

FROM MINING PITS TO ECO-TOURISM: THE ROLE OF TOURISM AWARENESS GROUPS IN FOSTERING ENVIRONMENTAL CITIZENSHIP IN BANGKA BELITUNG

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ABSTRACT

This research aims to describe the role of the tourism awareness group in the effort to restore post-tin mining land as a manifestation of environmental citizenship implementation. Tin mining activities in the Bangka Belitung Islands cause negative impacts in the form of abandoned mining pits that have not undergone proper and ideal reclamation processes. This research focuses on the study of the role of tourism awareness groups in the post-mining land rehabilitation process as a form of environmental citizenship in Pading Lake, Perlang Village. The research was conducted using a qualitative approach with a descriptive method. Data collection was conducted through observation, purposive sampling interviews, and also supported by document studies. The results of this study found that the tourism awareness group plays a role not only as managers of the tourist area but also as a driving force in raising environmental awareness and the collective responsibility of the community towards ecosystem sustainability. These activities align with the concept of environmental citizenship, characterised by individual and collective awareness to protect and care for the surrounding environment. The program run by the tourism awareness group also has a deterrent effect on illegal mining activities in the revitalised area.

ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan peran kelompok sadar wisata dalam upaya pemulihan lahan pasca tambang timah sebagai perwujudan implementasi *environmental citizenship*. Aktivitas pertambangan timah di Kepulauan Bangka Belitung turut menimbulkan dampak buruk berupa lubang-lubang bekas galian tambang yang tidak mengalami proses reklamasi dengan baik dan ideal. Penelitian ini berfokus pada kajian terhadap peran kelompok sadar wisata dalam proses pemulihan lahan pasca tambang sebagai bentuk perwujudan *environmental citizenship* di Danau Pading, Desa Perlang. Penelitian dilaksanakan melalui pendekatan kualitatif dengan metode deskriptif. Pengumpulan data dilakukan dengan observasi, wawancara secara purposive sampling, dan juga didukung dengan studi dokumen. Hasil penelitian ini menemukan bahwa kelompok sadar wisata berperan tidak hanya sebagai pengelola kawasan wisata, tetapi juga sebagai motor penggerak dalam meningkatkan kesadaran lingkungan dan tanggung jawab kolektif masyarakat terhadap keberlanjutan ekosistem. Aktivitas tersebut sesuai dengan konsep *environmental citizenship* yang dicirikan dengan adanya kesadaran secara individu maupun kelompok untuk menjaga dan merawat lingkungan sekitar. Program yang dijalankan oleh kelompok sadar wisata juga berdampak sebagai efek tangkal bagi aktivitas pertambangan tanpa izin di wilayah yang telah direvitalisasi.

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INTRODUCTION

Tin is one of the significant natural resources in Bangka Belitung Islands Province and has long been a commodity for the local economy (Ibrahim et al., 2018). Tin mining provides quicker prospects for income compared to many other conventional economic sectors, hence many people rely on the tin mining industry for their living (Budimanta, 2017). The change in livelihoods has also affected changes in land use, which was formerly used mostly for high-value pepper plants (Darwance et al., 2023). Tin, in this case, is not only an economic commodity but also determines social ties of the community with their living area and surrounding environment (Haryadi et al., 2025).

The existence of tin as a high value resource has a double impact for the inhabitants of Bangka Belitung (Primahardani & Erlinda, 2025). The tin mining is economically profitable to the miners and the population around on the one hand (Ibrahim et al., 2018). Meanwhile, mining operations also bring ecological problems such as soil degradation, landscape changes, and pollution on land and in water bodies (Sukarman et al., 2020). This circumstance indicates that the community's reliance on the exploitation of natural resources presents severe obstacles for the practice of environmental citizenship in Indonesia (Primahardani & Erlinda, 2025).

The topic of tin mining in Bangka Belitung is of importance to the local population as well as interesting to foreign readers (Pratiwi et al., 2025). Bangka Belitung is part of the worldwide tin supply chain related to the electronics sector, digital technology, and sustainable energy demands (Pratiwi et al., 2025). Similar problems are seen in many mining areas in Africa, South America, and Asia (Schwartz et al., 2021). The Lake Pading case study demonstrates the challenges of old mining pits, the damaged landscape, and the conflict between immediate economic wins and environmental rehabilitation. Thus, Danau Pading may be seen as a microcosm of global extractive concerns, showing how local populations face the ecological repercussions of goods flowing in the international market (Maus et al., 2022).

The formulation of mining legislation in Indonesia also provides room for the participation of private parties and small-scale mining in the management of mineral resources (Suntara et al., 2024). In addition, the establishment of regional autonomy enables local governments to control the growth of their areas, particularly in the mining industry (Sari, 2015). However, the development of mining sites also brings additional challenges when the exploitation operations are not followed by proper reclamation and environmental control (Suntara et al., 2024). The following influence of these conditions is found in the appearance of various post-mining sites that become useless when the mining activities are stopped (Pratiwi et al., 2025).

Companies and mining communities have not carried out reclamation; therefore, many post-mining regions have become abandoned water holes or old excavation lakes (Haryadi et al., 2025). Reclamation is a method of repairing previous mining land in order to progressively restore the ecological functions of the former mining area (Haryadi et al., 2025). The lack of sufficient reclamation is in contradiction with the principles of mining legislation that call for the restoration of ecosystems after exploitation (Chamid et al., 2020). This circumstance means that the post-mining recovery needs to be shared responsibly by the government, company operators, miners, and the surrounding community (Haryadi et al., 2024).

