKM team.

The second session was an environmental care action, where students and teachers went together to the location where sea pandanus was planted and went down directly to plant sea pandan seeds that the Sapa Laut PKM team had provided. The planting site for sea pandan seedlings is about 500 meters behind SDN 03 Panggarangan. The location was chosen because it is close to the location of offline campaigns or education activities and is also a coastal area whose marine pandan ecosystem is already worrying.

After the sea pandan seedling planting session, students and teachers returned to school and participated in the third session. This session is a question and answer session (quiz) and the distribution of prizes and gifts that the PKM team has prepared. This quiz and question and answer session was also an evaluation session related to the success of the offline campaign in the form of sea pandan education given to SDN 03 Panggarangan students. The number of participants involved was 175 students at SDN 03 Panggarangan, consisting of grades 1, 2, 3, 4, and 5.

Volunteers from the South Lebak Mitigation Group (GMLS) also assisted the PKM team, which consisted of UMN lecturers and students, in all offline activities. Volunteers from the South Lebak Mitigation Group (GMLS) also assisted the PKM team, which consisted of UMN lecturers and students, in all offline activities. Gugus Mitigasi Lebak Selatan (GMLS) is a local civil society organization that plays an important role in disaster mitigation activities in Panggarangan village, located on the southern shore of Lebak Regency, Indonesia. For the preparation of Panggarangan Village to become a tsunami-ready community, GMLS has engaged in partnerships with a multitude of organizations, including the National Research and Innovation Agency (BRIN), The Agency for Meteorology, Climatology, and Geophysics of Indonesia (BMKG), U-INSPIRE Indonesia, Bandung Institute of Technology (ITB), the Kidzsmile Foundation, Multimedia Nusantara University (UMN), ID Flow Stories, and RAPI (Inter Inhabi). In addition, GMLS has actively involved the local community in various mitigation and preparedness efforts, and it has contributed to the completion of twelve indicators in Panggarangan Village.

In this research, we used data triangulation for data analysis. The initial stage involved collecting all data or research evidence from online and offline campaigns. This included documentation, interview results, and observations. The next stage is to select data by eliminating data that is not related to the research objectives. The final stage is concluding the data selected in this research.

Results and Discussion

Result

In this section, the results of the campaign are presented in two sub-chapters, namely online campaign results and offline campaign results. The online campaign results are based on analyzing the content uploaded on the Instagram account @sapa.laut and the number of participants participating in fundraising. The offline campaign results are based on the evidence of activities and output results carried out during the activity, such as the Sea Pandan Seed Planting Session and the educational session at SDN 03 Panggarangan.

- Online campaign results

  Online campaigns carried out through Instagram social media @sapa.laut can be measured from two aspects, namely the aspect of content uploaded as input and the number of participants who participate in fundraising as an impact (outcome) of the campaign. The online campaign results can be measured from two aspects, namely, the aspect of content uploaded as input and the number of participants who participate in fundraising as an impact (outcome) of the campaign. To assess the online campaign's

success, it is essential to consider various metrics and key performance indicators (KPIs) that align with the campaign's goals. By analyzing these metrics and KPIs, it is possible to evaluate the online campaign's success in achieving its goals and raising awareness about the ecological benefits of screwpine trees. This data can also inform future campaigns, allowing adjustments and improvements to enhance effectiveness.

Most plans formulated in Chapter 3.1 can be fulfilled in the content aspect. In addition, in less than a month, @sapa.laut's Instagram account has gained 402 followers with 42 content uploads. This demonstrates the effectiveness of the content strategy and the visual identity in attracting and engaging with the target audience. The following image visually represents the account's Instagram profile page, @sapa.laut:

