

“SEBERANG BERSATU” COMMUNITY FOREST GROUP’S STRATEGY IN REHABILITATING FORESTS AND FORMER TIN MINING LAND

Rahmadita Safitri

Faculty of Teacher Training and Education, Universitas Negeri Surakarta, Surakarta, Central Java, Indonesia
rahmadita.safitri16@gmail.com

ARTICLE INFO	ABSTRACT
Published: August 31 st , 2023 Keywords: Seberang Bersatu, community forest group, rehabilitation, tin mining land	<i>Environmental damage due to tin mining that is not accompanied by environmental preservation in Juru Seberang Village, Belitung Regency, which causes loss of biodiversity and increases the vulnerability of coastal residents requires a strategy to strengthen Ecological Citizenship through rehabilitating forests and ex-tin mine forests and land, namely, by conducting socialization to the community in achieving the strategy of strengthening ecological citizenship. The results show that there are several inhibiting factors and supporting factors in the process of achieving strategies for strengthening Ecological Citizenship through the HKm group. Among these factors, the amount of assistance from various parties such as the Ministry of Maritime Affairs and Fisheries (KKP), Ministry of Environment and Forestry (KLHK), Peat and Mangrove Restoration Agency (BRGM), Regional Development Planning Agency, CSAR, BUMN, and so on is the most important factor. The community of the community has a strong belief in the community to always protect the environment and care more about the environment, and the community is the main source of support for the management of marine protected areas.</i>
This work is licensed under CC BY-SA 4.0 	

INTRODUCTION

Indonesia is a country with abundant natural resources, one of which is in the mining sector. Tin is one of the metal minerals included in the category of valuable minerals in Indonesia. According to the United States Geological Survey (USGS) data, Indonesia produced 71,000 metric tons of tin throughout 2021 and according to the Association of Indonesia Environment Observe, Indonesia is the second largest tin producer in the world after China with 26% of the world's tin production. Bangka Belitung Islands is an island that is passed by the Southeast Asian Tin Belt that extends from Burma (Myanmar), Thailand, Peninsular Malaysia to Indonesia. "The Indonesian Tin Belt" is a tin reserve spread over a stretch of 800 kilometers. Bangka Belitung Islands is one of the areas that is part of the Metal Mineralization Belt in western Indonesia as the largest tin (Sn) producer in Indonesia. In the Province of Bangka Belitung Islands, tin is the main ore that is spread over land, rivers, and beaches so it is known as Tin Island because of the abundance of tin deposits. Thus, the largest tin-producing island in Indonesia is in Bangka Belitung Islands, one of which is in Belitung Regency.

Tin mining in Belitung Regency has started since the Dutch Colonial Period until now. Tin mining activities almost entirely leave thousands of hectares of former mining land in piles and mounds of tailings sand that are very poor in nutrients and pits of former tin mining excavations or commonly called pits. In Belitung Regency, tin mining pits are commonly found and have become an undeniable phenomenon. The occurrence of this environmentally destructive behavior is due to the development of technology and the increasing human population, resulting

in excessive exploitation without being accompanied by environmental conservation measures. The total area of the basin in Belitung Regency is currently unknown due to the high number of unconventional miners carried out by the community with mining locations in remote areas, one of which is in Juru Seberang Village, Belitung Regency, which is one of the tin mining locations. Offshore tin mining activities in Juru Seberang Village have cleared mangrove forests and replaced them with mining pits.