Efforts to repair the ecosystem after mining have been made by the local government and tin mining corporations by replanting various types of flora (Putra et al., 2017). However,

these attempts are hampered since some of the mining pits have filled with water and turned into lakes, which are difficult to restore by backfilling (Putra et al., 2017). Another difficulty comes from the post-mining soil character that is often acidic and deficient in nutrients, which requires ecological restoration solutions that are more appropriate to the local situation (Pratiwi et al., 2021). Recent literature shows that post-mining rehabilitation cannot be based on technical measures only, but involves social governance with the involvement of local populations (Pratiwi et al., 2021).

The state of the art in post-mining research indicates that land restoration is gradually moving towards more participatory and sustainable ways (Rohaendi & Herlinawati, 2024). Research on post-mining geotourism has found that ex-mining sites may be converted into alternative tourist destinations with educational and economic benefits (Rohaendi & Herlinawati, 2024). Research on community-based tourism has indicated that community involvement can promote conservation and the development of more sustainable places (Nuraeni & Kusum, 2023). However, community engagement in tourism is still sometimes hampered by hurdles such as access concerns, capacity restrictions, the dominance of some players, and minimal public involvement in decision-making (Reindrawati, 2023).

Recently, a new strategy has been developed, namely the role of Tourism Awareness Groups (Kelompok Sadar Wisata, hereafter *Pokdarwis*) (Nuruddin et al., 2023) in the rehabilitation of post-mining territory. *Pokdarwis* is a group that grows from the grassroots of society who are aware of environmental preservation as a potential for regional tourism. *Pokdarwis* not only may perform the function of tourist development but also can be a role in the management of the environment, community education, and empowerment of the communities surrounding the former mining regions (Nuruddin et al., 2023). *Pokdarwis* has become a social actor that links the rehabilitation of former mining areas with the development of community-based tourism (Suntara et al., 2024) in the framework of Lake Pading. This role is vital since environmental restoration cannot be totally dependent on the government and corporations, but also requires collective activities by the community that stem from local knowledge (Gusmadi, 2018).

The idea of environmental citizenship (Hadjichambis et al., 2022) provides a lens for understanding community-based environmental restoration. This notion emphasizes the duty of people and groups to preserve the environment by doing pro-environmental acts in both private and public settings (Hadjichambis et al., 2022). Environmental citizenship is crucial to understanding the example of Danau Pading since the community is not only harmed by environmental degradation but may also become players in repairing, caring, and supervising their ecological space (Sarid & Goldman, 2021). In this sense, citizens are perceived as change agents that have knowledge, values, duties and tangible actions for solving environmental concerns (Hadjichambis et al., 2022).

Previous research on post-mining reclamation has concentrated on technical elements such as land restoration, revegetation, and controlling environmental damage (Pratiwi et al., 2021). Post-mining geotourism studies are more focused on the opportunity of space use, economic value, and viability of tourist places (Rohaendi & Herlinawati, 2024). Research on illicit tin mining in Bangka Belitung discusses more on legal, economic, and local knowledge issues in limiting mining operations (Rachman & Al Muchtar, 2018; Rahayu et al., 2024). However, research on environmental citizenship in Indonesia has not focused much on post-mining communities who turn damaged places into sites for tourism, education, and citizen involvement (Primahardani & Erlinda, 2025).

METHOD

This research uses a qualitative approach with a descriptive method. The selection of this method is based on the objective of comprehensively describing the contribution of *Pokdarwis* in rehabilitating post-mining land in line with the realisation of environmental citizenship. The research process began with direct observation by the research team in the post-mining environment to uncover important facts related to the condition of the post-mining area. This was followed by interviews and document studies on matters necessary for the accuracy of the research data, such as village reports and local news archives.

Interviews were conducted using purposive sampling on informants relevant to the research problem, namely the head of the sub-division of *Pokdarwis* Danau Pading who has managed Danau Pading for more than four years, members of *Pokdarwis* Danau Pading who are native residents of Perlang Village, the Secretary of Perlang Village Office, and the Head of the Department of Culture, Tourism, Youth, and Sports (Dinbudparpora) of Central Bangka Regency. The interview technique was conducted using semi-structured in-depth interviews. A semi-structured approach allows researchers to stick to the interview guide but have the flexibility to dig deeper into informants' answers. The profile of the informants in this study is detailed as follows.

Table 1. Informant Profile

No	Initials Name	Instance	Role of the Informant
1	JY	Head of the <i>Pokdarwis</i> sub-division of Danau Pading who manages Danau Pading	Key Informant
2	MT	Members of the Pading Lake <i>Pokdarwis</i>	Key Informant
3	ZL	Head of the Culture, Tourism, Youth, and Sports Office (Dinbudparpora) of Central Bangka Regency	Additional Informant
4	RA	Secretary of Perlang Village	Additional Informant

Source: Research Results (2024)

The research was conducted in the district of Central Bangka Regency, namely in Perlang Village, from June to September 2024. The selection of the research location is based on the condition of the area, which has post-tin mining land that has been revitalised into a tourist lake, namely Danau Pading. The site was also selected because of the ongoing problem of potential illegal mining activities around the post-mining land by the community.

The data gathered were analyzed through three stages: data reduction, data presentation, and conclusion drawing (Miles & Huberman, 2002). The analysis of the data above is consistent with the idea that qualitative research is exploratory and interpretative in nature, as researchers aim to understand the meaning of human experiences within the context of their social lives naturally (Creswell, 2016).