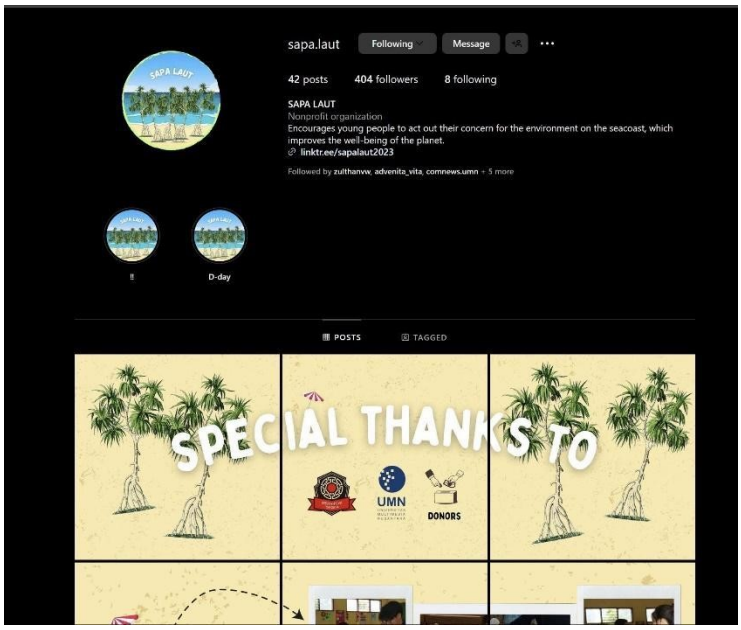

Figure 1. Instagram Profile: @sapa.laut

The number of donated participants exceeded the initial goal of 300 participants. Until the end of the online campaign and donation period, approximately 400 people donated, with the total donation amount reaching Rp7,077,000. All proceeds from the donation were given to the treasurer of SDN 03 Panggarangan as cash assistance for school operations.

- Offline Campaign Results

The results of offline campaigns divided into education, sea pandanus planting, and evaluation sessions are explained sequentially and divided into several sub-chapters as follows:

1. Education Sessions

The education session starts at 08:00 WIB on May 22, 2023, in the fourth and fifth-grade classrooms put together. There were 158 participants, 152 third-grade, fourth-grade, and fifth-graders, and six accompanying teachers. In this educational session, UMN students play an active role and interact with the participants. The material is provided with projector aids and posters printed in the form of x-banners. For this session, the material given to participants began with an introduction to the tsunami disaster, examples of the 2004 tsunami case in Banda Aceh, and the types of plants useful in breaking waves during a tsunami.

After the introduction to the tsunami disaster and the 2004 tsunami case in Banda Aceh, the educational session continued with a discussion of the importance of disaster preparedness and the role of plants in mitigating the impact of tsunamis. The UMN students leading the session provided examples of different types of plants, such as

mangroves, casuarina trees, and coastal vegetation, that can be used as natural barriers against tsunamis. The participants were also shown how to identify these plants and how they can be grown and maintained. The session included interactive activities, such as quizzes and planting demonstrations, to engage the participants and reinforce the key concepts. Overall, the educational session aimed to raise awareness among the students about the importance of disaster preparedness and the role of nature in mitigating the impact of natural disasters.

Figure 2. Education Session on the Importance of Sea Pandanus at SDN 03 Panggarangan

Meanwhile, educational posters contain more specific content related to the benefits and functions of sea pandanus as one of the plants that can break ocean currents and protect land from erosion and abrasion. The PKM team prints two posters. At the end of the activity, this poster was given to SDN 03 Panggarangan and the South Lebak Mitigation Group (GMLS). In addition to an introduction to the tsunami disaster and the benefits and characteristics of sea pandanus, this session also provided information on how to plant sea pandanus. An explanation of how to plant sea pandanus is given to the students of SDN 03 Panggarangan and also to the accompanying teachers in the following section.

2. Sea Pandan Seed Planting Session

The second session occurred on the edge of Panggarangan Beach and was about 500 meters from SDN 03 Panggarangan. In order to facilitate mobilization, GMLS volunteers, PKM students, and homeroom teachers divided SDN 03 Panggarangan students into several groups. The session was an engaging and educational activity on the edge of Panggarangan Beach, approximately 500 meters from SDN 03 Panggarangan. The session was divided into several groups to facilitate the mobilization of participants. These groups comprised SDN 03 Panggarangan students, GMLS volunteers, PKM students, and homeroom teachers, all working together to promote environmental conservation and disaster preparedness.

Figure 3. Student mobilization to the planting site with the assistance of GMLS Teachers and Volunteers

When the GMLS volunteers and PKM member students arrived at the planting site, they took over command of the activity. GMLS volunteers distributed the seeds of sea pandanus provided to the participants. Students of SDN 03 Panggarangan were given safe planting instructions and information about planting distances between seedlings.

Figure 4. Distribution of Sea Pandan Seeds by South Lebak Mitigation Group (GMLS) Volunteers

PKM member students ensure that all participants who are students and teachers of SDN 03 Panggarangan get sea pandan seeds and plant them with a planting distance of 5 meters from each seedling. This planting distance is needed so that sea pandan seedlings can grow optimally and the roots do not collide with the sea pandan plants next to them. In addition to the planting spacing, it is also necessary to ensure that the planting pit has a depth of more than 30 cm. This is necessary so that currents do not easily wash away the roots of sea pandan seedlings during high tide.

Figure 5. Planting Sea Pandan Seeds by Students of SDN 03 Panggarangan

This sea pandan seedling planting session lasted for approximately 45 minutes. In addition to sea pandan seeds, the committee also actually provides plastic gloves that can be used to dig planting holes in the beach sand. However, the participants preferred to use hands without gloves. At the location, the committee also provided bottled drinking water for the participants, considering the hot outdoor conditions and the potential to cause dehydration. In addition, facilities in the form of garbage plastic bags are also provided to accommodate polybag waste from sea pandan seeds.