Land damage due to mining can occur during and after mining activities (Ammirati et al., 2020; Ren et al., 2019; Worlanyo & Jiangfeng, 2021). Most of the land damage that occurs is caused by mining companies that deviate from applicable regulations and the existence of unlicensed mining (PETI, *Pertambangan Tanpa Izin*) which conducts mining processes in an illegal and environmentally unfriendly manner. Tin mining operations in Belitung Regency, especially in Juru Seberang Village, have a real impact on the environment. The impact of this activity is mainly on drastic changes in physical and chemical properties including loss of vegetation and potential land degradation that can cause soil erosion, loss of biodiversity, and reduced wild animal habitat. Other environmental damage is in the form of abandoned mine ponds (pits), which have the potential to cause long-term environmental impacts, especially with regard to water quality and quantity. Mine pit water contains various heavy metals that can seep into the groundwater system and contaminate the surrounding groundwater. After the land is full of mining pits, there is a land clearing for tin mining in coastal areas, and the mining land has encroached on mangrove forest areas and coastal forests. The loss of mangroves and coastal forests contributes disproportionately to carbon emissions, and increases the vulnerability of coastal residents, hence the need for Forest and Land Rehabilitation (RHL) activities. Based on Law (UU) Number 41 of 1999 Article 40 concerning Forestry, it is stated that Forest and Land Rehabilitation (RHL) is an effort to restore, maintain and improve the function of forests and land in order to increase their carrying capacity, productivity and role in maintaining a life support system, so it is very important and must be improved so that critical land in Juru Seberang Village, Belitung Regency begins to decrease.

Environmental damage is a global issue, where all countries in the world make environmental issues a priority in making policies (Kumar et al., 2021; Martins et al., 2019; McGranahan et al., 2021). It is an effort to provide environmental protection and help ensure that life for future generations will avoid more severe environmental damage (Gusmadi & Samsuri, 2020). Participation and responsibility to protect the environment together is the responsibility of all levels of society (Afsar et al., 2020). Be it, the Government as a policy maker, community organizations, especially the most important thing, namely all levels of society as citizens. Citizens are one of the elements of state formation that have rights and obligations. One form of rights and obligations as citizens is the preservation of nature and the environment (Prasetyo & Dasim, 2016). The issue of environmental damage in Belitung Regency has long been felt by the local community. Several cases related to the environment show that people must have the knowledge to manage, maintain and preserve the environment known as Ecological Citizenship.

“Seberang Bersatu” Community Forest Group’s Strategy in Rehabilitating Forests and Former Tin Mining Land

The concept of Ecological Citizenship is to increase people's ecological awareness (Liobikienė & Poškus, 2019; Pateman et al. 2021). Ecological citizenship has motivation, confidence, awareness of values, practical wisdom and the ability to put one's ecologically literate citizenship into action (Monte & Reis, 2021). Ecological citizenship involves empowering citizens (Civics) to have the knowledge, skills and attitudes necessary to identify their values and goals in relation to the environment and be able to act according to their knowledge of the consequences that will occur (Berkowitz et al., 2005).

In rehabilitating the former tin mining land in Juru Seberang Village, Belitung Regency, it is assisted by the Local Government, Community Forest (HKm) *Seberang Bersatu*, and also the local community is one of the Community Forests (HKm) in Belitung. HKm *Seberang Bersatu* was given the trust by the Ministry of Environment and Forestry (KLHK) to manage mangrove forest areas, coastal forests and former tin mining land located in Juru Seberang Village, Belitung Regency. The establishment of the *Seberang Bersatu* Community Forest (HKm) aims to improve the welfare of the community, especially those in Juru Seberang Village, through optimal, fair and sustainable utilization of forest resources while maintaining the preservation of forest and environmental functions. The *Seberang Bersatu* Community Forest (HKm) was formed on November 23, 2013 and has been approved by the Minister of Environment and Forestry (KLHK) Decree No. SK.79/MenLHK-II/2015 concerning the application of the *Seberang Bersatu* HKm work area of 757 ha. In addition, HKm *Seberang Bersatu* also received its concession permit which was ratified through the Bangka Belitung Governor Decree No: 188.44/717/DISHUT/2015 concerning the Granting of HKm Utilization Business Permit (IUP).

The research would like to explore “*Seberang Bersatu*” community forest group’s strategy in rehabilitating forests and former tin mining land. The research goal is to describe how the “*Seberang Bersatu*” community forest group in Indonesia strategies to restore the forests and the former tin mining land in their area. The research contribution is to provide a case study of a successful community-based environmental initiative that can inspire other similar efforts and inform policy makers and stakeholders.