The research findings are then analysed through data reduction, data display and drawing of conclusions. Data reduction is the process of condensing raw data from observations, interviews and document studies and focusing on information that is relevant to the research objectives. The data presentation is done by organizing the research findings in a narrative manner. The presentation forms patterns that are linked to the research aims. The verification process through data triangulation improves data validity, strengthens the findings, and broadens understanding, which opens the conclusion.

RESULTS AND DISCUSSION

1. *Pokdarwis* Activities in Post-Mining Land Rehabilitation

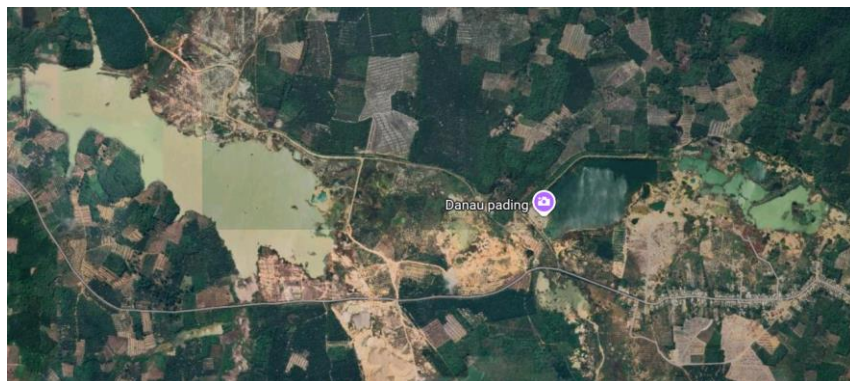
The work of the tourism awareness group (*Pokdarwis*) in post-mining land restoration has demonstrated substantial success in changing former tin mining regions into sustainable tourist destinations. As part of the revitalization efforts, the *Pokdarwis* of Perlang Village oversees Lake Pading, which was formerly an unregulated post-mining region. In the process of revitalization, *Pokdarwis* emphasizes improving the quality of the environment in terms of aesthetics and the functionality of the ecosystem. Among these initiatives are the reorganisation of the region around the lake to make it more organised, attractive, and safe for tourists (Suntara et al., 2024).

This initiative is one of the quite solution-oriented steps to transform unproductive land into something more valuable for both the community and the ecosystem as a whole. The same efforts are also taking place in Poland, where post-mining areas are restored through various actions such as replanting for agriculture or forest recovery, and the remaining areas are also used as recreational spaces, parks, and sports facilities (Biegańska et al., 2023).

Moreover, several locations in post-mining areas have also been developed as tourist attractions, such as Zip World in Wales, which has been converted into an adventure tourism site, Peak Hill Open Gold Mine in New South Wales, which has been turned into a tourist attraction, Hannan's North Tourist Mine in Western Australia, which has been converted into a tourist site, and The Gove Peninsula East Arnhem Land in the Northern Territory, which has become an industrial and recreational area (Beer et al., 2022). A significant distinction between the rejuvenated areas in the post-mining area and Danau Pading resides in the management strategies. Lake Pading is managed autonomously, driven by the community's consciousness to develop the post-mining area into a worthwhile tourist destination, unlike tourist attractions in other nations that are often maintained professionally by commercial corporations. In Wales or Australia, post-mining reclamation is often initiated and fully funded by the state (top-down) with very strict regulations. In contrast, the case of Lake Pading in Indonesia demonstrates a grassroots/bottom-up initiative where village communities take over the role due to the slow pace of corporate or state intervention.

The active engagement of *Pokdarwis* is particularly crucial in this revitalisation process, notably in the aspect of self-managed environmental upkeep. It all started when local young people took the initiative during the COVID-19 outbreak and began cleaning and straightening up the lake area that had been neglected before. The activity progressed through organizing the region, integrating local people voluntarily, improving the living environment, and encouraging tourism development. This activity has become a new oasis for the unproductive post-mining environment, increasing its value, especially in the current state in the middle of society with little knowledge of environmental preservation (Mahmudi et al., 2024).

Figure 1. The Landscape of the Danau Pading Area Surrounded by Post-tin Mining Land



Source: Google Maps

The photograph depicts Lake Pading located in an abandoned tin mine location. The traces of mine remains visible have generated many non-productive lakes. The revitalisation of Lake Pading began with the cleanup of the lake area as a gathering place for the young. "Activities in the lake were shared in social media so that people come to here along time went," remarked MT, member of Lake Pading *Pokdarwis* (Interview 2, 2024). *Pokdarwis* used social media to promote Lake Pading, create public awareness on the need of environmental preservation, and generate visitor interest. This suggests that a community strategy in general, and incorporating youth in particular, is particularly successful in transforming post-mining natural resources into sustainable tourist assets.

Pokdarwis's successful management of Lake Pading is shown by the successes of Perlang Village, which achieved third place in the Digital and Creative category at the 2022 Indonesian Village Tourism Awards. It indicates that the environmentally-oriented tourist management of local community may assist the conservation of nature and improve the local economy. The revitalisation of Lake Pading has had a good influence in attracting visitors which has enhanced the village's revenue and brought up new job options (Utami & Ardiyanto, 2021).