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In addition to the planting activity, the session also included educational components. The students were provided with information on the importance of sea pandan plants in coastal ecosystems and their role in disaster preparedness, such as their ability to help stabilize sand dunes and reduce erosion. The students were also shown examples of how to care for the plants, including watering and pest control, to ensure their successful growth. Of the 200 sea pandan seedlings allocated by the PKM Team, participants succeeded in planting around 158 seedlings. The GMLS volunteer team will plant the remaining seeds. Considering the hot location conditions and physical condition of SDN 03 Panggarangan students, the activity was limited to 45 because not all seedlings were successfully planted at one time.

3. Evaluation Session: Q&A and Door Prizes

After the sea pandan planting session, all PKM participants and the committee returned to the classroom and participated in a question-and-answer session packaged with quizzes and games. In this question-and-answer session, participants were much more active and eager to answer questions than during the initial session. Information that was tried to be returned to the participants included the characteristics of sea pandanus, its benefits, and how to plant it.

For questions about the sea pandanus's characteristics, students added physical information based on their interactions during planting sessions. The participants successfully explained the physical characteristics of sea pandanus in the form of leaves

with sharp and fine serrations, the distinctive aroma of sea pandan roots, and the texture of the leaves. Participants also took the initiative to provide tips on planting sea pandan seedlings in this session. Some participants mentioned that it was easier to dig sand and make planting holes using twigs as a tool; others mentioned that it was easier to use hands. Based on the team's observations, another factor that made the participants more excited in this session was the provision of gifts as door prizes for participants who dared to answer or ask.

4. Donation Handover and Informative Posters

Closing the PKM Sapa Laut activities series, the team handed over the funds raised during an online campaign through Instagram, @sapa.laut. The head of PKM, as a team representative, handed over the donation to the secretary of SDN 03 Panggarangan.

Figure 6. Handover of Donations and Educational Posters to the Secretary of SDN 03 Panggarangan

In addition to donations, the PKM team also handed over posters used as tools during educational sessions to the school. The submission of this educational poster is expected to be used as a means of information for SDN 03 Panggarangan students who have or have not participated in educational sessions when PKM Sapa Laut is held.

Discussion

The work program of the community service work "Sapa Laut" program for SDN 03 Panggarangan in 2023 includes the implementation of a plant cultivation initiative that aims to provide educational opportunities for elementary school students and the local community. Students at SDN 03 Panggarangan and the nearby community planted trees to better understand the significance of preventing tsunami disasters. The work program garnered a unanimous endorsement from the local head and the Panggarangan youth organization. This practice also facilitates comprehension for future generations.

In addition to facilitating education and fostering comprehension, the primary objective of this work program is to cultivate a sense of enthusiasm among the residents and youth of Panggarangan, encouraging them to sustain and uphold the initiatives undertaken by the "Sapa Laut" community service team. The significance of imparting comprehension to young children is readily recalled, and certain pupils may also engage in the activity of cultivating vegetation in their coastal surroundings. Conversely, this has the potential to evolve into a customary undertaking that the Panggarangan village schools can perpetuate.

Online Campaigns on Social Media

Online campaigns through social media have effectively become a means of fundraising. Social media has been widely used to communicate about risks and mitigation efforts in various natural disasters. However, there is something to consider: not everyone living in disaster-prone areas can use social media to communicate. Other consideration factors are geography,

education level, and income, so choosing the right media to understand the audience (society) is important, which will influence the selection of appropriate communication media (Harnita, 2021).

Social media used in this period has not been directly optimized as a means of communication that can bridge the community with the community targeted by the services (in this case, students of SDN 03 Panggarangan) in the main event. This is in line with Harnita's findings (Harnita, 2021) that students in elementary school prefer face-to-face socialization as the most preferred way of learning about disasters because they can spontaneously ask questions. Therefore, this service activity focuses more on offline campaigns to become the main activity.

Offline Campaign as the Main Event

Based on the findings of the "Sapa Laut" research team, it has been observed that the community residing in Panggarangan, including parents and families of primary school students, exhibits a relatively low level of concern regarding the sustainability of future livelihoods. The team also evaluated the sea pandan planting operations to ensure all participants' clarity and comprehension of this work program. The team also proposed to the principal of SDN 03 Panggarangan the idea of inviting students to consistently demonstrate concern for and engage in cultivating sea pandanus in the coastal regions inhabited by local communities.