METHOD

The research used the qualitative approach with the case study design. Determination of research subjects using purposive sampling technique consisting of the Chairperson, Deputy Chairperson, and members of the *Seberang Bersatu* Community Forest Group (HKm), as well as the local community which aims to explore the information needed by researchers. Data collection used observation, interviews, and documentation. To test the credibility of data using source triangulation, technique triangulation, and time triangulation. The research data were analyzed with an interactive qualitative model. Activities carried out in data analysis are the process of data collection, data reduction, data presentation, and conclusion drawing (Miles et al., 2014).

RESULT AND DISCUSSION

The problems discussed in this research are related to the strengthening of Ecological Citizenship and the formation of ecologically based and environmentally sound citizenship character behavior through the Seberang Bersatu Community Forest (HKm) group in rehabilitating forests and former tin mining land in Juru Seberang Village, Belitung Regency. The occurrence of environmentally destructive behavior due to technological developments, the continued increase in human population resulting in excessive exploitation and deviating from applicable regulations, as well as the existence of unlicensed mining that carries out illegal mining processes that are not environmentally friendly. The purpose of this analysis can certainly be used as a reference and is expected to be able to present information related to the environment-based movement in an effort to care for the environment.

Ecological issues regarding tin mining in Juru Seberang Village, Belitung Regency cause different impacts depending on the methods and technology used when conducting mining activities. Severe land damage is caused by deviant mining that is not in accordance with the provisions and mining without a license and is not environmentally friendly. Tin mining activities cause negative effects, especially on ecosystem damage both inland, coastal areas and also including forest ecosystems. Human attitudes and behavior have created policies and lifestyles that destroy the environment including human life. Environmental damage shows that the environmental management system has failed to make environmentally sound development (Keraf, 2014), so it is necessary to strengthen ecological *citizenship* and the formation of ecologically based and environmentally sound citizenship character behavior. The lack of awareness to preserve the environment or ecological crisis is the responsibility of citizens together with the government to improve behavior that is aware and concerned about the environment. Indonesian citizens have rights and obligations in nature conservation. The rights of Indonesian citizens to conserve nature are stipulated in Law No. 32/2009 on Environmental Protection and Management. The preservation of nature and the environment is very important because to meet their needs and survival in a sustainable manner, citizens are very dependent on nature (Mariyani, et al, 2017: 10).

Environmental damage due to tin mining that is not accompanied by environmental preservation shows that people must have the knowledge to manage, maintain and preserve the environment known as Ecological Citizenship. Ecological citizenship is a new idea that seeks to shape the awareness of citizens in forming a whole human being in the involvement of protecting the environment. The term "Ecological Citizenship" was first used in 1990 by environmental organizations in Canada (Curtin, 2002). The concept of Ecological Citizenship aims to increase people's ecological awareness. With this concept, people are not only aware of the importance of protecting the environment but also to avoid behaviors that can later damage the environment. The idea of establishing Ecological Citizenship is very important to restore the responsibility of citizens to their ecology. Ecological citizenship essentially also includes an understanding of ecological issues, rights, and responsibilities of citizens in environmental issues. Not only that, Ecological Citizenship also includes efforts to address environmental problems as well as to

“Seberang Bersatu” Community Forest Group’s Strategy in Rehabilitating Forests and Former Tin Mining Land

promote positive and sustainable human interactions with the surrounding environment (Clarke & Agyeman, 2011; Latta, 2007). Ecological Citizenship is the attitude or ethics of citizens who are imbued with a sense of concern and responsibility for the environment and strive to manage, maintain, protect and preserve the environment. Andrew Dobson in his research said that environmental sustainability arises from the awareness and concern of citizens for the environment which is marked by behavior or habits that do not damage the environment. Basically, Ecological Citizenship is concerned with strong internal control within citizens who not only have ecological values but also translate these values into environmental care behavior, both from the public sphere and in their personal lives at home (Dobson, 2007).