Furthermore, the problems encountered by *Pokdarwis* are not few. One is the management of the natural landscape left after the mining which needs to be given specific care so as to prevent environmental hazards like erosion and sedimentation. The obstacles are somewhat considerable but *Pokdarwis* has showed a great commitment to solve these problems through active community engagement and a *gotong royong*-based strategy (Sari, 2015). This method is in line with the ideas of civic engagement where the community not only engages in collective actions but also has a strong feeling of responsibility towards environmental sustainability.

Figure 2. The Current Condition of Lake Pading as a Tourist Destination



Source: Research Results (2024)

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The presence of *Pokdarwis* activities in post-mining land restoration also supports the emergence of a more profound idea of ecological-based tourism. In terms of valuing sustainability, the *Pokdarwis* are not only concerned with economic growth through tourism but also encompass certain elements of environmental education. Tourists coming to Lake Pading not only enjoy the natural environment, but are also welcomed to learn the process of revitalization and the necessity of protecting nature. This program gives the community more knowledge about the negative affects of unregulated mining and the significance of reclamation to restore the natural functions of the damaged land. This method is deemed effective in changing the consciousness of the community and visitors through *Pokdarwis* about the importance of their proactive duty in protecting environment.

The revitalisation activities implemented by *Pokdarwis* at Lake Pading show that community involvement in the post-mining environmental recovery can bring significant changes not only in the physical aspects of the area but also in increasing environmental awareness and strengthening the local economy. The engagement of the community has significant potential to achieve sustainability in the development that has been previously undertaken (Rachman et al., 2023). It is envisaged that such initiatives would be broadly applied in other locations with comparable problems with backing from the government and other connected parties.

From the social aspect, the revitalization initiatives carried out by *Pokdarwis* also have a good influence on the relationships amongst people. The partnership that formed via the revitalization produced strong social ties between community members. By working together to take care of the environment, the community not only improves the physical state of the locality but also strengthens the social solidarity that enables more inclusive and sustainable growth. This active involvement cultivates a feeling of ownership of the environment which is crucial for the sustainability of such programs. The community

becomes the beneficiaries and the custodians of the outcomes of the revitalisation (Suntara et al., 2024).

The community's active engagement in the administration and protection of this tourism area demonstrates that, with the appropriate strategy, local people can be vital players in preserving the balance between development and environmental conservation. This revitalisation so provides a paradigm that may be duplicated in other sectors with comparable issues of post-mining land recovery. It is envisaged that via a robust partnership between the community, government and business sector, environmental sustainability and the development of the community's quality of life may be realized.

2. Implementation of Environmental Citizenship through Pokdarwis Activities

Environmental citizenship is directly associated with the participation of a person or group in solving environmental problems, depending on their desire and skill as a member of the social community (Hadjichambis & Reis, 2020). The application of environmental citizenship through the actions of *Pokdarwis* in post-mining shows how the concepts of environmental citizenship are used in the management and preservation of nature. *Pokdarwis* not only act as administrators of tourism places, but also the key movers in increasing environmental consciousness in the community. Their actions put emphasis on the notion of shared responsibility for environmental sustainability, which is in line with the values of environmental citizenship where each individual and community feels accountable for the state of the environment around them.

Pokdarwis began transforming the former mining lake or *kulong* into an environmental education tourism area called Danau Pading in Perlang Village (Suntara et al., 2024). Through a participatory and collaborative approach, they create awareness that environmental sustainability is not only the duty of the government or companies, but also a moral obligation of the community as environmental citizens who care about the sustainability of their living ecosystem (Murtasidin et al., 2023).

The activities of the tourism awareness group (*Pokdarwis*) in Perlang Village have features that are relevant to the concept of environmental citizenship, which include knowledge, skills, awareness, responsibility, and respectful behavior towards the environment at both individual and community levels (Hadjichambis & Reis, 2020). The table below shows the application of environmental citizenship by *Pokdarwis* in Perlang Village.

Table 2. Implementation of Environmental Citizenship by *Pokdarwis* Desa Perlang

No	The Concept of Environmental Citizenship	<i>Pokdarwis</i> Activities	Empirical Facts in the Field
1	Knowledge and skills	Post-mining area management through the edutourism concept is supported by a professional organization.	The transition of land use from a post-mining non-productive lake to a tourist destination
2	Awareness	Initiation of post-mining recovery into a tourist destination called Danau Pading	The initial revitalisation was carried out independently.
3	Responsibility	Maintaining the authenticity and increasing biodiversity to	The management of Lake Pading has been implemented

No	The Concept of Environmental Citizenship	<i>Pokdarwis</i> Activities	Empirical Facts in the Field
		promote post-mining land recovery and create better natural conditions.	sustainably in the revitalisation of the environment and the enhancement of its capacity as a tourist destination.
4	Respectful Behaviour	Implementing arrangements and modifications as needed while maintaining the natural situation, supported by cooperation with other parties such as the community and the government.	Collaboration is carried out with other parties such as the surrounding community, local government, and private sector.

Source: Research Findings (2024)

Table 1 depicts the active role of *Pokdarwis* in activities such as managing tourist areas, planting vegetation around the lake, and socializing the ban on illegal mining activities, which indicates the internalization of values of environmental citizenship grounded in care, responsibility, and social solidarity (Khairunnisah, 2019). These activities also show that the social transformation from a mining community to an environmental preservation community can be realized through community-based collective actions that emphasize the principles of sustainability, mutual cooperation, and local innovation (Utami & Ardiyanto, 2021). Thus, *Pokdarwis* has the actual potential to develop awareness of the environment based on citizenship that can improve the nature of environmental citizenship at the local level. This sensitivity is also in accordance with the features of the developing civic attitude in the community (Setyawati & Aulia, 2023).