Encouraging young individuals to develop an awareness of potential disasters and prioritize their safety is a relatively straightforward task for educators at SD 03 Panggarangan. This is due to the prevailing tendency among contemporary children to prioritize technological engagement over acknowledging the potential risks associated with natural disasters, such as tsunamis, within their immediate surroundings.

This small entity represents a positive trajectory for the contemporary generation. The provision of sea pandan tree seeds serves a dual purpose, as they are not only intended for coastal planting but also act as teaching resources for the principal of SDN 03 Panggarangan. The objective is to instill in pupils the importance of planting sea pandan tree seeds and preserving this plant in coastal regions.

The coastal presence of sea pandanus requires the assistance of individuals who understand the inherent risks associated with probable tsunami events. The visual representation in Figure 5 showcases the initial steps students took at SDN Panggarangan 05. However, some elementary school students in other educational institutions have yet to demonstrate significant growth in understanding and appreciation of the benefits of sea pandanus. This particular initiative holds promise as an effective means of fostering greater awareness regarding the significance of sea pandanus among children residing in Panggarangan Village.

The team’s implementation of the educators' instructional strategies aligned with Arisona’s (2020) socialization framework. The approach encompasses two key components: socialization and a simulation of a tsunami disaster. Deploying disaster mitigation outreach initiatives offers fundamental information regarding various sorts of disasters, symbols associated with disasters, and preparedness protocols to be followed before, during, and after a tsunami event, employing visual aids. Labudasari and Rochmah (2020) argue that the lecture method in the learning approach to disaster mitigation will only be effective if it is supplemented with other methods such as field trips, game simulations, experiments, and routine disaster response training. For this reason, the service team makes seedling planting its main activity. In its implementation, planting seedlings is a form of field visit as part of an offline campaign that requires mass mobilization from one point to another. In this mobilization, from the location of the lecture to the place of direct visit, all relevant parties should coordinate optimally to mobilize participants in an orderly manner.

Moreover, when executing offline campaigns, the implementers must possess a comprehensive understanding of the prevailing circumstances and local conditions. It is better to conduct a thorough field survey before carrying out the activity. In a session of planting sea pandanus on the beach with scorching sun conditions, the service team should provide tents or encourage participants to wear head protection. The involvement of students and volunteers of

the South Lebak Mitigation Group in the community service activities not only launched a series of activities but also helped supervise and facilitate the participants (elementary school students). To ensure continuous awareness, Pahleviannur (2019) proposes that maintenance and supervision should be implemented as a means of control to maximize the effectiveness and utility of the solutions provided by the service team for students.

Based on empirical data gathered through direct observations and interviews with key stakeholders, including school principals, teachers, and students, it was ascertained that the activity mentioned above proved highly beneficial. This activity effectively imparted fundamental knowledge about the various types of tsunamis, tsunami alerts, and preparedness protocols to be followed before and during them. In the aftermath of tsunami-related calamities, all are conveyed through visual representations. The participants express their desire for this activity's ongoing and enhanced continuation.

Conclusion

Based on the research conducted at SDN 03 Panggarangan Village, Bayah, Banten, it can be concluded that raising public awareness of the ecological benefits of screwpine trees through online and offline campaigns is an effective way to promote the importance of afforestation and biodiversity conservation. The use of Instagram social media has proven to be optimal in the online campaign process, both for information dissemination and fundraising. The involvement of many parties in offline campaign activities can help implement activities, but it also has the potential for conflict if there is no good coordination between parties.

Offline campaigns that combine indoor and outdoor activities can boost the morale of elementary school-age participants. However, strict supervision of elementary school participants needs to be carried out. PKM's partner, the South Lebak Mitigation Cluster, is constructive in preparing and implementing activities. The GMLS team also assists with several accesses that make it easier for the PKM team. Using social media as a means of disseminating information can be more optimal if the manager of the @sapa.laut Instagram account is more active in uploading content, either before, during, or after offline campaign activities. Many things that need to be done are to provide training or dress rehearsals for students who participate in similar community service activities to be more dexterous when in the field. In addition, coordination between all parties, namely lecturers, students, teachers of SDN 03 Panggarangan, and GMLS volunteers, needs to be optimized to align during the activity.

Following up on the findings of this community service-based research, the people who ran the service plan to run a long-lasting offline campaign about the environmental benefits of marine pandanus, aiming at people from a range of demographics. important, considering the condition of the marine pandan ecosystem in Panggarangan village, Bayah, Banten, which is threatened due to the community's economic utilization of sea pandanus plants. By promoting the ecological benefits of screwpine trees, the campaign can help raise public awareness of the importance of afforestation and biodiversity conservation and provide economic and social benefits to local communities. Environmental awareness campaigns, such as festivals, can also provide individuals with the necessary knowledge, skills, and attitudes to prevent environmental issues.

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