In rehabilitating forests and land used for tin mining in Juru Seberang Village, Belitung Regency, a strategy to strengthen Ecological Citizenship through the Seberang Bersatu Community Forest (HKm) group is needed. Land management and utilization are carried out by providing activities and programs that promote educational, conservation and tourism values. Former tin mining land is utilized as a mangrove ecosystem-based tourism area and an area that is used for ecosystem rehabilitation efforts and carbon sequestration.

Table 1. Land Utilization of HKm *Seberang Bersatu*

Zoning Name	Description	Area (Ha)	Total
Utilization Zone 1	Belitung Mangrove Park, Gusong Bugis Beach, Silfofishery, Fishing Spot, Camping Ground, Jogging Track, Mini Zoo, Sunset Cafe, Children's Ride, River Cruise, Culinary, Workshop Area, Fireflies Park, Family Gathering Area, Entertainment Stage.	112,1	474, 54
Utilization Zone 2	Agroforestry and Silvopastural	106,79	
Utilization Zone 3	Yatch Dock, Marina, Maritime Industry, Port, Silfofishery	183, 22	
Utilization Zone 4	Campground, Integrated Resort Area Development	72,41	
Protected Zone 1	Mangrove, Gelam Forest and Swamp	82,94	283, 21
Protected Zone 2	Dark Forest and Swamp	72,48	
Protected Zone 3	Mangrove Forest	41,44	
Protected Zone 4	PDAM Raw Water Source	22,53	
Protected Zone 5	Water Catchment and Infiltration Zone	10,95	
Protected Zone 6	Water Catchment and Infiltration Zone	15,04	
Protected Zone 7	Mangrove Forest	37,38	
Total		757,3	757,3

Source: HKm Seberang Bersatu

“Seberang Bersatu” Community Forest Group’s Strategy in Rehabilitating Forests and Former Tin Mining Land

Tin mining activities that cause loss of biodiversity and increase the vulnerability of coastal residents require efforts by the Seberang Bersatu Community Forest (HKm) group to reduce the impact of these activities, namely by rehabilitating mangrove forests and utilizing existing former tin mining land. The strategy of strengthening Ecological Citizenship through the Seberang Bersatu Community Forest (HKm) group in rehabilitating forests and land used for tin mining in Juru Seberang Village, Belitung Regency, namely by conducting socialization to the Belitung Regency community, especially the Juru Seberang Village community which aims to realize the mindset of the community to always protect the environment and care more about the environment and form the Belitung Mangrove Park area.

Conducting Socialization to the Community

Socialization is one of the strategies carried out by HKm Seberang Bersatu in the strategy of strengthening Ecological Citizenship through the Seberang Bersatu Community Forest (HKm) group in rehabilitating forests and former tin mining land in Juru Seberang Village, Belitung Regency. Socialization of the prohibition of illegal tin mining continues to be carried out by the Seberang Bersatu Community Forest (HKm). This socialization is continuously carried out because Juru Seberang Village is mostly a Protected Forest area and is also a tourist area. The purpose of socialization refers to the process of individual interaction to learn habits, attitudes, and values. Socialization helps in the maintenance and preservation of social values and norms. Socialization is carried out to the people of Belitung Regency, especially the people of Juru Seberang Village, which aims to awaken the mindset of the community to always protect the environment and care more about the environment.

Establishment of Belitung Mangrove Park (BMP)

Juru Seberang Community Forest (HKm) has very low carbon stocks. This is because the tin mining area in Juru Seberang Village provides the lowest carbon stock results, indicating that mining activities have a negative impact on the forest ecosystem. Therefore, HKm Seberang Bersatu together with the TERANGI Foundation developed the Belitung Mangrove Park (BMP). In developing the Belitung Mangrove Park (BMP) program, the first step is to conduct an initial survey for location mapping and carbon estimation baseline determination in Juru Seberang Village HKm. The goal of this program is to reduce the impact of climate change on the ecosystem and community of Juru Seberang Village through mangrove rehabilitation, and increasing community participation in supporting the management of marine protected areas. Belitung Mangrove Park (BMP) is a mangrove tourism park area that is utilized sustainably as an ecotourism destination, education, source of livelihood and also carbon sequestration in the future. Facilities contained in the Belitung Mangrove Park Tourism Area are in the form of Mangrove Trails, Observation Towers, River Cruises, Canoes, Ponds, Fishing Terraces, Tourist Information Centers, Educational Houses, Restaurant, Shelter Houses, and Sunset Pier. Land management and utilization are carried out by providing activities and programs that promote educational, conservation and tourism values. Former tin mining land is utilized as a mangrove