Pokdarwis Perlintar in Perlang Village not only cares about expanding tourist potential, but also incorporates the community in the revitalisation of the environment. *Pokdarwis* educates the value of nature protection by actual measures, cleaning and organizing the Pading Lake region post-mining which was previously ignored. This activity shows a learning process of the community on how to keep the ecological balance even if the land is destroyed by mining operations. In this situation, *Pokdarwis* functions as a catalyst of change, helping the community to understand that the responsibility to conserve environment is not only the government or commercial sector, but also each individual. The indirect engagement of the community can be able to create a healthy habit that is internalized within them (Maulana & Bakhrun, 2024).

The development of this awareness is important to implement and instill in the communities around the mining areas to strengthen the understanding of the formation of environmental morality within the society. The environmental morality referred to here is the development of an attitude of valuing the environment as an entity that must be preserved. Awareness of environmental morality allows for the wise use of natural resources, not only to meet human needs but also to maintain the ideal quality of the environment (Haryadi et al., 2024). Knowledge and awareness of environmental preservation are ultimately expected to become ingrained characteristics within society, thereby contributing to the nation's progress in the environmental realm (Supriyanto, 2020).

Through their active role in environmental preservation, members of *Pokdarwis* are also able to impart the principles of environmental citizenship in the next generation. They

urge young people to get involved in activities that help nature and society. This way, *Pokdarwis* not only changes the face of the devastated environment, but also creates awareness that environmental protection is a common duty. Moreover, *Pokdarwis* also functions to promote ecologically beneficial activities like as waste management and outlawing illicit mining around tourist regions. All these processes show how to turn environmental citizenship into tangible activities for sustainable management of natural resources.

Furthermore, the achievement of *Pokdarwis* in maintaining ecologically friendly tourism places has a favorable relationship with the economic elements of the town. The local population has started to see the advantages from the revitalisation works being undertaken, more and more visitors are coming. This indicates that the practice of environmental citizenship has a positive influence on the environment and offers new economic prospects for the community. Tourism revenue may then be used to build infrastructure and improve the quality of life for the local community.

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3. Challenges of Implementing Environmental Citizenship in Post-Mining Areas

Despite the favorable results of implementing environmental citizenship through *Pokdarwis* programs, the hurdles in implementing environmental citizenship in post-mining communities remain significant. One of the biggest problems is resistance from some community members who still participate in illicit mining activities. In certain regions where mining has ended and which are now tourist sites, residents nonetheless try to do unauthorized mining for economic reasons. Therefore, the practice of environmental citizenship is hindered due to the tension between environmental protection and short-term economic goals. The ongoing proliferation of community-based informal mining activities has emerged as a multifaceted obstacle that hampers environmental rehabilitation endeavors (Suntara & Pasaribu, 2024).

“Some community members often directly oppose the initial process of post-mining land revitalisation. Many of them think that the actions taken will not positively affect the community and will disturb mining activities by the surrounding community,” stated JY, Head of the sub-division of *Pokdarwis* Danau Pading, which oversees Danau Pading (Interview 1, 2024). This shows that environmental citizenship in extractive areas does not occur linearly, but is full of negotiations and conflicts between short-term economic interests and long-term ecological interests. Additionally, another problem in implementing environmental citizenship is insufficient community knowledge of the necessity of environmental preservation. The efforts of *Pokdarwis* are positively impacting the revitalisation, although not all the people of the community recognize the necessity of environmental preservation. Environmental concerns are still perceived by some elements of the population around the post-mining area as something that is far from their everyday life.

The lack of environmental education and understanding of the long-term consequences of nature destruction are serious barriers for the implementation of environmental citizenship and constitute a challenge for the mass education initiatives for the community. The alterations to the lake region were slowly becoming more noticeable and the revitalisation effort was progressively gaining sympathy from the community. The local tourism awareness group (*Pokdarwis*) made an appeal to the village authority and the surrounding community to encourage Lake Pading as a tourist attraction. "Continuous revitalisation activities and constant communication with the village government and the community have finally made many parties to support it," stated MT, a member of the Lake Pading *Pokdarwis* (Interview 2, 2024).

Various efforts that then became an important part of mitigating the conflict between the tourism awareness group (*Pokdarwis*) and those who do not support the revitalisation of Lake Pading were through community-based social approaches and negotiations. The implementation of several entertainment events that attract the public to visit the lake site further strengthens the good relationship among the community to understand the importance of lake maintenance as part of the ecosystem that must be preserved by all parties, not just by the tourism awareness group (*Pokdarwis*).

However, in addition to that, the management of post-mining areas as tourist destinations also faces the problem of still limited infrastructure. Although there are efforts from *Pokdarwis* and the local government to improve tourist facilities, limited funds and resources remain the main obstacles. Without sufficient support from the local government or private sector, the development and maintenance of facilities that support environmentally-based tourism become a major challenge. Poor infrastructure can reduce tourist attractions and hinder the economic growth that should be derived from the tourism sector. This condition creates an urgency for the government to be sensitive to the needs of the community, as it is important for the government to demonstrate its presence by responding to the positive ideas of the community (Salis et al., 2025).

"The government considers the revitalisation of the post-mining environment in the Danau Pading area important, but some limitations cannot be avoided, so currently, the focus is more on strengthening quality through the development of the competencies of local tourism awareness groups (*Pokdarwis*) as managers of tourist attractions via various sustainable tourism management training sessions held annually," said ZL, Head of the Culture, Tourism, Youth, and Sports Office (Dinbudparpora) of Central Bangka Regency (Interview 3, 2024). "We, from the village government, are currently supporting this with the provision of several facilities to increase the interest of tourists coming to Danau Pading," added RA, Secretary of Perlang Village (Interview 4, 2024).

Finally, the obstacles in the implementation of environmental citizenship in post-mining regions demand further efforts to improve knowledge, deepen community engagement, and establish better management systems by different partners. There is a need for closer collaboration between the community, government, and the corporate sector to find solutions that protect environmental sustainability while also providing sustainable economic advantages to the community. These difficulties are anticipated to be addressed by a more inclusive and participatory approach, which should facilitate the development of more lasting reforms in the administration of post-mining areas. Good collaboration between the parties may surely enhance the sustainability of development that balances economic practices, environmental preservation and community social activities (Krismawan et al., 2025).

The key approaches to improve environmental citizenship in mining regions are very much required: awareness, education, and partnership between stakeholders. This urgency is important for the establishment of environmental norms, environmental behaviour, environmental concern, community involvement, and environmental decision-making, so that environmental awareness is not carried out after damage has happened, but starting from the prevention of mining activities in areas that are not suitable for mining (Efriani et al., 2020). The appearance of such knowledge can also be a barrier to the spread of illicit mining operations. The community is a single system that maintains the integrity of the land as a whole.

CONCLUSION

Based on the research undertaken, some of the results show that *Pokdarwis* has a vital role in post-mining environmental recovery efforts in the region of Perlang Village, Central Bangka Regency. *Pokdarwis*, which was developed to manage tourism, really has the potential to be a component of society that builds environmental citizenship. *Pokdarwis* not only functions as a manager of the tourism sites but also as an agent to increase the community's knowledge of the environment and the common commitment to the sustainability of the ecosystem. The research identified a uniqueness that the revitalisation efforts by the *Pokdarwis* at Lake Pading were carried out autonomously and generated from the community's awareness, unlike what has been done in numerous post-mining areas such as in Poland, Wales, and Australia. This clearly shows the behaviours that fit the notion of environmental citizenship.

The influence of *Pokdarwis* Perlang in the recovery of the environment in post-mining areas may be seen from the ecological, economy and community awareness aspects. Ecological restoration of the post-mining land to important producing regions has been done for the environment. The economic benefit of *Pokdarwis* encouragement in developing ecotourism can spur the growth of economically beneficial activities for the community around as a result of the presence of tourists and can serve as a catalyst to prevent the community from falling into the trap of illegal tin mining activities.

In the context of public awareness, public participation programmes can help promote environmental norms, environmental behaviour, environmental concern, community participation and environmental decision-making that can change the public's view to care for and value the environment as an important part of life. The next difficulty in post-mining land revitalization is that of sustainable management. One of the topics of study that might be addressed in future research is resilience of local community groups to preserve sustainability in the face of numerous obstacles emerging throughout time.

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The authors have no competing interests to declare relevant to this article's content.

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REFERENCES

- Beer, A., Haslam-McKenzie, F., Weller, S., Davies, A., Cote, C., Ziemski, M., Holmes, K., & Keenan, J. (2022). Post-mining Land Uses. *CRC TiME Ltd, Brisbane*. <https://espace.library.uq.edu.au/view/UQ:367e356>
- Biegańska, J., Tora, B., Sinka, T., Čablík, V., & Hlavatá, M. (2023). Reclamation and Revitalization of Post-mining Sites-ups and Downs. *Acta Montanistica Slovaca*, 28(3), 637–654. <https://doi.org/10.46544/AMS.v28i3.09>
- Budimanta, A. (2017). *Potret Pertambangan Rakyat di Pulau Bangka*. Wasantara.
- Chamid, C., Sulistijo, B., Kusumo, A. D., & Fhadila, O. (2020). Engineering Concept for Reclamation on Land Use of Abandoned Alluvial Tin Mine as a Solution to Achieve Sustainable Post-mining. *IOP Conference Series: Materials Science and Engineering*, 830(3), 32070. <https://doi.org/10.1088/1757-899X/830/3/032070>
- Creswell, J. W. (2016). *Research Design Pendekatan Metode Kualitatif, Kuantitatif, dan Campuran* (A. Fawaid & R. K. Pancasari (trans.)). Pustaka Pelajar.
- Darwance, Haryadi, D., Sari, R., Anwar, M. S., & Satrio, N. (2023). Tin Mining in Bangka Belitung Islands and Its Impact on the Reputation of Geographical Indication: A