“Seberang Bersatu” Community Forest Group’s Strategy in Rehabilitating Forests and Former Tin Mining Land

ecosystem-based tourism area and an area that is used for ecosystem rehabilitation efforts and carbon sequestration. The activities carried out in the Belitung Mangrove Park (BMP) area are as follows.

Forest Rehabilitation

Activities carried out at Belitung Mangrove Park (BMP) are forest rehabilitation activities carried out by planting plants. In determining the location that will be planted with plants, it is determined based on the carbon stock model, namely selected areas that have low carbon stocks. The plants planted were 15,000 local forest seedlings with a total planted area of 1.5 hectares. In planting the plants chosen are plants that quickly build ecosystems so that they can immediately become habitats for other living things. The types of plants planted are very diverse such as *Nypa Fruticans*, *Terminalia Cattapa*, *Rhizophora Apiculate*, *R. Muncronate*, *Bruguiera Gymnorhiza*.

Conducting Sylvofishery

The strategy of strengthening ecological citizenship that can be carried out by HKm Seberang Bersatu is by conducting Sylvofishery. Sylvofishery is a cultivation by utilizing former tin mining pits or so-called pits in the Belitung Mangrove Park area. The Seberang Bersatu Community Forest (HKm) group turned the pits into fish and crab ponds. This pond will become one of the tourist attraction activities that can be enjoyed by tourists. Activities that tourists can do in the pond area include releasing fish seeds, harvesting crabs, fishing, and feeding fish. In addition to doing these activities, tourists will also get education and information on how to manage, know the types of fish and crabs in the pond and how to make environmentally friendly fishing.

Education and Nature School

Every activity in Belitung Mangrove Park includes an educational aspect. This is done to support conservation efforts. Education is given to the community involved in the Nature School program and also to tourists who come. Educational activities provided to the community are given by trained presenters and are members of the Seberang Bersatu Community Forest (HKm) group who have knowledge about mangroves and other ecosystems in the Seberang Bersatu HKm area. While education for tourists is presented in the form of fun activities such as mangrove planting and observation, shorebird observation, feeding and catching fish, crabs and bamboo shells.

The program mentioned above is a process that must be carried out in order to achieve a society that has an awareness of the importance of managing, maintaining and preserving the environment. Community participation in preserving the environment must be equipped with the provision of knowledge and skills that will form the behavior or habits of the community in preserving the environment and in realizing ecological citizenship. With this program, the community can have:

“Seberang Bersatu” Community Forest Group’s Strategy in Rehabilitating Forests and Former Tin Mining Land

- 1) Environmental knowledge, which is an expression of experience and knowledge related to nature to create and make improvements for environmental sustainability both individually and organizationally.
- 2) The community has environmental skills, where the community can identify, prevent and solve problems regarding the environment.
- 3) People have environmental ethics (Environmental Attitudes), a set of values and feelings towards the environment, and motivation to play an active role for ecological improvement and development.
- 4) Increased participation (Environmental Participation), where people have sensitivity to environmental issues and have environmental concerns by participating in pro-environmental actions (WWF Malaysia, 2008: 8).