- Policymakers Perspective. *IOP Conference Series: Earth and Environmental Science*, 1181(1), 12011.
- Efriani, Dewantara, J. A., Utami, D., & Listyaningrum, I. (2020). Ekologi Tradisional Dayak Tamambaloh. *Jurnal Ilmu Lingkungan*, 18(3), 503–514. <https://doi.org/10.14710/jil.18.3.503-514>
- Gusmadi, S. (2018). Keterlibatan Warga Negara (Civic Engagement) dalam Penguatan Karakter Peduli Lingkungan. *Mawa'izh: Jurnal Dakwah Dan Pengembangan Sosial Kemanusiaan*, 9(1), 105–117. <https://doi.org/10.32923/maw.v9i1.718>
- Hadjichambis, A. C., Paraskeva-Hadjichambi, D., & Georgiou, Y. (2022). Evaluating a Novel Learning Intervention Grounded in the Education for Environmental Citizenship Pedagogical Approach: A Case Study from Cyprus. *Sustainability (Switzerland)*, 14(3), 1398. <https://doi.org/10.3390/su14031398>
- Hadjichambis, A. C., & Reis, P. (2020). Introduction to the Conceptualisation of Environmental Citizenship for Twenty-first-century Education. In *Conceptualizing environmental citizenship for 21st century education* (pp. 1–14). Springer. https://doi.org/10.1007/978-3-030-20249-1_1
- Haryadi, D., Ibrahim, & Darwance. (2024). Membangun Tata Kelola Pertambangan Timah yang Ekosentris di Kepulauan Bangka Belitung. *Bina Hukum Lingkungan*, 8(3), 235–257. <https://doi.org/10.24970/bhl.v8i3.276>
- Haryadi, D., Ibrahim, I., & Darwance, D. (2025). Dinamika Migrasi dan Tantangan Reklamasi: Studi Kasus pada Komunitas Tambang Timah di Bangka Belitung. *Jurnal Ilmu Lingkungan*, 23(1), 218–227. <https://doi.org/10.14710/jil.23.1.218-227>
- Ibrahim, I., Haryadi, D., & Wahyudin, N. (2018). *Ekonomi Politik Sumber Daya Timah*. Istana Media.
- Khairunnisah, N. A. (2019). Partisipasi Pokdarwis Dalam Pengembangan Wisata Halal di Desa Sesaot. *JISIP (Jurnal Ilmu Sosial Dan Pendidikan)*, 3(3), 367–373. <https://doi.org/10.58258/jisip.v3i3.1394>
- Krismawan, D. A., Syaputri, M. D., & Butarbutar, E. N. (2025). Konstruksi Economic Analysis of Law dalam Penerapan Konsep Ekonomi Hijau di Sektor Energi Baru dan Terbarukan. *Jurnal Ilmiah Pendidikan Pancasila Dan Kewarganegaraan*, 10(4), 115–125. <https://doi.org/10.17977/um019v10i2p115-125>
- Mahmudi, M. A. R., Ismail, M., Sawaludin, S., & Alqadri, B. (2024). Penguatan Karakter Peduli Lingkungan Melalui Program Bank Sampah Inges (Studi Kasus Desa Dasan Lekong Kecamatan Sukamulia Lombok Timur). *Jurnal Kewarganegaraan*, 21(2), 235–246. <https://doi.org/10.24114/jk.v21i2.61208>
- Maulana, M. Y., & Bakhrun, A. (2024). The Impact of Sense of Community and Civic Engagement on the Well-Being of Student Executive Board Members of Politeknik Negeri Bandung. *Jurnal Kewarganegaraan*, 21(2), 247–264. <https://doi.org/10.24114/jk.v21i2.62134>
- Maus, V., Giljum, S., da Silva, D. M., Gutschlhofer, J., da Rosa, R. P., Luckeneder, S., Gass, S. L. B., Lieber, M., & McCallum, I. (2022). An Update on Global Mining Land Use. *Scientific Data*, 9(1), 433. <https://doi.org/10.1038/s41597-022-01547-4>
- Miles, M. B., & Huberman, M. (2002). *The Qualitative Researcher's Companion*. SAGE

Publications.