Obstacles and Supporters of the Seberang Bersatu Community Forest (HKm) in Achieving Strategies for Strengthening Ecological Citizenship in Rehabilitating Former Tin Mine Forests and Land in Juru Seberang Village, Belitung Regency

In achieving the strategy of strengthening Ecological Citizenship through the Seberang Bersatu Community Forest (HKm) group in rehabilitating forests and land used for tin mining in Juru Seberang Village, there are several inhibiting factors and supporting factors. Success in a program or activity does not always run smoothly without obstacles or challenges. Dobson has identified inhibiting factors in the growth of Ecological Citizenship, namely behavior that is only selfish, will not always protect or defend public goods such as the environment, citizenship is always a matter of balance between rights and responsibilities, and humans use the environment for the sustainability of life but sometimes often forget the responsibility of preserving the carrying capacity of the environment (Andrew Dobson, 2007: 283). Public awareness as a form of strengthening ecological citizenship where people are obliged to protect the environment and preserve the environment. As for the inhibiting factors in achieving the strategy of strengthening Ecological Citizenship through the Seberang Bersatu Community Forest (HKm) group in rehabilitating forests and ex-tin mine land in Juru Seberang Village, Belitung Regency, namely coming from within the Seberang Bersatu Community Forest (HKm) group as the main actor in strengthening Ecological Citizenship, where community awareness and participation sometimes fluctuates, so that the process in achieving strategies for strengthening ecological citizenship in rehabilitating forests and ex-tin mine land becomes both a challenge and an obstacle. In addition to the inhibiting factors, the Seberang Bersatu Community Forest (HKm) group felt several supporting factors in achieving the strategy of strengthening Ecological Citizenship in rehabilitating ex-tin mine forests and land in Juru Seberang Village, Belitung Regency, namely the amount of assistance from various parties such as the Ministry of Maritime Affairs and Fisheries (KKP), Ministry of Environment and Forestry (KLHK), Peat and Mangrove Restoration Agency (BRGM), Regional Development Planning Agency, CSAR, BUMN, and so on.

CONCLUSION

Environmental damage due to tin mining that is not accompanied by environmental preservation in Juru Seberang Village which causes loss of biodiversity and increases the vulnerability of coastal residents requires a strategy to strengthen Ecological Citizenship through the Seberang Bersatu Community Forest (HKm) group, namely by conducting socialization to the Belitung Regency community, especially the Juru Seberang Village community which aims to realize the mindset of the community to always protect the environment and care more about the environment and form the Belitung Mangrove Park area. Belitung Mangrove Park (BMP) is a mangrove tourism park area that is utilized sustainably as an ecotourism destination, education, livelihood source and also carbon sequestration in the future. Activities contained in the Belitung Mangrove Park program are forest rehabilitation carried out by planting local forest seedlings, sylvofishery, and education and nature schools. The program is carried out in order to achieve a community that has an awareness of the importance of managing, maintaining and preserving the environment. Community participation in preserving the environment must be equipped with the provision of knowledge and skills that will form the behavior or habits of the community in preserving the environment and in realizing ecological citizenship. With this program, the community can have environmental knowledge, environmental skills, environmental attitudes and environmental participation.

In achieving the strategy of strengthening Ecological Citizenship through the Seberang Bersatu Community Forest (HKm) group in rehabilitating forests and former tin mining land in Juru Seberang Village, there are several inhibiting factors and supporting factors. The inhibiting factor comes from within the Seberang Bersatu Community Forest (HKm) group as the main actor in strengthening Ecological Citizenship, where community awareness and participation sometimes fluctuates, so that the process of achieving strategies to strengthen ecological citizenship in rehabilitating ex-tin mine forests and land becomes both a challenge and an obstacle. While the supporting factors in achieving the strategy of strengthening Ecological Citizenship are the many assistance from various parties such as the Government, Ministry of Marine Affairs and Fisheries (KKP), Ministry of Environment and Forestry (KLHK), Peat and Mangrove Restoration Agency (BRGM), Regional Development Planning Agency, CSAR, BUMN, and so on.

REFERENCE

- Afsar, B., Maqsoom, A., Shahjehan, A., Afridi, S. A., Nawaz, A., & Fazliani, H. (2020). Responsible leadership and employee's proenvironmental behavior: The role of organizational commitment, green shared vision, and internal environmental locus of control. *Corporate Social Responsibility and Environmental Management*, 27(1), 297-312.
- Ammirati, L., Mondillo, N., Rodas, R. A., Sellers, C., & Di Martire, D. (2020). Monitoring land surface deformation associated with gold artisanal mining in the Zaruma City (Ecuador). *Remote Sensing*, 12(13), 2135.

- Berkowitz, A. R., Ford, M. E., & Brewer, C. A. (2005). A framework for integrating ecological literacy, civics literacy, and environmental citizenship in environmental education. *Environmental education and advocacy: Changing perspectives of ecology and education*, 227, 66.
- Clarke, L., & Agyeman, J. (2011). Shifting the balance in environmental governance: ethnicity, environmental citizenship and discourses of responsibility. *Antipode*, 43(5), 1773-1800.
- Curtin, D. (2002). Ecological citizenship. In B. S. Turner & E. F. Isin (Eds.), *Handbook of citizenship studies* (pp. 293-304). SAGE.
- Dobson, A. (2007). Environmental citizenship: Towards sustainable development. *Sustainable development*, 15(5), 276-285.
- Gusmadi, S., & Samsuri, S. (2020). Gerakan kewarganegaraan ekologis sebagai upaya pembentukan karakter peduli lingkungan. *Jurnal Ilmiah Pendidikan Pancasila Dan Kewarganegaraan*, 4(2), 381-391.
- Keraf, A. S. (2014). *Filsafat Lingkungan Hidup: Alam Sebagai Sebuah Sistem Kehidupan Bersama Fritjof Capra*. PT Kanisius.
- Kumar, R., Verma, A., Shome, A., Sinha, R., Sinha, S., Jha, P. K., ... & Vara Prasad, P. V. (2021). Impacts of plastic pollution on ecosystem services, sustainable development goals, and need to focus on circular economy and policy interventions. *Sustainability*, 13(17), 9963.
- Latta, P. A. (2007). Locating democratic politics in ecological citizenship. *Environmental politics*, 16(3), 377-393.
- Liobikienė, G., & Poškus, M. S. (2019). The importance of environmental knowledge for private and public sphere pro-environmental behavior: modifying the value-belief-norm theory. *Sustainability*, 11(12), 3324.
- Mariyani, M. (2017). Strategi Pembentukan Kewarganegaraan Ekologis. In *Prosiding Konferensi Nasional Kewarganegaraan III* (pp. 17-22). Universitas Ahmad Dahlan.
- Martins, F., Felgueiras, C., Smitkova, M., & Caetano, N. (2019). Analysis of fossil fuel energy consumption and environmental impacts in European countries. *Energies*, 12(6), 964.
- McGranahan, G., Songsore, J., & Kjellén, M. (2021). Sustainability, poverty and urban environmental transitions. In *The Earthscan reader in sustainable cities* (pp. 107-133). Routledge.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook*. SAGE.
- Monte, T., & Reis, P. (2021). Design of a pedagogical model of education for environmental citizenship in primary education. *Sustainability*, 13(11), 6000.
- Pateman, R. M., Dyke, A., & West, S. E. (2021). The diversity of participants in environmental citizen science. *Citizen Science: Theory and Practice*.
- Prasetyo, W. H., & Budimansyah, D. (2016). Warga negara dan ekologi: Studi kasus pengembangan warga negara peduli lingkungan dalam komunitas bandung berkebun. *Jurnal pendidikan humaniora*, 4(4), 177-186.

“Seberang Bersatu” Community Forest Group’s Strategy in Rehabilitating Forests and Former Tin Mining Land

- Ren, H., Zhao, Y., Xiao, W., & Hu, Z. (2019). A review of UAV monitoring in mining areas: Current status and future perspectives. *International Journal of Coal Science & Technology*, 6, 320-333.
- Worlanyo, A. S., & Jiangfeng, L. (2021). Evaluating the environmental and economic impact of mining for post-mined land restoration and land-use: A review. *Journal of Environmental Management*, 279, 111623.
- World Wide Fund and Nature (WWF) Malaysia. (2008). *Environmental citizenship: Emerging perspectives in Malaysia*. WWF.