- Murtasidin, B., Robing, R., Ansyari, I., & Zulkarnain, I. (2023). Environmental Rescue by Local Initiatives in Bangka Belitung. *IOP Conference Series: Earth and Environmental Science*, 1267(1), 12070. <https://doi.org/10.1088/1755-1315/1267/1/012070>
- Nuraeni, E., & Kusum, Y. W. C. (2023). The Role of Community-based Tourism for Mangroves Conservation in Banten, Indonesia. *Jurnal Pengelolaan Sumberdaya Alam Dan Lingkungan*, 13(4), 606–612. <https://doi.org/10.29244/jpsl.13.4.606-612>
- Nuruddin, Ulumiyah, S. M., & Yudowati, D. M. (2023). Peran Kelompok Sadar Wisata dalam Pengelolaan Ekowisata Mombhul Sangkapura Bawean. *Al-Ujrah*, 2(01), 1–13. <https://ejournal.staialakbarsurabaya.ac.id/index.php/al-ujrah/article/view/63>
- Pratiwi, Narendra, B. H., Siregar, C. A., Iskandar, Mulyanto, B., Suwardi, Suryaningtyas, D. T., Dharmawan, I. W. S., Suharti, S., & Marsandi, F. (2025). Tin Mining and Post-Tin Mining Reclamation Initiatives in Indonesia: With Special Reference to Bangka Belitung Areas. *Land*, 14(10), 1947. <https://doi.org/10.3390/land14101947>
- Pratiwi, Narendra, B. H., Siregar, C. A., Turjaman, M., Hidayat, A., Rachmat, H. H., Mulyanto, B., Suwardi, Iskandar, Maharani, R., Rayadin, Y., Prayudyaningsih, R., Yuwati, T. W., Prematuri, R., & Susilowati, A. (2021). Managing and Reforesting Degraded Post-Mining Landscape in Indonesia: A Review. *Land*, 10(6), 658. <https://doi.org/10.3390/land10060658>
- Primahardani, I., & Erlinda, S. (2025). Environmental Citizenship: A Holistic Strategy To Realize Pro-Environmental Attitude Sustainability For Coastal Communities. *Jurnal Ilmu Lingkungan*, 23(3), 616–631. <https://doi.org/10.14710/jil.23.3.616-631>
- Putra, H. F., Sulistijorini, & Aryanti, N. S. (2017). Landscape Function of Post Tin-Mining Land after Reclamation in Bangka, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 58(1), 12018. <https://doi.org/10.1088/1755-1315/58/1/012018>
- Rachman, F., & Al Muchtar, S. (2018). Sustainable Development Discourses on Construction of Citizen Participation in Community Care for Environment. In A. G. Abdullah, L. Anggraeni, D. Iswandi, M. M. Adha, D. N. Anggraini, F. N. Asyahidda, O. T. Hidayat, J. A. Dewantara, & K. Fatkhi (Eds.), *Proceedings of the Annual Civic Education Conference (ACEC 2018)* (pp. 346–349). Atlantis Press. <https://doi.org/10.2991/acec-18.2018.79>
- Rachman, F., Yunita, S., Manik, M. M., Girsang, O. B., Safitri, E., Sabri, T. M., Halizah, N., Yasmin, P., & Juliandi, J. (2023). Pembangunan Ekosistem Laut Berkelanjutan Melalui Keterlibatan Warga Dalam Pengelolaan Hutan Mangrove di Desa Tanjung Rejo. *Jurnal Kewarganegaraan*, 20(1), 40–52. <https://doi.org/10.24114/JK.V20I1.43782>
- Rahayu, D. P., Rahayu, S., Faisal, & Yanto, A. (2024). Countering Illegal Tin Mining with a Legal Formulation of Law Based on Local Wisdom in Bangka Belitung, Indonesia. *Cogent Social Sciences*, 10(1), 2311053. <https://doi.org/10.1080/23311886.2024.2311053>
- Reindrawati, D. Y. (2023). Challenges of Community Participation in Tourism Planning in Developing Countries. *Cogent Social Sciences*, 9(1), 2164240. <https://doi.org/10.1080/23311886.2022.2164240>
- Rohaendi, N., & Herlinawati, H. (2024). Developing Sustainable Geotourism as Post-mining Land Use Programs in Indonesia. *Journal of Degraded and Mining Lands Management*, 11(2), 5181–5193. <https://doi.org/10.15243/jdmlm.2024.112.5181>

- Salis, M. R., Abdin, M., & Maitimu, N. R. (2025). Youth Participation in Rutong Village Development Programme: A Character Development Study. *Jurnal Kewarganegaraan*, 22(1), 51–66. <https://doi.org/10.24114/jk.v22i1.64455>
- Sari, D. P. (2015). Efektivitas Program Reklamasi Pasca Tambang Timah Di Kecamatan Merawang Kabupaten Bangka. *Jurnal Pembangunan Wilayah & Kota*, 11(3), 299–312. <https://doi.org/10.14710/pwk.v11i3.10855>
- Sarid, A., & Goldman, D. (2021). A Value-based Framework Connecting Environmental Citizenship and Change Agents for Sustainability: Implications for Education for Environmental Citizenship. *Sustainability (Switzerland)*, 13(8), 4338. <https://doi.org/10.3390/su13084338>
- Schwartz, F. W., Lee, S., & Darrah, T. H. (2021). A Review of the Scope of Artisanal and Small-Scale Mining Worldwide, Poverty, and the Associated Health Impacts. *GeoHealth*, 5(1), e2020GH000325. <https://doi.org/10.1029/2020GH000325>
- Setyawati, A. P., & Aulia, S. S. (2023). Strategi Literasi Budaya dan Kewargaan Melalui Peningkatan Variasi Sumber Belajar di Desa Budaya Bangunjiwo. *Jurnal Kewarganegaraan*, 20(2), 233–248. <https://doi.org/10.24114/jk.v20i2.49790>
- Sukarman, Gani, R. A., & Asmarhansyah. (2020). Tin Mining Process and Its Effects on Soils in Bangka Belitung Islands Province, Indonesia. *Sains Tanah*, 17(2), 180–189. <https://doi.org/10.20961/STJSSA.V17I2.37606>
- Suntara, R. A., Darwance, Satrio, N., & Hijran, M. (2024). The Role of Civic Engagement in Post-mining Environmental Revitalization. *IOP Conference Series: Earth and Environmental Science*, 1419(1). <https://doi.org/10.1088/1755-1315/1419/1/012071>
- Suntara, R. A., & Pasaribu, W. (2024). Revitalisasi Danau Pading: Aktualisasi Partisipasi Pemuda dalam Pengembangan Desa Wisata di Desa Perlang, Provinsi Kepulauan Bangka Belitung. *Journal of Moral and Civic Education*, 8(1), 225–237. <https://doi.org/10.24036/8851412812024798>
- Supriyanto, A. (2020). Model Pengembangan Penguatan Pendidikan Karakter dan Literasi Lingkungan. *Jurnal Ilmiah Pendidikan Pancasila Dan Kewarganegaraan*, 5(1), 17–23. <https://doi.org/10.17977/um019v5i1p17-23>
- Utami, E. P., & Ardiyanto, D. (2021). Analisis Potensi Danau Pading Sebagai Objek Geowisata Bekas Tambang di Desa Perlang Kecamatan Lubuk Besar Kabupaten Bangka Tengah. *Seminar Nasional Penelitian Dan Pengabdian Masyarakat*, 5, 50–54. <https://doi.org/10.33019/snppm.v5i0.2690>